Indexed Bibliography of Nematode-Resistance in Plants

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INDEXED BIBLIOGRAPHY OF NEMATODE-RESISTANCE IN PLANTS

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INTRODUCTION

Control of nematode pests with resistant plants has long been a successful method in production of a limited number of crops. Faced with public demands for restricted uses of pesticides, soaring costs and reduction in number of pesticides available, popularity of this alternate approach has increased enormously.

The use of resistant varieties as a control alternative for relatively low cash value crops (alfalfa, cereals, clover, soybeans, etc.) will probably always be the most practical approach. Likewise, a high value, long term crop (citrus, grapes, peaches, walnuts, etc.) is very expensive to re-establish and/or maintain with frequent nematicide treatments. Use of resistant varieties has numerous advantages over control with nematicides in that there is no need for special application equipment or precautions, permits or licenses, and such an approach offers maximum protection for the environment including wild-life. Protection from pests is continuous throughout the life of the plant regardless of season or weather and there are no problems of chemical residue.

Unfortunately, control of pests with resistant varieties is limited because there is not, as yet, an adequate selection of plants or varieties available. It takes many years for a breeder to move resistant wild-type germplasm into an acceptible consumer or processor commodity, and nearly every major production area requires their own particular variety because the pest often develops several biotypes, each with different host preferences. Another problem which the plant breeder must deal with is the failure of resistant varieties to perform in the face of severe stresses caused by climate, soil type and those brought about by other pests and diseases.

To some extent definitions also present academic problems, with such terms as immunity, resistance, susceptibility and tolerance, interpreted on an individual basis. We don't propose to solve this problem now, but merely state that consensus of these terms imply that, although second-stage larvae may penetrate a resistant variety, very few develop into adult females and produce progeny. Such evidence may be rather difficult to obtain for some nematodes, particularly the ectoparasites.

We anticipate there will be a continued increase in the search and development of resistant varieties. It is our hope that the contents of this bulletin will assist researchers to quickly appraise the literature, concerning resistance in the crop or to the nematode, in which the researcher is interested. An index section has been prepared for your convenience.

The main categories in the index are nematode species. References pertaining to a particular nematode species are then categorized. For each species, pertinent references are grouped under the following topic headings:

Resistant plants - includes articles that report resistant varieties, screening trials and breeding for resistance

Nature of resistance - includes cytological and physiological studies

Inheritance of resistance - genetics studies

Nematode development - effects of resistance on the nematode

Pathotypes, populations - includes articles that report variation in pathogenicity and "resistance breaking".

Under each topic heading, further categorization of the references is made according to plant genus. The genus name is followed, then, by pertinent designation(s). An alphabetical letter corresponding to the senior author's last initial and an arabic numeral which corresponds to the position of the reference in the bibliography. Those references, in which we could not identify the plant and/or nematode, have been placed in divisions labeled "unclassified."

Unfortunately, we may have very likely, though unintentionally, overlooked some references. Since each alphabetical component is separate, you can merely add references below the appropriate letter, and record them in the index section. Likewise, references for articles published at some future time, may be added whenever they appear in the literature.

INSTRUCTIONS FOR USE OF INDEX

The following example is given to facilitate efficient use of the bibliography.

The reader wishes to search the literature for references concerning the genetics of resistance to oat cyst nematode (Heterodera avena) in wheat (Triticum aestivum). The following procedure is suggested:

1. In the index, find Heterodera avenae in the alphabetical listings of nematodes (right-hand column, page 17).
2. Under H. avena, find the "Inheritance of resistance" section (left-hand column, page 18).
3. The first references listed for Triticum are B85 and 86. Turn to the "B" section of the bibliography, locate numbers 85 and 86. (The two references, Brown '77 and Brown & Ellis '76, have brief abstracts.)
4. The other two references listed for Triticum (N18 and S98) may be located in the same way. All four articles refer to genes for resistance to oat cyst nematode in wheat.

Plant genera and their nematode parasites included in the bibliography

Abies (fir)
- Heterodera schachtii
- Meloidogyne hapla

Agrostis (bent grass)
- Meloidogyne arenaria
- M. acrita
- M. javanica

Allium (garlic, onion)
- Ditylenchus dipsaci
- Meloidogyne incognita
- M. javanica
- Tylenchulus semipenetrans

Ananas (pineapple)
- Meloidogyne spp.

Apios (groundnut)
- Meloidogyne incognita
- M. javanica

Apium (celery)
- Pratylenchus penetrans

Arachis (peanut)
- Belonolaimus longicaudatus
- Ditylenchus dipsaci
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. javanica
- Meloidogyne spp.
- Radopholus similis

Asparagus
- Meloidogyne incognita acrita

Asystasia
- Meloidogyne incognita

Avena (oat)
- Ditylenchus dipsaci
- Heterodera avenae
- Heterodera spp.
- Meloidogyne hapla
- M. incognita acrita
- M. naasi

Barlaria
- Heterodera schachtii
- Meloidogyne incognita

Beta (beet, fodder beet, sugar beet)
- Ditylenchus dipsaci
- Heterodera glycines
- Heterodera spp.
- Meloidogyne hapla
- M. incognita
- Meloidogyne spp.

Brachiaria (signal grass)
- Meloidogyne hapla
- M. incognita

Brassica (Brussel sprouts, cabbage, edible rape)
- Meloidogyne incognita
- M. javanica
- Meloidogyne spp.
- Naccobus spp.

Cajanus (pigeon pea)
- Heterodera glycines

Capsicum (chili, red pepper)
- Heterodera rostochiensis
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. incognita acrita
- M. javanica

Carthamus (safflower)
- Heterodera schachtii
- Meloidogyne incognita
- M. incognita acrita
- M. javanica

Carex (sedge)
- Heterodera carotae
- Meloidogyne hapla
- Rotylenchus uniformis

Cerastium (mouse-eared chickweed)
- Ditylenchus dipsaci

cereals
- Ditylenchus dipsaci
- Heterodera avenae
- Meloidogyne hapla
- M. incognita
- M. incognita acrita
- M. javanica
- M. naasi

Chloris (Rhodes grass)
- Belonolaimus longicaudatus
- Meloidogyne hapla
- M. incognita

Chrysanthemum (chrysanthemum, pyrethrum)
- Aphelenchoides ritzemabosi
- Meloidogyne javanica
- Meloidogyne spp.

Cichorium (endive)
- Pratylenchus projectus

Citropsis
- Pratylenchus spp.

Citrullus (watermelon)
- Meloidogyne hapla
- M. incognita

Citrus
- Meloidogyne incognita acrita
- M. javanica
- Pratylenchus coffea
- Radopholus similis
- Tylenchorhynchus martini

Coffea (coffee)
- Meloidogyne graminicola
- M. incognita
- Meloidogyne spp.
- Pratylenchus coffea
- Pratylenchus spp.
- Rotylenchus reniformis

Compositae
- Pratylenchus penetrans

Corchorus (jute)
- Meloidogyne arenaria
- M. incognita
- M. incognita acrita
- M. javanica

Crotalaria (rattlebox)
- Meloidogyne incognita acrita
- Rotylenchulus reniformis

Cucumis (cantalope, cucumber, gherkin, muskmelon)
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. incognita acrita
- M. javanica
- M. naasi
- Meloidogyne spp.
- Pratylenchus projectus

Cucurbita (squash)
- Meloidogyne hapla
- M. incognita
- M. javanica
- Pratylenchus penetrans

Cyamopsis (guar)
- Meloidogyne incognita
- M. incognita acrita
- M. javanica

Cynodon (Bermuda grass)
- Belonolaimus longicaudatus
- Meloidogyne spp.

Datura (jimson weed)
- Heterodera rostochiensis

Daucus (carrot)
- Ditylenchus dipsaci
- Meloidogyne hapla

Dianthus (carnation)
- Meloidogyne spp.

Digitaria (crabgrass, digit grass)
- Belonolaimus longicaudatus
- Meloidogyne hapla
- M. incognita
- M. javanica
- Rotylenchus uniformis

Dipsacus (teasel)
- Ditylenchus dipsaci

Eragotis (lovegrass)
- Meloidogyne spp.

Erodium (heronbill)
- Naccobus spp.

Festuca (red fescue)
- Ditylenchus dipsaci
- Meloidogyne hapla
- M. incognita
- Pratylenchus penetrans
- Tylenchorhynchus claytoni

Ficus (Fig)
- Meloidogyne spp.

forage crops
- Ditylenchus dipsaci
- Heterodera spp.
- Meloidogyne spp.

Fragaria (strawberry)
- Aphelenchoides fragariae
- A. ritzemabosi
- Ditylenchus dipsaci
- Longidorus elongatus
- Meloidogyne hapla
- M. incognita
- M. javanica

Glycine (soybean)
- Heterodera glycines
- Hoplolaimus columbus
- Meloidogyne arenaria
- M. incognita
- M. acrita
- M. javanica
- M. naasi
- Meloidogyne spp.
- Pratylenchus brachyurus
- P. vulnus
- Pratylenchus spp.
- Rotylenchulus reniformis

Gossypium (cotton)
- Meloidogyne arenaria
- M. incognita
- M. incognita acrita

Gossypium (continued)
- M. javanica
- Meloidogyne spp.
- Rotylenchulus reniformis

grasses
- Ditylenchus dipsaci
- Heterodera avenae
- Heterodera spp.
- Meloidogyne spp.

Hibiscus (kenaf, okra, roselle)
- Meloidogyne arenaria
- M. incognita
- M. incognita acrita
- M. javanica
- Meloidogyne spp.

Hordeum (barley)
- Ditylenchus dipsaci
- Heterodera spp.
- Meloidogyne hapla
- M. incognita acrita
- Meloidogyne spp.

Hyacinthus (hyacinth)
- Ditylenchus dipsaci
- Heterodera rostochiensis

Hyoscyamus (henbane)
- Heterodera rostochiensis

Ilex (Japanese holly)
- Trichodorus christiei

Ipomea (sweet potato)
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. incognita acrita
- M. javanica
- Meloidogyne spp.
- Pratylenchus coffeae
- Rotylenchulus reniformis

Juglans (walnut)
- Pratylenchus vulnus

legumes
- Ditylenchus dipsaci
- Heterodera spp.
- Meloidogyne spp.
- Tylenchorhynchus dubrius

Lepidium (garden cress)
- Meloidogyne incognita
- M. javanica

Lespedeza (lespedeza, sericea)
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. incognita acrita
- Meloidogyne spp.

Linum (flax)
- Aphelenchoides ritzemabosi
- Ditylenchus destructor
- D. dipsaci
- Heterodera schachtii
- Meloidogyne arenaria
- M. javanica

Lolium (annual rye grass)
- Pratylenchus penetrans
- Tylenchorhynchus claytoni

Lotus (birdsfoot trefoil)
- Heterodera trifolii
- Meloidogyne javanica

Leucodendrom
- Meloidogyne incognita

Lycopersicon (tomato)
- Helicotylenchus dihystera
- Heterodera glycines
- H. pallida
- H. rostochiensis
- H. schachtii
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. incognita acrita
- M. javanica
- Meloidogyne spp.
- Rotylenchulus reniformis

Medicago (alfalfa, lucerne)
- Aphelenchoides ritzemabosi
- Ditylenchus dipsaci
- Heterodera trifolii
- Meloidogyne arenaria
- M. hapla
- M. incognita acrita
- M. javanica
- Meloidogyne spp.
- Pratylenchus penetrans
- P. projectus
- Tylenchorhynchus dubrius

Mentha (mint)
- Pratylenchus curvitatus

Microcitrus
- Pratylenchus coffeae

Morus (mulberry)
- Meloidogyne arenaria
- M. hapla
- M. incognita
- Radopholous similis

Musa (banana)
- Helicotylenchus multicinctus
- Pratylenchus brachyurus

Narcissus
- Ditylenchus dipsaci

Nicotinana (tobacco)
- Ditylenchus dipsaci
- Heterodera rostochiensis
- H. schachtii
- H. tabacum
- Heterodera spp.
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. incognita acrita
- M. javanica
- Meloidogyne spp.
- Pratylenchus brachyurus
- P. pratensis
- Pratylenchus spp.
- Trichodorus christiei
- Trichorodorus spp.

Olea (olive)
- Meloidogyne javanica
- Tylenchulus semipenetrans

Onobrychus (sainfoin)
- Meloidogyne hapla

Oryza (rice)
- Aphelenchoides besseyi
- Ditylenchus angustus
- Hirschmanniella spp.
- Meloidogyne graminicola

Panicum (guinea grass, para grass, switch grass)
- Meloidogyne hapla
- M. incognita
- Meloidogyne spp.
- Rotylenchulus reniformis

Passiflora (granadilla)
- Meloidogyne spp.

Pennisetum (elephant grass, pearl millet)
- Aphelenchoides ritzemabosi
- Meloidogyne hapla
- M. incognita
- Pratylenchus spp.

Phaseolus (lima bean, mung bean, snap bean)
- Ditylenchus dipsaci
- Heterodera glycines
- Meloidogyne incognita
- M. incognita acrita
- M. javanica

Physalis (tomatillo)
- Heterodera rostochiensis
- Meloidogyne spp.

Picea (Sitka spruce)
- Heterodera schachtii
- Meloidogyne hapla

Pinus (Jeffrey pine, Monterey pine, ponderosa pine)
- Heterodera schachtii
- Meloidogyne hapla

Piper (black pepper)
- Meloidogyne spp.

Pistacia (pistachio)
- Meloidogyne spp.

Pisum (pea)
- Ditylenchus dipsaci
- Meloidogyne incognita

Poa (Kentucky blue grass)
- Ditylenchus dipsaci
- Meloidogyne incognita acrita
- Pratylenchus penetrans
- Tylenchorhynchus claytoni

Poncirus (hardy orange)
- Meloidogyne hapla
- M. incognita acrita
- Pratylenchus brachyurus
- Radopholus similis
- Tylenchulus semipenetrans

Protea
- Meloidogyne incognita

Prunus (almond, apricot, peach plum)
- Meloidogyne hapla
- M. incognita
- M. incognita acrita
- M. javanica
- Meloidogyne spp.
- Pratylenchus penetrans
- Pratylenchus spp.
- Radopholus similis

Pseudotsuga (Douglas fir)
- Heterodera schachtii
- Meloidogyne hapla

Pterocarya (wingnut)
- Pratylenchus vulnus

Raphanous (radish)
- Meloidogyne incognita

Pyrus (pear)
- Meloidogyne spp.

Ribes (black currant)
- Meloidogyne hapla

Ricinus (castor)
- Meloidogyne incognita
- M. incognita acrita
- Rotylenchulus reniformis

Rosa (rose)
- Meloidogyne hapla
- Pratylenchus penetrans
- P. thornei
- Xiphinema diversicaudatum

Rubus (blackberry)
- Pratylenchus scribneri

Saccharum (sugar cane)
- Meloidogyne incognita
- M. javanica
- Meloidogyne spp.
- Rotylenchulus reniformis
- Tylenchorhynchus dubrius

Secale (rye)
- Ditylenchus dipsaci
- Heterodera avenae
- Meloidogyne hapla

Severina (box orange)
- Tylenchulus semipenetrans

Solanum (brinjal, eggplant, potato)
- Ditylenchus destructor
- D. dipsaci
- Heterodera pallida
- H. rostochiensis
- Heterodera spp.
- Meloidogyne hapla

Solanum (continued)
- Meloidogyne incognita
- M. incognita acrita
- M. javanica
- Meloidogyne spp.
- Naccobus spp.
- Pratylenchus penetrans

Sorghum
- Meloidogyne hapla
- M. incognita
- m. incognita acrita
- M. javanica

Spinacea (spinach)
- Pratylenchus projectus

Stellaria (chickweed)
- Ditylenchus dipsaci

Tagetes (marigold)
- Meloidogyne spp.
- Pratylenchus spp.
- Trichodorus christiei

Taraxacum (dandelion)
- Ditylenchus dipsaci

Thea (tea)
- Pratylenchus coffeae
- P. curvitatus
- P. loosi

Thymus (thyme)
- Ditylenchus dipsaci
- Meloidogyne incognita
- M. javanica

Trifolium (clover: alsike, ladino, red, white)
- Ditylenchus dipsaci
- Heterodera trifolii
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. incognita acrita
- M. javanica
- Pratylenchus projectus

Triticum (wheat)
- Anguina tritici
- Ditylenchus dipsaci
- Heterodera arenae
- Meloidogyne hapla
- M. incognita acrita

Tulipa (tulip)
- Ditylenchus dipsaci

Vicia (vetch)
- Ditylenchus dipsaci
- Meloidogyne arenaria
- M. hapla
- M. incognita
- M. incognita acrita

Vicia (continued)
Meloidogyne javanica
Meloidogyne spp.

Vigna (asparagus bean, black-eyed pea, cowpea)
Meloidogyne arenaria
M. hapla
M. incognita
M. incognita acrita
M. javanica
Meloidogyne spp.

Vitis (grape)
Meloidogyne hapla
M. incognita
M. javanica
Meloidogyne spp.
Tylenchulus semipenetrans
Xiphinema index

Zea (corn)
Criconemoides ornatus
Ditylenchus dipsaci
Helicotylenchus dihystera
Heterodera avenae
Meloidogyne arenaria
M. hapla
M. incognita
M. incognita acrita
M. javanica
Meloidogyne spp.
Rotylenchulus reniformis
Trichodorus christiei
Tylenchorhynchus brassicae
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TO NEMATODES

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Resistant plants

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DITYLENCHUS DIPSACI (Continued)

Pathotypes-populations

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Resistant plants

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Nature of resistance

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Resistant plants

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Inheritance of resistance

Musa : G 57

HETERODERA AVENAE

Resistant plants

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Pisum : T 3

Protea : C 38

Prunus : B 73, C 37, E 34, F 57, K 20, L 6, M 81 86, S 47 48 49 90, Z 8

Raphanus : C 3

Saccharum : A 75 76, M 6

Solanum : A 10 42, C 4, D 7, F 8 14 49 50, K 23, N 24 25, S 100, Y 1

Sorghum : T 13, V 8

Thymus : T 3

Trifolium : B 4

Vicia : M 77

Vigna : A 18, C 3 27 28, H 20, J 3, M 34, S 89 116

Zea : A 62, B 12, J 16, M 63, T 3

21/27

21/31

21/33

21/35

MELOIDOGYNE SPP. (Continued)

Pathotypes, populations

Arachis : N 12

Glycine : D 29

Ipomea : M 94

Lycopersicon : N 11 13, R 34

Nicotiana : S 96

unclassified : C 41, S 10

NACCOBUS SPP.

Resistant plants

Solanum : C 14, G 43

Inheritance of resistance

vegetables : S 112

Pathotypes, populations

Brassica : G 43

Erodium : G 43

PRATYLENCHUS BRACHYURUS

Resistant plants

Glycine : L 23, S 24

Musa : G 91

Nicotiana : G 70, S 114

Nature of resistance

unclassified : V 25

Nematode development

Glycine : L 23

PRATYLENCHUS COFFEAE

Resistant plants

Citrus : O 6

Coffea : S 23

Ipomea : K 25

Microcitrus : O 2

Poncirus : O 2

Thea : H 91

Inheritance of resistance

Ipomea : K 25

PRATYLENCHUS CURVITATUS

Resistant plants

Mentha : K 13

PRATYLENCHUS LOOSI

Nature of resistance

Thea : S 91

PRATYLENCHUS PENETRANS

Resistant plants

Apium : T 26

Compositae : G 44

Festuca : T 37

Lolium : T 37

Medicago : T 27

Poa : T 37

Prunus : L 6

Rosa : C 69

Solanum : D 40

Nature of resistance

Compositae : G 44

Lycopersicon : H 81, S 94

Prunus : M 96

Inheritance of resistance

Medicago : T 27

PRATYLENCHUS PRATENSIS

Resistant plants

Nicotiana : V 1

PRATYLENCHUS PROJECTUS

Resistant plants

Cichorium : C 86

Cucumis : C 86

Cucurbita : C 86

Medicago : S 62

Spinacia : C 86

Trifolium : S 62

PRATYLENCHUS SCRIBNERI

Nature of resistance

Phaseolus : R 29

PRATYLENCHUS THORNEI

Resistant plants

Rosa : W 39

PRATYLENCHUS VULNUS

Resistant plants

Juglans : L 26

Prunus : S 32

Pterocarya : L 26

Rubus : G 36

Nature of resistance

unclassified : V 25

PRATYLENCHUS SPP.

Resistant plants

Coffea : L 25

Glycine : D 13

Nicotiana : D 24, G 65 69, M 67 89, T 4

Pennisetum : J 17

Phaseolus : D 13

Prunus : S 140

Vitis : A 14

Nature of resistance

Tagetes : O 27

Inheritance of resistance

Nicotiana : M 89

RADOPHOLUS SIMILIS

Resistant plants

Arachis : O 8

Citropsis : F 40

RADOPHOLUS SIMILIS (Continued)

Citrus : C 57, F 22 23 33 34 35 37 41 42 44 45, H 35, O 3 4 6, S 111 145

Musa : G 57

Poncirus : F 38, H 35, O 3

Prunus : S 47

Nature of resistance

Citrus : F 33 44, O 4

Inheritance of resistance

Musa : G 57

Pathotypes, populations

Arachis : O 8

ROTYLENCHULUS RENIFORMIS

Resistant plants

Coffea : M 4

Crotalaria : R 50

Digitaria : R 50

Glycine : B 51 53, G 30, H 30, R 19

Gossypium : B 48 50, J 35, M 101

Ipomea : M 26 94

Lycopersicon : R 17

Panicum : R 50

Saccharum : R 50

Zea : B 49

Nature of resistance

Glycine : E 16, R 14 15 16 18 20

Gossypium : O 33

Ricinus : I 9

Inheritance of resistance

Glycine : G 30, R 18

Nematode development

Gossypium : O 33

ROTYLENCHULUS RENIFORMIS (Continued)

Pathotypes, populations

Ipomea : M 94

ROTYLENCHUS UNIFORMIS

Resistant plants

Carex : A 51

TRICHODORUS CHRISTIEI

Resistant plants

Ilex : A 81

Zea : H 54, J 16

Nature of resistance

Asparagus : P 14, R 47 48

TRICHODORUS SPP.

Resistant plants

Nicotiana : V 1

TYLENCHORYNCHUS BRASSICAE

Resistant plants

unclassified : K 22, S 71

TYLENCHORYNCHUS CLAYTONI

Resistant plants

Festuca : T 37

Lolium : T 37

Poa : T 37

Zea : N 6

Inheritance of resistance

Zea : N 6

TYLENCHORYNCHUS DUBRIUS

Resistant plants

legumes : S 92

Medicago : S 62

Zea : S 92

TYLENCHORYNCHUS MARTINI

Resistant plants

Saccharum : O 34

TYLENCHULUS SEMIPENETRANS

Resistant plants

Citrus : B 5 6 7 10, C 8 9 10 11 12 36 57, D 3 35, F 36 43, H 35 90, J 15, K 30 35, L 5, M 23 104, O 1 6 7, P 18, S 31 34

Citrus relatives : B 5 7

Olea : L 3 5

Poncirus : B 5 9 10, C 8 9 10 11 12, F 21 24, H 35 90, K 29 30, O 1, P 18

Severinia : H 90, K 30, O 7

Vitis : L 5

Nature of resistance

Citrus : K 30

Poncirus : K 28 29 30, V 3

Severinia : K 30, V 3

Nematode development

Citrus : V 4 5

Poncirus : V 3

Severinia : V 3

Pathotypes, populations

Citrus : B 8, L 5, O 1 7

Olea : B 8, L 5

Poncirus : B 8, O 1

Severinia : O 7

Vitis : B 8, L 5

XIPHENEMA DIVERSICAUDATUM

Resistant plants

Rosa : W 39

21/43

1. Abivardi, C., A. Mokhtarzadeh, and M. Sharafeh. 1936. Evaluation of some varieties of alfalfa, Medicago sativa (L.), for their resistance to the alfalfa stem nematode. Ditylenchus dipsaci (Kuhn 1857) Filipjev 1936. under laboratory conditions. Nematologia Mediterranea, 3(1):55-63. [Po, Eng Summary]

   (Poland) did not show symptoms in seeding stage. Other varieties that produced seedling sumptoms did not produce gravid females. Examples: Mohajeran-c- Hamaden (Iran), Culver (USA), Lahontan (USA), Grimm (USA), Melissopetia-Lamia (Greece) and Lemia (Greece). Other varieties withstood attack and gave high yields. Examples: Moapa (USA), Altfranken (Germany) and Kurmarsh-Ostsaat (Germany).

2. Adamson, W. C., E. D. Donnelly, N. A. Minton, and J. D. Miller. 1974. Inheritance of resistance to Meloidogyne hapla in Lespedeza cuneata. Journal of Heredity, 65(6):365-368.

   Resistance was determined by the same single dominant gene in two of the resistant Lespedeza cuneata lines. In a third line, a single dominant gene for resistance was indicated, however, one cross indicated that two dominant genes were present.

3. Adamson, W. C., E. G. Stone, and N. A. Minton. 1974. Field resistance to the Javanese root-knot nematode in kenaf. Crop Science, 14(2):334-335.

   In tests of 3 lines of Hibiscus cannabinus, compared with the variety Everglades 71, only jl-113-1 showed field resistance to Meloidogyne javanica.

4. Adcock, R. E. 1973. Screening for root-knot nematode resistance in mungbeans. Dissertation Abstracts Internationl. 33B(12):5614.

   Resistance to Meloidogyne incognita was not established in any of the Phaseolus aureus strains tested.

5. Adeniji, M. O. 1970. Reactions of kenaf and roselle varieties to the root-knot nematodes in Nigeria. Plant Disease Reporter, 54(7):547-549.

   Of 28 varieties of kenaf and 8 varieties of roselle tested for resistance to M. incognita acrita, M. incognita, M. avenaria, and M. javanica, all of the roselle varieties were resistant and all the kenaf varieties were susceptible except 2.

6. Affran, D. K. 1974. Evaluation of different tomato cultivars. Ghana Farmer, 17(1/2):9-13.

   Tomato varieties 'small fry' and 'beef eater' were found to be less susceptible to Meloidogyne spp. than the variety V.F. Roma, which was highly susceptible. V. F. Roma, however, gave the greatest yield.

7. Akerberg, E. 1952. Stamforsok med rodklover och lucern. Nagra/erfarenheter fran arets stamforsok vid Sveriges utsadesforenings ultunafilial. Lantmannen, 36(30):589-590. [Sw]

Red clover varieties U 036 and U 056 were tested for resistance and winter hardiness.

8. Akerberg, E. 1953. Foradlingsarbeten via utsadesforeningens ultunafilial och darvid uppnadda resultat. Lantbruksveckan, pp. 190-212. [Sw]

   Some resistance has been shown by two strains of red clover, U 036 and U 056, to the stem nematode, Ditylenchus dipsaci.

9. Akerberg, E. 1970. [What can be expected from plant breeding work during the 1970s? Some examples from the work of the Swedish Seed Association.] Sver. Utsadesfor, 80(1):11-35 [Sw]

   The potato variety Sv64130 has shown resistance to Heterodera rostochiensis and has high yield potentials.

10. Alam, M. M., A. M. Khan, and S. K. Saxena. 1974. REaction of some cultivated varieties of egg plant, pepper, and okra to the root-knot nematode, Meloidogyne incognita. Indian Journal of Nematology, 4(1):64-68.

    14 varieties of pepper and 7 varieties of okra were highly susceptible to M. incognita. Of 14 eggplant varieties, 3 were less susceptible: Giant of Banaras, Black Beauty and Gola.

11. Alexander, L. J. 1959. Root-knot nematode (Meloidogyne sp.) (In progress report of National Screening Committee for disease resistance in the tomato for 1954-1957) Plant Disease Reporter, 43:62-63.

12. Alexander, L. J. and M. M. Hoover 1953. Progress report of National Screening Committee for Disease Resistance in tomato for 1952. Plant Disease Reporter, 37:317-324.

    A high degree of resistance to Meloidogyne infection was seen with Lycoperscum hirsutum, L. hirsutum var. glabratum, L. peruvianum and L. glandulosum. Very little resistance was seen with L. pimpinellifolium and with L. pimpenellifollum x L. esculentum crosses. Resistance of L. hirsutum var. glabratum was limited to M. arenaria.

13. Allard, R. W. 1954. Sources of root-knot nematode resistance in lima beans. Phytopathology, 44(1):1-4.

    Resistance trails of 380 varieties and strains of lima beans, Phaseolus lunatus, to Meloidogyne incognita acrita, revealed 12 strains which were highly resistant in greenhouse trails and immune in a few field trials.

14. Allen, M. W. 1952. Root-knot and root-lesion nematodes. Soil fumigation reduces infestations but cannot be used in growing orchards or vineyards. California Agriculture, 6(5):8-9,14.

    Grape rootstocks including Dogridge, Salt Creek and hybrid root-stocks 1613 and 1616 have shown varying degrees of resistance in different localities and fields.

15. Allison, J. Lewis. 1956. Root-knot of perennial forage legumes. Phytopathology, 46:6 (Abstract)

    Plants of a few alfalfa varieties were resistant to root-knot nematodes.

16. Amanquah, S. Y. 1968. A review of kenaf research with special reference to Ghana. Bulletin Crops Research Institute, Ghana Academy of Sciences, No. 1, 17 pp. [En, Fr]

    Resistance-breeding to Meloidogyne spp. is included.

17. Ambrogion, L. 1971. [On the behavior of some Italian populations of Heterodera rostochiensis Woll. 1923 on resistant lines of potato] Redra, 52:691-708. [It]

    Potato lines derived from Solanum andigenum, S. spegassini, S. kurtzianum and S. vernei, supported a large number of females and a great number of cysts developed.

18. Amosu, J. O. 1974. The reaction of cowpea (Vigna unguiculata (L.) Walp) to the root-knot nematode (Meloidogyne incognita) in Western Nigeria. Nigerian Agricultural Journal, 11(2):165-169.

    36 of 77 cultivars and lines of cowpea were found to be resistant to M. incognita. Susceptibility of the other cultivars varied over a wide range.

19. Amosu, J. O. and J. D. Franckowiak. 1974. Inheritance of resistance to root-knot nematode in cowpea. Plant Disease Reporter, 58(4):361-363.

    Cowpea (Vigna unguiculata ssp.unguiculata) cultivars Mississippi Silver and Victor K798 previously identified as resistant to root-knot nematode were crossed to susceptible cultivars. The reaction of F_2 generation to root-knot nematode supported the hypothesis that a single dominant factor governs resistance to populations of M. incognita in Nigeria. The various levels of galling indicated that susceptibility level was under polygenic control.

20. Anderfeld, A. 1973. [On potato breeding at Jogeva.] Kartuli sordiaretusest jogeval. Sotsialistlik Pollumajandus, 28(13):586-588. [Es]

    The emphasis is on the breeding of potatoes resistant to Heterodera rostochiensis.

21. Anderson, K., S. Andersen. 1977. Cereal root eelworm. Research and Educational Activities 1977-78, Department of Crop Husbandry and Plant Breeding, Royal Veterinary and Agricultural University, Copenhagen, 1977, p. 1.

    Resistance-screening methods, the inheritance of resistance and the mechanism of resistance in barley to the cereal root nematode (Heterodera avenae) is briefly discussed.

22. Anderson, S. 1951. Sortsresistens mod havreal. Ugeskrift for Landmaend, 96:218-220.

Barley varieties (for instance Primus, Svanhals and Chevalier) that had shown resistance in earlier trials were found to be susceptible. Three oat varieties were affected only to a low degree.

23. Andersen, S. 1954. Resistens mod havreaal. Ugeskrift for Landmaend, 99(4):43-45.

A preliminary report: differences in resistance to Heterodera major has been found in barley varieties and in oat varieties.

24. Andersen, S. 1959. Resistance of barley to various populations of the cereal root eelworm (Heterodera major). Nematologica, 4:91-98.

Presence of agressive, pure non-aggressive and intermediate populations of H. major were found in Denmark.

25. Andersen, S. 1961. Resistens mod hareal. Dissertation, Dansk Videnskabs Forlag Kobenhaun, 180 pp.

Demonstrates that there are two kinds of resistance to cereal root eelworm (Heterodera avenae Woll.).

26. Andersen, S. 1976. [Use of marker genes in work on breeding for resistance to cereal root nematodes.] Nordisk Jordbrugsforskning, 58(3):180. [No] (Plant Breeding Abstracts 47, 3318)

Barley genes (Ha2 and Ha3) which give resistance to Heterodera avenae are closely linked or at the same locus on chromosome 2.

27. Andersen, S. and K. Andersen. 1968. Inheritance of resistnace to Heterodera avenae in barley. Nematologica, 14:128-130.

Tests of F_2 barley populations showed that the gene for resistance to race 1 of H. avenae and the gene for resistance to both race 1 and 2 are located at different loci.

28. Andersen, S. and K. Andersen. 1970. Sources of genes which promote resistance to races of Heterodera avenae Woll. IN International EPPO/EUCARPIA Conference on Plant Breeding for Resistance to Animal Pests. Report, 54:29-36.

29. Andersen, S. and K. Andersen. 1973. Linkage between marker genes on barley chromosome 2 and a gene for resistance to Heterodera avenae. Hereditas, 73(2):271-276.

A close linkage is shown in barley between a gene for resistance to race 1 and 2 of Heterodera avenae (Ha2) and a lack of purple color at nodes, (ligules and awns). A number of recombination values between genes are given and a likely order is and the translocation break T_{2-38}. A survey is given of the varieties used and the problems encountered are briefly outlined.

30. Anderson, R.E., and B. Brodie. 1972. Breeding for golden nematode resistance in the United States. IN French, E.R. (Editor) International Symposium on key problems and potentials for greater use of the potato in the developing world, Lima, Peru, 17-19 July 1972. Lima, Peru; Centro Internacional de la Papa. 155-160.

    A review of resistance breeding programs to Heterodera rostochiensis in potato.

31. Andersson, S. 1974. [How should priorities for the improvement of resistance to the cyst nematode be established?] Vaxtskyddshotiser, 38(5/6):97-99. [Sw]

32. Andersson, S. 1976. [Oat cyst nematode-often overlooked parasite in cereals.] National Inst. for Plant Protection, S-23047 Akarp, Sweden. Weibulls Arsbok, pp. 7-9. [Sw]

    Control measure against Heterodera avenae are proposed; including carefully prepared crop rotations and the planting of resistant cereal varieties.

33. Andeweg, J. M. et al. 1952. Proeven met tomaten-onderstammen resistent tegen het wortelknobbelgaltje. Mededeelingen. Directeur van de Tuinbouw. 's-Gravenhage, 15(5):255-264.

    Lycopersicon peruvianum and L. peruvianum x L. esculentum crosses show resistance to Meloidogyne incognita.

34. Andreeva, V. I. 1972. [Susceptibility of strawberry varieties to Ditylenchus dipsaci.] Sel'skokhozya:stvennaya Biologiya, 7(1):133-134. [Ru]

    Though all of 21 varieties were susceptible in field trials, 11 of the varieties were only slightly susceptible in greenhouse trials. Some were less susceptible in the field than in the greenhouse.

35. Anon. 1951. New lespedeza resists nematodes and mildew. Crops and Soils, Madison, Wisconsin. 3(9):28.

    Korean Lespedeza variety 'Rowan' is superior to commercial Korean in resistance to root-knot nematode.

36. Anon. 1953. Nematode-resistant sweet potato ready. Southern Seedsman, 16(6):36.

    'Okla 46' a Jersey-type sweet potato, shows nematode-resistance.

37. Anon. 1955. Stammeforsg med hvidklover, 1950-1954. Tidsskrift for Planteavl., 59(2):357-360.

    The following white clover varieties have shown resistance to the stem nematode, Ditylenchus dipsaci:Pajbjerg Milka IIK, Lodi Otofte II K and Pajbjerg Zero II K.

38. Anon. 1956. New Nemagreen lima bean is nematode resistant. Southern Seedman, 19(5):55.

39. Anon. 1958. New nematode-resistant lima bean. Agricultural Research, Washington, 6(10):5.

A lima bean, Nemagreen, which is resistant to root-knot nematodes, has been developed.

40. Anon. 1958. Agricultural Entomology Divisoin-Report for 1957, Research and Experimental Record of the Ministry of Agriculture Northern Ireland, 7:157-165.

Research included resistance-screening of potato seedlings against the potato root eelworm and a survey of eelworm populations to discover resistance-breaking strains. Investigations to determine the influence of different cropping systems on potato-root eelworm populations showed that the oat variety 'Milford' 225 was resistant to Ditylenchus dipsaci.

41. Anon. 1960. Agricultural Entomology Division. Report for 1959. Research and Experimental Record of the Ministry of Agriculture Northern Ireland, 9(2):155-168.

Hybrids possessing eelworm-resistance factors have been produced by crossing established cultivated potato variety with wild potato varieties (Solanum tubersum subsp. andigena or S. vernei). The breeding of different oat varieties resistant to Ditylenchus dipsaci is also included.

42. Anon. 1965. A hybrid resistant to root-knot nematode. Indian Potato Journal, 7(1):53.

Potato hybrid H.C. 294, resistant to Meloidogyne incognita, is expected to do well in shallow soils prone to drought.

43. Anon. 1967. Annual report of Agricultural Technical Services, Republic of South Africa for the period 1 July 1966 to 30 June 1967, 219 p.

44. Anon. 1968. Annual report of Agricultural Technicl Services, Republic of South Africa for the period 1 July 1967 to 30 June 1968, 227 p.

Resistance in several corn varieties to Meloidogyne javanica is mentioned.

45. Anon. 1969. New varieties available for US growers in 1970. Tobacco, US, 169(23):22.

Some resistance to Meloidogyne incognita has been seen in tobacco variety Speight G28.

46. Anon. 1970. Better farm crops. Crops Soils, 22(8):21-22.

Cotton variety Auburn 623R has been developed with high resistance to root-knot nematode and Fusarium wilt.

47. Anon. 1970. [Annual Report of the work of the Swedish Seed Association in 1969] Arsberattelse over Sveriges Utsadesforenings verksamhet ar 1969. Sver. Utsadesfor. Tidskr., 80(2/3):71-139.

    Resistant varieties of barley (to Heterodera avenae), alfalfa (Ditylenchus dipsaci) and potato (H. rostochiensis) are listed.

48. Anon. 1970. [Technical report for the year 1969.] Relazione tecnica annuale anno 1969. Tabacco, Roma, 74(735):1-7.

    Investigations of 6 cultivars of Nicotiana tabacum and 3 other species for resistance to Meloidogyne spp., indicated resistance in N. plumbaginiflora, N. megalosiphon, and N. longiflora.

49. Anon. 1971. [Plant diseases and pests in Denmark in 1970. 87th Annual review collected by the State Plant Pathology Institute. Langby] Plant Nematology, pp. 22-23, 29. [Da]

    Resistance to Heterodera rostochiensis pathotype A was shown by a number of the potato clones tested.

50. Anon. 1972. [Plant diseases and pests in Denmark in 1971. 88th annual review collected by the State Plant Pathology Institute, Lyngby.] Plant Nematology pp. 22, 29 [Da]

    Update of resistance tests of potato clones against Heterodera rostochiensis.

51. Anon. 1972. [Annual report for 1971 of the Institute for Research on Plant Diseases.] Jaarverslag 1971. Netherlands, Instituut voor Plantenziektenkundig Onderzoek, Wagneingen, pp. 190. [Nl, En summary]

    Includes report on tolerance of carrots to attack by Rotylenchus uniformis.

52. Anon. 1973. [Plant diseases and pests in Denmark in 1972. 89th annual review collected bythe State Plant Pathology Institute. Lyngby.] Plant Nematology, pp. 28-29. [Da]

    Includes surveys for Heterodera rostochiensis and screening of potato plants for resistance to the same.

53. Anon. 1974. New soybean varieties. Research and Farming, 32(3/4):14.

54. Anon. 1974. [Potato varieties resistant to nematodes.] Ementi Elette, 20(5):57 [It]

55. Anon. 1974. Annual report 1974. Britain, Glasshouse Crops Research Institute, Littlehampton, UK. 176 pp. (Plant Breeding Abstracts 46, 9602, 9603)

    Potato variety "Craig's Red Royal" was not a favorable host to Heterodera rostochiensis and H. pallida.

56. Anon. 1974. [Plant diseases and pests in Denmark in1974. 91st annual report.] Plantesygdomme i Danmark, State Plant Pathology Institute, Lyngby, Denmark, 77 pp. [Da, En summary]

H. rostochiensis pathotype A is still the only observed pathotype in Denmark. Potato breeding lines are still being tested for resistance.

57. Anon. 1974. Soybean. Crops and soils, 26(7):20.

The release to growers of a new soybean variety is announced. The new variety matures late and is resistant to root-knot nematodes.

58. Anon. 1975. The potato-breeding program, USA. United States Department of Agriculture, 1974. Beltsville, MD, USA. 207 pp.

Potato clone B6987-56 is resistant to biotype A of Heterodera rostochiensis.

59. Anon. 1974. [Plant diseases and pests in Denmark in 1973. 90th annual report.] State Plant Pathology Institute. Lyngby, Denmark. 68 pp. [Da, En Summary].

Routine testing for Heterodera rostochiensis resistance in potatoes continues. Some resistant varieties have shown retarded development due to penetration of nematode larvae.

60. Anon. 1974. Annual report. USA, North CArolina School of Agriculture and Life Sciences, North Carolina State University. Raleigh, 83 pp.

Resistance is found in soybean variety P190763 to biotypes 1 and 2 of Heterodera glycines.

61. Anon. 1974. Mack/Forrest: New high yielding varieties resistant to soybean cyst nematode. AGR Dep. Agronomy University Kentucky College Agricultural Cooperative Extension Service. 28:4 .

62. Anon. 1975. Nematodes. Pest Articles and News Summaries. 21(4):416-418.

The infectivity of 5 maize cultivars by Meloidogyne incognita revealed that the sweet corn variety, GCB showed resistance.

63. Anon. 1975. [Nematode-resistant potato varieties.] Zemledelie, No. 7, 42. [Ru]

Potato varieties from the Federal German Republic are listed.

64. Anon. 1975. [50th descriptive varietal list of field crops.] Commissie voor de Samenstelling van de Rassenlijst voor Landbouwgewassen. Wageningen, Netherlands. 320 pp. [Nl, En summary]

Potato variety Mara, derived from Ehudx 22731 is resistant to biotypes A, B and C of Heterodera rostochiensis.

65. Anon. 1975. [German potato varieties, May 1975] Hanover, FDR: Saatguterzeugergemeinschaft. Plant Breeding Abstracts. 47:2424. [Ger]

Potato varieties resistant to race A of Heterodera rostochiensis and to the Harmerz race are among those listed.

66. Anon. 1975. Varieties. Crops and Soils. 28(1):19-20.

Nevada synthetic XX, alfalfa breeding material shows resistance to M. hapla.

67. Anon. 1975. Annual report. Britain, Plant Breeding Institute. Cambridge, UK. 168 pp.

Review of progress in breeding potatoes for resistance to Heterodera rostochiensis and H. pallida.

68. Anon. 1975. Geneticists study soybean nematode. Research and Farming. 33(3/4):12.

"Pickett" a variety of soybean is resistant to race 1, of Heterodera glycines but not to races 2 and 3. Breeding line P190763 appears to be resistant to races 1, 2 and 3 in North Carolina.

69. Anon. 1975. Report No. 29 of the Agricultural Cereal Breeding Station. Benmark, Landbrugets Kornforaedling. Horsens, Denmark. 37 pp. [Plant Breeding Abstracts 47, 99, 100.][Da]

Barley varieties 'Nervy', 'Debora', and 'Mirjam' are resistant to Heterodera avenae races 1 and 2.

70. Anon. 1976. [Seed potatoes] SAFA (Saatgutwirtschaft), 28(4):156. [Da]

Thirty-one nematode-resistant potato varieties are listed.

71. Anon. 1976. Many new alfalfa varieties available this year. Crops and Soils. 28(9):22.

"AS 13R," one of 13 new U.S. alfalfa varieties is as resistant to Ditylenchus dipsaci as is "Lahontan."

72. Anon. 1976. Alfalfa. Crops and Soils. 29(3):23.

'Lew' a non-dormant alfalfa from Arizona is resistant to Ditylenchus dipsaci. Hayfield is comparable to 'Hayden' and Mesa Sirsa.

73. Anon. 1976. German potato varieties, May 1976. Hannover, German Federal Republic: Saatfuterzeugergemeinschaft. 23 pp. [Plant Breeding Abstracts 47, 3423][De]

'Heraold,' 'Dextra' and 'Pirola' show resistance to Heterodera rostochiensis, race A.

74. Anon. 1977. [Potatoes (Solanum tuberosum)] Plant Breeding Abstracts 47, 8568. [N1]

A list of potato varieties resistant to Heterodera rostochiensis.

75. Anzalone, L. Jr. and W. Birchfield. 1974. Varietal resistance in sugarcane to root-knot nematodes. Proceedings of the American Phytopathological Society. 1:70.

Breeding trials with controlled crosses of Saccharum sp. hybrids, shows that genes for resistance to Meloidogyne incognita are in the material of the Louisana (USA).

76. Anzalone, L., Jr. and W. Birchfield. 1977. Varietal resistance in sugarcane to Meloidogyne incognita. Plant Disease Reporter. 61, 3:190-191.

A greenhouse breeding program involving crosses of Saccharum sp. for resistance to Meloidogyne incognita indicated 37% varieties and 14% of L1974 tested were resistant.

77. Armstrong, J. M., J. N. Pinkerton, and H. J. Jensen. 1977. Responses of red clover germplasm to stem nematodes Ditylenchus dipsaci in greenhouse trials. Plant Disease Reporter, 61(12):1060-1063.

During a two-year period (1975 and 1976), 682 selections of red clover (Trifolium pratense) were exposed, as seedlings, to inoculum of stem nematode (Ditylenchus dipsaci) in a search for sources of resistance. Tested entries included selections from several States in the U.S.A. and from 40 other countries. Observations during the early seedling stage indicated all of the seedlings in 30 selections tested in 1975, and 447 of 652 selections (those with 40% or less seedlings infected) indicated that 102 were more than 25% susceptible. Only 27 selections of the remainder developed less than 13% infection. Of these, only four of the original 652 (1976 tests) entries were highly resistant, but none was immune.

78. Arruda, V. H. 1952. Analise de uma experiencia sobre variedade de soya. Bragantia, Campinas. 12(1/3):65-73.

This paper gives the statistical analysis of an experiment to test a number of soya bean varieties for resistance to root-knot eelworms.

79. Artyukhova, G. A. and P. S. Krylov. 1976. [The resistance of onion to the stem nematode (Ditylenchus dipsaci) in the USSR.] Kishinev, USSR; Izdatel'stvo "Shtiintsa". p. 69 [Ru]

80. Atkins, J. G. and E. H. Tood. 1959. White tip disease of rice. III. Yield tests and varietal resistance. Phytopathology 49($):189-191.

Resistance to the 'white-tip disease," (Aphelenchoides besseyi) was examined in 28 rice varieties. Seed from resistant varieties rarely contained nematodes.

81. Aycock, R., K. R. Barker and D. M. Benson. 1976. Susceptibility of Japanese holly to Criconemoides xenoplax, Tylenchorhynchus claytoni, and certain other plant-parasitic nematodes. Journal of Nematology, 8(1):26-31.

Three cultivars of Ilex crenata, 'Helleri', 'Convexa', and 'Rotundifolia', were inoculated with either Criconemoides xenoplax, Helicotylenchus dihystera, Hoplolaimus galeatus, Trichodorus christiei or Tylenchorhynchus claytoni. Helleri was severely stunted by C. xenoplax. C. xenoplax, and T. claytoni caused lower plant vigour and top weights or Rotundifolia after 3 years. Convexa was not susceptible to the nematodes tested. Hoplolaimus galeatus, which was originally isolated from cotton failed to reproduce or survive on any plant tested.

1. Baalawy, H. A. and J. A. Fox. 1971. Resistance to Osborne's cyst nematode in selected Nicotiana species. Journal of Nematology 3(4):395-398.

Resistance to an underscribed species of Heterodera, Osborne's cyst nematode, was compared in Nicotiana glutinosa, N. paniculata, N. plumbaginofolia and N. longiflora. These species were differentially resistant in greenhouse tests as shown by nematode development, the reaction of invaded roots, and the expression of roots in interspecific hybrids.

2. Baalawy, H., J. A. Fox and L. I. Miller. 1969. Studies of resistance in some Nicotiana species to the Osborne's cyst nematode. Phytopath. 59(11):1555 Abst.

Resistance of 4 species of Nicotiana reflected in the stages of development attained by the nematodes. Resistance of progeny of crosses of the 4 species with N. tabacum var. N. C. 95 was also assessed.

3. Bain, D. C. 1958. Reaction of red and white clover introductions to root-knot nematodes. Phytopathology 48(6):341. (Abstract)

Four of the white clover selections were apparently free of infection by Meloidogyne incognita acrita and M. javanica. Two of the red clovers were only lightly infected by M. arenaria and M. javainca.

4. Bain, D. C. 1959. Selection for resistance to root-knot of white and red clover. Plant Disease Reporter 43:318-322.

A number of introductions, lines, and varieties of red (Trifolium pratense) and white (T. repens) clover were tested for reaction to the root-knot nematodes Meloidogyne incognita (Kofoid & White) Chitwood, and M. incognita var. acrita Chitwood. Inoculation tests of first and second generation progeny indicated the presence of factors for a good field-type resistance.

5. Baines, R. C. 1950. Nematodes on citrus. Soil fumigation and resistant citrus varieties as controls. California Agriculture, 4(8):7.

Most Citrus spp. are susceptible to Tylenchulus semipenetrans, some strains of Poncirus trifoliata are highly resistant, and four species related to Citrus are immune: Balsamocitrus dawe, Clausena lansium, Murraya paniculata and Severinia buxifolia.

6. Baines, R. C. 1974. Susceptibility and tolerance of eight citrus rootstocks to the citrus nematode, Tylenchulus semipenetrans. Journal of Nematology 6(4):135.

Of the rootstocks tested, Olivelands sweet orange had the lowest number of adult female nematodes (7.7 per cm of root). Olivelands was also the most tolerant: weight of the infected seedlings was not decreased.

7. Baines, R. C. , W. P. Bitters and O. F. Clarke. 1960. Susceptibility of some species and varieties of Citrus and some other rutaceous plants to the citrus nematode. Plant Disease Reporter 44:281-285.

Of 23 Citrus species tested, all were moderately to severely infected ecept C. medica var. diamante, which was infected slightly. 11 of 12 selections of Poncirus trifoliata were highly resistant. The Texas and Uvalde citrange were infected slightly.

8. Baines, R. C., J. W. Cameron and R. K. Soost. 1974. Four biotypes of Tylenchulus semipenetrans in California identified, and their importance in the development of resistant citrus root-stocks. Journal of Nematology 6(2):63-66.

Four biotypes of T. semipenetrans have been differentiated and field observations indicate that the biotypes of this nematode are very stable.

9. Baines, R.C., O. F. Clarke and W. P. Bitters. 1948. Susceptibility of some citrus species and other plants to the citrus-root nematode, Tylenchulus semipenetrans. (Abstract) Phytopathology 38:912.

Some selections of trifoliate orange were reported resistant to citrus nematode.

10. Baines, R. C., O. F. Clarke and J. W. Cameron. 1958. A difference in the pathogenicity of the citrus nematode from trifoliate orange and sweet orange roots. Phytopathology 48(8):391. (Abstract)

Only small differences were noted in the pathogenicity of the nematodes from the 3 sources of P. trifoliata and the susceptibility of the 2 varieties of P. trifoliata. Nematodes from the sweet orange variety infested only 1% of the P. trifoliata seedlings; all 3 nematode populations infested the Standard sour orange seedlings moderately or severely.

11. Baldwin, J. G. and K. R. Barker. 1970. Histopathology of corn hybrids infected with root knot nematode, Meloidogyne incognita. Phytopathology 60(8):1195-1198.

Pioneer 309B, a poor host, was characterized by vaculated giant cells, fewer nuclei, fewer females, no egg masses and necrotic tissue in the regions of nematode attack. Coker 911, was found to be a good host with granular multinucleate giant cells, large numbers of mature egg-laying females and little root necrosis.

12. Bladwin, J. G. and K. R. Barker. 1970. Host suitability of selected hybrids, varieties and inbreds of corn to populations of Meloidogyne spp. Journal of Nematology 2(4):345-350.

The McNair hybrids were found to be less susceptible (poorer hosts) than Coker and Pioneer to M. arenaria, M. incognita, M. javanica and M. hapla.

13. Barham, W. S. and J. N. Sasser. 1956. Root-knot nematode resistance in tomatoes. Proceedings of the Association of Southern Agricultural Workers 53:150-151.

Found 2 lines of tomatoes from Hawaii (Hawaii 5229 and STEP 234) to be resistant to 4 Meloidogyne spp. (susceptible to M. hapla). Resistance appeared to be controlled by one or more dominant genes.

14. Barham, W. S. and N. N. Winstead. 1957. Inheritance of resistance to root-knot nematodes in tomatoes. Proceedings of the American Society of Horticulture Science. 69:372-377.

Found that the Mi gene was incompletely dominant and conferred resistance, not only to Meloidogyne incognita, but also to M. incognita acrita, M. arenaria and M. javanica. All the tomato selections tested were susceptible to M. hapla.

15. Barker, K. R. and J. N. Sasser. 1959. Biology and Control of the stem nematode, Ditylenchus dipsaci. Phytopathology 49:664-670.

Variation in susceptibility-resistance of selected plant species to several populations of stem nematode.

16. Barrons, K. C. 1938. Breeding horticultural crops for resistance to the root-knot nematode. Proceedings of the Association of Southern Agricultural Workers. 39th Annual Meeting, Atlanta, Georgia, 1938. pp. 106-107.

17. Barrons, K. C. 1939. Studies of the nature of root-knot resistance. Agricultural Research 58:263-271.

Roots of resistant plants were penetrated by root-knot larvae as freely as roots of susceptible plants.

18. Barrens, K. C. 1940. Root-knot resistance in beans. Journal of Hered. 31:35-38.

Concluded that resistance in Phaseolus vulgaris is controlled by two recessive genes.

19. Baumer, M. 1975. [Resistance breeding for the crop production of the future.] Bayerisches Landwirtschattliches Jahrbuch. 52. Sonderheft 2 pp 114-120. (Plant Breeding Abstracts 47, 3010) [De].

Includes a discussion of resistance to Heterodera avenae in cereals.

20. Bayon, F. 1974. [Results of nematode investigations on cereals in the Poitou-Charentes area (Heterodera avenae). Varietal susceptibility of different cereals. Results of analyses and plot samplings in long range experiments.] Dexfense Vegetaux 168:213-230 [Fr].

21. Bedi, A. S. 1974. Resistance of potato varieties to cyst nematodes. Proceedings of the Fourth Annual Conference of the Agronomy Society of New Zealand, 4:70-73.

Particular emphasis is placed on the pathotypes of Heterodera rostochiensis and on the use of resistant varieties. Resistance derived from Solanum vernei, has shown long-term advantages over strain-specific resistance.

22. Behringer, P. 1973. [The present situation in resistance breakdown by the potato cyst nematode (Heterodera rostochiensis) and its control in Bayern] Mitt Biol Bundesanst LandForstwirtsch 151:296. [Ger]

Pathotype A of Heterodera rostochiensis caused breakdown of resistance in 9 instances and another 40 suspected cases, in Bavaria. In 3 other cases, H. pallida was probably involved in resistance breaking.

23. Berbec, E. 1968. Matwik korzeniowy--Meloidogyne hapla na marchwi. Obserwacje i doswatoidczenia z lat 1963-1967. Biul. Inst. Hodowli Aklimat. Rosl. , No.5/6:49-60.

Carrot varieties resistant to Meloidogyne hapla are listed. The table variety Nantaise was the least affected.

24. Bergquist, R. R. and R. M. Riedel. 1972. Screening onion (Allium cepa) in a controlled environment for resistance to Ditylenchus dipsaci. Plant Disease Reporter 56(4):329-331.

Tests of 52 selections of Allium cepa, A. fistulosum, A. bouddhae, and progenies of back crosses of these and other Allium spp., showed resistance to Ditylenchus dipsaci by several of the selections.

25. Bhatti, D. S., R. S. Dahiya, M. R. Dalal and S. C. Dhawan. 1976. Resistant barley varieties for the control of Heterodera avenae Wollenweber, 1924. Current Science 45(18):678.

26. Bingefors, S. 1950. Underskningar over klovernematodens utbredning och forutsattningara for resrstensforadling av rodklover i mellersta och norra Sverige. I & II. Sveriges utsadesforenings Tidskrift. 60(2):154-189; (3):245-276.

Test results are given of red-clover susceptibility to clover eelworm.

27. Bingefors, S. 1950. Nematodangrepp pa lucern. Svensk Frotidning. 19(12):135-139.

Alfalfa variety Grimm was found to be very susceptible to attck by Ditylenchus dipsasi and du Puits was less susceptible. Nemastan and a strain from Argentina showed high resistance.

28. Bingefors, S. 1950. Klovernematoden och dess bekampande genom resistensforadling. Kungl. Lantloruksakademiens Tidskrift. 89(5/6):420-434.

Reports of a tetraploid red clover strain that is clover-eelworm resistant and winter hardy.

29. Bingefors, S. 1951. The nature of resistance to stem nematode, Ditylenchus dipsaci (Kuhn) Filipjeu, in red clover, Trifoium pratense L. Acta agric. Scand. 1:180-189.

Two strains of red clover, Merkur (resistant) and Ultana (susceptible) were infected with Ditylenchus dipsaci. Resistance was shown to be related to the inability of the nematodes to propagate within the plants of the resistant strain rather than the ability of the nematodes to penetrate and invade the plant. Using a very heavy inoculum of D. dipsaci, all plants of a resistant strain can be attacked.

30. Bingefors, S. 1952. Ditylenchus dipsaci: resistant varieties of red clover in Sweden. Proceedings of the International Symposium of Plant Nematology , Harpenden, pp 58-62.

Brief history of stem eelworm and of varietal resistance in Sweden.

31. Bingefors, S. 1953. Nematode resistance in clover and lucern. Proceedings of the 6th International Grassland Congress, 2:1591-1596.

Review of Ditylenchus dipsaci in red clover and Lucerne in Sweden.

32. Bingefors, S. 1954. Resistens mot nematoder nos vara kulturvaxter Svensk Jordbruksforskning, 174-180.

A review of the literature on agricultural crops resistant to nematodes.

33. Bingefors, S. 1954. Nagra resistensfragor inom vallvaxtforadlingen Beten-Vallar-Mossar. Uppsala 6:33-36.

Resistance to different diseases in grasses and legumes is discussed.

34. Bingefors, S. 1956. Resistens mot stajaklnematod hos rodklover. Nordisk Jordbrugsforskning. 38(3/4):407-409.

Discussion of resistant red clover varieties in Sweden.

35. Bingefors, S. 1956. Inheritance of resistance to stem nematodes in red clover. Nematologica 1(2):102-108.

Ultuna red clover strain U056 showed greatly improved resistance to stem-nematode, D. dipsaci after 2 years of selection.

36. Bingefors, S. 1957. Foradling av rodklover for resistens mot stjaknematod Lantmannen 41(20:451.

A one-page summary of doctoral dissertation on the breeding of red clover for resistance to the stem eelworm, Ditylenchus dipsaci.

37. Bingefors, S. 1957. Studies on breeding red clover for resistance to stem nematodes. Vaxtodling 8:1-123.

Comprehensive account covering many aspects, including breeding and the inheritance and nature of resistance.

38. Bingefors, S. B. 1958. Svalofs Ulva tetraploid rodklover. Erfarenheter fran forsok och odling; Mellansverige. Sveriges Utsadesforenings Tidskrift. I/2:7-32.

The tetraploid red clover 'Ulva' has shown improved resistance, superior to that of the Ultuna variety.

39. Bingefors, S. 1960. Stem nematodes, Ditylenchus dipsaci, in clovers and lucerne and their control by breeding for resistance. Proceedings of the 8th International Grassland Congress 78-81.

40. Bingefors, S. 1961. Stem nematode in Lucerne in Sweden. II. Resistance in Lucerne against stem nematode. Kungl. Lantbrukshogskolans. Ann. 27:385-398.

Lahotan alfalfa is resistant to Swedish populations of the alfalfa race of Ditylenchus dipsaci, but shows much more injury than it does when infected with U.S.A. populations.

41. Bingefors, S. 1962. On resistance to stem nematodes in alfalfa. Nematologica 7:17. Abstract.

Lucerne varieties Lahontan and Kayseri used in breeding to transfer resistance to Swedish varieties.

42. Bingefors, S. 1969. The use of nematode-resistant varieties of grasses and legumes. Herb. Abstract 39(2):107-111.

A review of present situation concerning varieties of herbage plants resistant to Meloidogyne spp., Heterodera spp. and Ditylenchus dipsaci.

43. Bingefors, S. 1970. Resistance against stem nematodes, Ditylenchus dipsaci (Kuhn) Filipiev. In International EPPO/EUCARPIA Conference on Plant Breeding for Resistance to Animal Pests. Report p.63-75.

44. Bingefors, S. 1971. Resistance to nematodes and the possible value of induced mutations. In: Mutation Breeding for Disease Resistance, Panel Proc. Ser., Int. Atom. Engery Ag., Vienna 209-235, (Review).

45. Bingefors, S. 1973. Breeding for nematode resistance. Sveriges Utsadesforenings Tidskrift, 83(Supplement) pp 24-31.

The present situation in Sweden is reviewed with regard to breeding resistance in oats against Heterodera avenae, in potatoes and tomatoes against H. rostochiensis and in red clover and lucerne against Ditylenchus dipsaci.

46. Bingefors, S. and K. B. Ericksson. 1968. Some problems connected with resistance breeding against stem nematodes in Sweden. Z. Pflzucht. 59:359-375.

47. Birat, R. B. S. 1965. Relative susceptibility of brinjal varieties to Meloidogyne javanica. Indian Phytopatholgoy 18(3):322.

48. Birchfield W. 1963. Susceptibility of cotton and relatives to reniform nematode in Louisiana. Plant Disease Reporter 47:990-992.

All 24 cotton cultivars tested were susceptible to infection by, and reproduction of Rotylenchulus reniformis, but some were more susceptible than others.

49. Birchfield, W. and L. R. Brister. 1962. New hosts and nonhosts of reniform nematode. Plant Disease Reporter. 46(9):683-685.

43 plant species and varieties were tested for their reaction to Rotylenchulus reniformis. All the grasses tested were found to be immune; other immune plants included Brassica nigra, B. rapa, Avena sativa, Allium cepa, Saccharum officinarum, Spinacia oleracea and 2 varieties of Capsicum annuum. Resistance was found in several types of Zea mays.

50. Birchfield, W. and L. R. Brister. 1963. Susceptibility of cotton and relatives to reniform nematode in Louisiana. Plant Disease Reporter 47(11):990-992.

Rotylenchulus reniformis reproduced on all of the 24 cotton varieties, lines or crosses tested, though there was variation in susceptibility.

51. Birchfield, W. and L. R. Brister. 1969. Reaction of soybean varieties to the reniform nematode, Rotylenchulus reniformis. Plant Disease Reporter 53(12):999-1000.

19 soybean varieties were tested: Pickett and Dyer varieties were highly resistant, 6 were moderately resistant. All others were susceptible.

52. Birchfield, W. and J. E. Jones. 1966. A new cotton variety with root knot nematode and Fusarium wilt resistance. Phytopathology 56(8):81. Abstract.

53. Birchfield, W. , C. Williams, E. E. Hartwig, and L. R. Brister. 1970. Reniform nematode resistance in soybeans. Plant Disease Reporter 55(12):1043-1045.

Resistance to the reniform nematode was found in several soybean cultivars. All cultivars resistant to soybean cyst nematode (Heterodera glycines) were not resistant to the reniform nematode. Separate, but probably linked, genes for resistance to the two nematodes are thought to occur.

54. Blake, C. D. 1962. The etiology of tulip-root disease in susceptible and in resistant varieties of oats infested by the stem nematode, Ditylenchus dipsaci (Kuhn) Filipjev. I. Invasion of the host and reproduction by the nematode. Annals of Applied Biology 50(4):703-712.

Invasion killed significantly fewer seedlings of Manod than of Sun II Reproduction occurred in both susceptible varieties (Sun II and Powys) and resistance varieties (Manod and Pennant), though susceptible plants had twice the number of larvae as appeared in the susceptible.

55. Blake, C. D. 1962. The etiology of tulip-root disease in susceptible and resistant varieties of oats infested by the stem nematode, Ditylenchus dipsaci (Kuhn) Filipjev. II Histopathology of tulip-root and development of the nematode. Annals of Applied Biology. 50:713-722.

The nematode reproduces in resistant (Manod) oats, but take twice as long to develop and are smaller compared with those from susceptible (Sun II) oats.

56. Blake, C. D. 1972. Nematode disease of banana plantations. In: Webster, J. M. (Ed.) Economic nematology. London, UK: Academic Press, pp. 263-264.

Resistant varieties are described.

57. Blazey, D. A., et al. 1964. Nematode resistance in the common bean. Journal of Heredity 55:20-22.

Among bean plants recognized as resistant to Meloidogyne incognita, none was immune. Concluded that resistance is due to the interaction of two independent recessive genes.

58. Bobrysheva, M. N. 1976. [Susceptibility of strawberry cultivars to Ditylenchus dipsaci.] Trudy po Prikladnoi Botanike, Genetike i Selektsii. 56(2):141-145. [Ru, Summary En]

Of 60 cultivars tested for susceptibility to Ditylenchus dipsaci, 14 showed little infection (0-5 nematodes).

59. Bogh, H. 1952. Pajbjergfondens Forsogs - og foraedlingsarbejde 1952. Borkop 1952.

Bred resistant varieties of barley: Drost, Fero and Kron.

60. Boiko, Y. P. 1971. A study of some species and hybrids of the potato as initial material in breeding for eelworm resistance. Tr.NII Kartof. Kh-va. 9:107-110 (Plant Breeding Abstracts 45, 4667) [Ru]

15 hybrids (polyploids of S. chacoense, S. chacoense f. laplaticum and S. chacoense f. emmeae) showed high resistance to Heterodera rostochiensis. None of the 118 samples of S. andigenum tested were resistant.

61. Boiko, Y. P. 1976. [Methods and results of breeding nematode-resistant varieties of potatoes for intensive production.] Moskva: VNIITEISKh. 49:1 [Ru]

62. Boiko, Y. P., A. I. Kuchumov., and B. P. Nazanenko. 1976. [Methods and results of breeding nematode-resistant varieties of potatoes for intensive production.] Obz Inf vses Nauchno-Issled Inst Inf Tekh-Ekon Issled Sel'sk Khoz 929:51. [Ru]

63. Bojtos, Z. 1969. [Theoretical and practical problems in the maintenance of synthetic variety populations.] Szintetikus fajtapopulaciok

fenntartasanak elmeleti- es gyakorlati problemai. Agrartud. Kozl. 28(3/4):463-470.

Alfalfa variety, Mv. Nematol, has retained resistance to Ditylenchus dipsaci through several generations.

64. Bollich, C. N., J. G. Atkins, J. E. Scott, and B. D. Webb. 1973. Registration of Labelle rice (Reg. No. 38). Crop Science 13(6):773-774.

Resistance to Aphelenchoides besseyi has been established in the rice variety, Labelle.

65. Boquet, D. J. 1974. Inheritance of resistance to the Wartelle race of root-knot nematode in soybeans. Disseration Abstracts International. 35B,5:2019. (Plant Breeding Abstracts 47, 880)

Of 48 lines that were field tested, 7 were resistant to Meloidogyne incognita. Breeding experiment results indicate that susceptibility is partially dominant to resistance and is controlled by a small number of genes, probably two.

66. Boquet, D. J., C. Williams and W. Birchfield. 1975. Resistance in soybeans to five Louisiana populations of the root-knot nematode. Plant Disease Reporter 59(3):197-200.

5 populations of Meloidogyne incognita varied greatly in their ability to reproduce on 18 soybean cultivars. A high degree of resistance was found in D69-6344, Laredo, Delmar and Bethel. Resistance was based on average egg-mass indices.

67. Boquet, D., C. Williams and W. Birchfield. 1976. Inheritance of resistance to the Wartelle race of root-knot nematode. Crop Science 16(6):783-785.

The inheritance of root-knot nematode (M. incognita) resistance in soybeans (Glycine max) was studied in the F1, F2 and F3 generations of a cross between resistant D69-6344 and susceptible D69-8178. Resistant and susceptible parents gave a consistent reaction to M. incognita regardless of inoculum density. The data indicated that susceptibility to root-knot nematode is partially dominant. Inheritance of resistance is a qualitative character conditioned by one major gene with at least on modifying gene.

68. Borovikova, A. N. 1974. [Reaction of susceptible and resistant varieties of potato to Heterodera rostochiensis infection.] Byullenten' Vsesoyuznogo Instituta Gel'mintologii im. K. I. Skryabina No. 14, pp. 75-76. [Ru]

69. Borovikova, A. N. [The development of Heterodera larvae in the roots of resistant and susceptible potato varieties.] Kishinev, USSR; Izdatel'stvo "Shtiintsa." pp. 45-46. [Ru].

70. Boubals, D. 1954. Les nematodes parasites de la vigne Essais de Lutte effectues en 1952-1953. Progries Agricole et Viticole. 141(12/13):173-182; (14/15):204-208. [Fr]

Vitis rootstocks S04, 5BB, 4010 Castel, 99R, 1616 C and 44-53M showed very slight or no galling.

71. Bourdette, V. R. 1977. Somatic hybridization--removing sex from plant breeding. Agricultural Research 26(5):3-4.

72. Bovien, P. 1955. Host specificity and resistance in plant pathology. Annals of Applied Biology 42:382-390.

    Host specificity and resistance is discussed, with examples drawn from Heterodera, Meloidogyne and Ditylenchus.

73. Bowen, H. H., and J. D. Johnson. 1972. Response of several peach populations to inoculation with root-knot nematodes (Meloidogyne incognita (Kofoid and White) Chitwood). Progress Report, Agricultural Experiment Station, Texas A & M University PR-3013:1-5.

    Peach seedlings from 16 populations were planted in highly infested soil (containing Meloidogyne incognita). Galling was slight on many of the seedlings and the Okinawa-Nemaguard seedlings were very vigorous, indicating that improved rootstocks can be developed.

74. Boyd, F. T. and V. G. Perry. 1970. The effect of sting nematodes on establishment, yield, and growth of forage grasses on Florida sandy soils. Proceedings of Soil Crop Science Society Fla. Year 1969. 29:288-300.

    Resistance to Belonolaimus longicandatus was found in 15 of 82 selections of Chloris gayana. Varieties of Digitaria gazensis and D. procumbens were non-hosts and Digitaria x 125-1, Coastcross 1, and Paraquay bahia 22 were poor hosts.

75. Brande, J. van den, et. al. 1952. Ondezoek van aardappelvarieteiten en van Amerikaanse Solanum-soorten in verband met het aardappelcystenaaltje Heterodera rostochiensis Woll. Iste mededling. Mededelingen van de Landbouwhogeschool en de Opzoekings-Stations van de Staat te Gent. [De]

    None of the American Solanum species tested proved resistant to Heterodera rostochiensis. Tests also included other varieties and interspecific hybrids.

76. Brendler, R. A., W. H. Isom, J. D. Radewald and F. Shibuya. 1971. Oat variety testing for tolerance to nematode-caused tulip root. California Agric. 25(7):14-15.

    8 varieties of oats were tested for tolerance to Ditylenchus dipsaci; the variety 'Curt' has been recommended for use in infested soils.

77. Brim, C. A. and J. P. Ross. 1966. Relative resistance of Pickett soybeans to various strains of Heterodera glycines. Phytopathology 56(4):451-454.

Resistance in the soybean variety Pickett to Heterodera glycines was seen in Missouri, North Carolina and Tennessee, however, it was not seen in Virginia.

78. Brock, R. D. 1951. Resistance to root-knot nematode in tomato and beans. Australian Plant Disease Recorder. 3(2):25.

The bean variety Alabama No. 1, reported to be resistant to Heterodera marioni, showed severe gall formation when planted in a heavily infested field. Tomato variety HE 3963 showed resistance to H. marioni, in the same area.

79. Brodie, B. B., L. A. Brinkerhoff and F. B. Struble. 1960. Resistance to the root-knot nematode Meloidogyne incognita acrita in upland cotton seedlings. Phytopathology 50:673-677.

Resistance of Auburn 56 and 5 breeding lines to the root-knot nematode was associated with 3 kinds of reactions: root necrosis, retarded gall development and failure of majority of nematodes to reach maturity. Resistant roots were invaded as freely as those of the susceptible variety, Stoneville 62.

80. Brodie, B. B. and R. L. Plaisted. 1976. Resistance to root-knot nematodes in Solanum tuberosum ssp. andigena. Journal of Nematology 8(4):280-281.

Families produced by crossing clones of S. tuberosum andigena showed resistance to Meloidogyne incognita, one family showed total resistance to M. incognita acrita, three families contained resistance to M. arenaria, M. javanica and M. hapla, and two families showed resistance to five Meloidogyne species.

81. Brodie, B. B. and R. L. Plaisted. 1977. Breeding for resistance to root-knot nematodes in potatoes. Nematropica, 7(1):2.

82. Brown, E. B. 1954. Resistenta...an eelworm resistant clover. Plant Pathology 3(4):122.

Resistenta, a late flowering variety, was less damaged in field trials than was an English early flowering variety.

83. Brown, E. B. 1959. New or uncommon plant diseases and pests. Eelworms on strawberries. Plant Pathology. London, 8(4):152.

Mention is made of a race of Ditylenchus dipsaci for which strawberry is a poor host.

84. Brown, J. A. M. 1974. Test tube reproduction of Heterodera avenae on resistant and susceptible wheats. Nematologica 20(2):192-203.

High resistance was confirmed in the wheat seedlings AUS 10894 and AUS 11577. Resistant plants showed an average of 20 males to one female whereas susceptible plants showed an average of 1.33 males per female.

85. Breeding for resistance to cereal cyst nematode in wheat. II. Use of test tube cultures in selection. Euphytica 26(1):89-95.

Testing for resistance by using naturally infected soil is shown to led to erroneous conclusions regarding resistance of test plants.

86. Brown, J. A. M. and S. E. Ellis. 1976. Breeding for resistance to cereal cyst nematode in wheat. Euphytica 25(1):73-82.

In tests of two resistant varieties (AUS 10894 and AUS 11577) and the susceptible 'Olympic', results indicate that homozygous resistance can be differentiated from susceptibility over wide range of levels of infestation. Resistance in the heterogynous state shows a high penetrance but not complete dominance in F1 hybrids.

87. Brown, R. H. 1969. The occurrence of biotypes of the cereal cyst nematode (Heterodera avenae Woll.) in Victoria. Australian Journal of Experimental Agriculture and Animal Husbandry. 9:453-456.

In Victoria, only one biotype of cereal cyst nematode, H. avenae, has been detected. From a comparison of reactions on a range of selected indicator varieties, this biotype has not been reported in Europe. Indicator varieties that have shown resistance are: Avena sterilis, A. strigosa and rye (cv. South Australian).

88. Brown, R. H. 1974. Biotype studies of the cereal cyst nematode (Heterodera avenae) in Victoria. Simposio Internacional (XII) de Nematologia, Sociedad Europea de Nematologos, 1-7 Septiembre, 1974, Granada, Spain, p. 17.

Only one biotype of Heterodera avenae has been found in Australia, it is similar to one found in India, but not found in Europe.

89. Brown, R. H. 1974. Further studies on the Victorian biotype of the cereal cyst nematode (Heterodera avenae). Australian Journal of Experimental Agriculture and Animal Husbandry. 14:394-398.

Tests with 7 populations of Heterodera avenae confirm the presence of only one biotype in the Victoria area. Three barleys (Morocco, Marocaine and Martin 403-2) and one wheat species Avena sterilis, were highly resistant.

90. Brown, R. H. and J. W. Meagher. 1970. Resistance in cereals to the cyst nematode (Heterodera avenae) in Victoria. Australian Journal of Experimental Agriculture and Animal Husbandry. 10(44):360-365.

Field tests on 3 heavily infested sites showed resistance in some varieties of oats, rye and barley, but none of the 12 wheat selections were resistant. It was concluded that Heterodera avenae resistance will have to be introduced into wheat from another cereal.

91. Brucher, H. 1967. Root-knot-eelworm resistance in some South American tuber-forming Solanum species. American Potato Journal 44(10):370-375.

560 wild and cultivated primitive Solanum spp. were tested for resistance to Meloidogyne spp. Resistance was observed in some indigenous Argentine and Bolivian cultivars and in 5 wild species.

92. Brunne de Magar, P. 1967. Diseases of chili caused by a new nematode and production of resistant plants. Thesis 1967. [Es, available on microfiche from: CIDIA, Turrialba, Costa Rica]

93. Bryushkova, F. I. 1971. [Study of the resistance of varieties of sugar-beet and species of wild beey to Heterodera schachtii.] Byulleten' Vsesoyuznogo Instituta Gel'mintologii im. K. I. Skryabina 6:5-12 [Ru].

    75 varieties and hybrid forms of sugarbeet were tested for resistance to Heterodera schactii. All the cultivated varieties were susceptible; the 3 wild species, Beta patellaris, B. procumbems and B. webbiana were resistant.

94. Bryushova, F. I. 1972. [Testing of sugar beet and some other beet species for resistance to beet cyst eelworm.] In Nematodyne bolezni sel'skokhozyaistvennykh kul'tur i mery bor'bys nimi. Tezisy soveshchaniya Moskva, dekabr' 1972. Moscow, USSR, VASHNIL 62-63 [Ru].

95. Brzeski, M. W. and M. Rajewski. 1963. Garlic resistant to the stem and bulb nematode. Plant Disease Reporter 47(1):73.

    One of the lines of garlic tested showed some resistance to the onion-race of Ditylenchus dipsaci.

96. Buhr, H. 1961. Krankheiten und schadlinge an Solanum aviculare und Solanum auriculatum in Deutschland. Tagungsberichte. Dentsche Akademie der Landwirtschaftwissenschaft zu Berlin. No. 27:249-254.

    Heterodera rostochiensis attacks Solanum aviculare as readily as it does potatoes, and develops normally. Hunger roots formed but it is not known whether yield was affected. H. rostochiensis did not develop on S. auriculatum.

97. Bumbulucz, L. 1970. Experiments with varieties resistant to different races of Heterodera rostochiensis. Triennial Conf. (4th) Eur. Asso. Potato Res., Brest, 8-13th Sept. 1969. Proceedings, p. 210.

    Heterodera rostochiensis biotypes A, B, C, D and E have been found in Norway; only 1.8% has been found to be agressive. In field tests with the potato variety Amelio (resistant to biotype A), the nematode population decreased by 80-90% and after 5 years of continuous cropping no aggressive race was found.

98. Bumbulucz, L. nd J. Oydvin. 1976. [Population densitites of yellow potato cyst nematode Heterodera rostochiensis Woll. and potato yields by repeated growing of susceptible and ex andigena cultivar with gene H1, 1963-70.] Res. Norw AGric 27(7):731-743. [Nor]

99. Burdett, J. F., A. F. Bird and J. M. Fisher. 1964. The growth of Meloidogyne in Prunus persica. Nematologica 1963 9(4):542-546.

Seedlings of 5 peach varieties were inoculated with M. incognita acrita and M. javanica larvae. M. incognita acrita produced eggs on Elberta; M. javanica produced eggs on Elberta, Yunnan and S-37. Growth curves for M. javanica on Elberta and Yunnan, showed a normal sigmoid character. The sigmoid curve was reduced for M. javanica growth on S-37 and straight lines were obtained for growth on Okinawa and Fort Valley.

100. Burk, L. G. and V. H. Dropkin. 1961. Response of Nicotiana repanda, N. slyvestris and their amphidiploid hybrid to the root-knot nematodes. Plant Disease Reporter 45(9):734-735.

The amphidiploid hybrid had no galls or egg masses of Meloidogyne hapla, M. javanica, M. arenaria or M. arenaria thamesi, and only one or two egg masses of M. incognita and M. incognita acrita.

101. Burkart, A. 1937. La Seleccion de alfalfa immune al nematode del tallo (Anguillulina dipsaci). Rev. Argentina Agronomy 4:171-196.

Resistance to stem nematode inherited incomplicated way.

102. Burshtein, R. 1976. [Trials of resistant potato varieties and their influence on nematode population numbers.] Parazitologicheskie issledovaniya v Pribaltike. Riga, USSR; Izdatael'stvo "ZINATNE." pp. 166-168 [Ru].

Of 9 potato varieties tested, Ameks, Apis, Maris Piper, Ulsterglade and Prominent were fully resistant to race A of Heterodera rostochiensis.

103. Bzikova, A. Z. and A.N. Shcherbinin. 1973. [Resistance of potato varieties to Ditylenchus destructor in the Severo-Osetinsk ASSR.] In Sbornik zoologicheskikh rabot. Ordzhonikidze, USSR; Severo-Osentinskii Gosudarstvennyi Universitet im. K. L. Khetagurova 75-79 [Ru].

Resistance to Ditylenchus destructor was not found in any of the 15 potato varieties tested. The early varieties were found to be generally more susceptible than the late ones.

1. Cafati, K. C. 1972. [Combined and separate forage yield and Meloidogyne resistance of six lucerne clones.] Bibliotecologia y Documentacion, IICA/CIDIA (Indice Latinoamericano de Tesis Agricolas) No. 20 Abs. 701 [Es].

2. Caldwell, B. E., C. A. Brim and J. P. Ross. 1960. Inheritance of resistance of soybeans to the cyst nematode, Heterodera glycines. Agronomy Journal 52:635-636.

   Fl, F2 and test cross data indicated that resistance was controlled by three independently inherited recessive genes. The varieties of soybean had similar resistance.

3. Calinga, R. H. and F. B. Ballon. 1974. Studies on the pathologic reactions of different varieties of vegetables to Meloidogyne incognita. Philippine Journal of Plant Industry 39(2):107-114.

   Resistance was found in 17 varieties of soybean, 18 collections of Vigna, Early Scarlet radish, 2 tomato varieties, edible rape, and watermelon.

4. Calinga, R. H. and A. V. Palo. 1974. Further study of the pathologic reactions of tomato and eggplant to Meloidogyne incognita (Kofoid and White, 1919) Chitwood, 1949. Philippine Journal of Plant Industry 37(3/4):51-55. (Plant Breeding Abstracts 45, 4016).

   Resistance to Meloidogyne incognita was shown by tomato selections Bicol, Fireball Pink 2F, and Extase. Solanum melongena varieties Meyers Market, Native Long Green and Florida Hybrid also showed resistance.

5. Calitz, P. C. 1965. Die ontwikkeling van Meloidogyne-reuseselle in sommige Nicotiana spesies. South African Journal of Agricultural Science 8(2):543-556.

   Resistance to M. javanica is seen in Nicotiana repanda. Histological comparisons suggest that resistance of N. repanda is probably due to physico-chemical properties of the roots.

6. Calitz, P. C. and D. L. Milne. 1962. Reaction of Nicotiana species and species crosses to the root-knot nematode, Meloidogyne javanica. South African Journal of Agricultural Science. 5(1):123-126.

   Of 61 species and crosses of Nicotiana tested for susceptibiility to M. javanica, only N. repanda showed resistance. This was seen in the few (immature) females and minute galls that were found. N. repanda x N. sylvestris showed the same resistance as N. repanda.

7. Cameron, D. and D. W. Speed. 1958. Resistance in oats to attack by the stem eelworm Ditylenchus dipsaci (Kuhn). Rep. Scott. Soc.Res. Plant Breed:66-74.

   Discussion of reactions of resistant and susceptible oat varieties to infection by D. dipsaci.

8. Cameron, J. W., R. C. Baines and O. F. Clarke. 1954. Resistance of hybrid seedlings of the trifoliate orange to infestation by the citrus nematode. Phytopathology 44:456-459.

Evidence from greenhouse tests indicate a high proportion of Citrus, spp. x Poncirus trifoliaa hybrid seedlings were resistant to Tylenchulus semipenetrans. Resistance in seedling may not be retained as tree ages.

9. Cameron, J. W., R. C. Baines and O. F. Clarke. 1954. Resistance of hybrid trifoliate orange seedlings to nematode infestation. Citrus Leaves 34(9):6-7, 31.

10. Cameron, J. W., R. C. Baines and O. F. Clarke. 1954. Nematode resistance of trifoliate hybrid seedlings. California Citrograph 39:378, 406-407.

11. Cameron, J. W., R. C. Baines and O. F. Clarke. 1954. Resistance of hybrids of the trifoliate orange to infestation by the citrus nematode. (Abstract). Caryologia 6, Supplement, Part II, pp. 1123-1124.

12. Cameron, J. W., R. C. Baines and R. K. Soost. 1969. Development of rootstocks resistant to the citrus nematode, by breeding and selection. Proceedings of the First International Citrus Symposium,Riverside, California. 2:949-954.

Hybrids have been produced between Poncirus trifoliata and several species of Citrus, to obtain new rootstocks resistant to the citrus nematode Tylenchulus semipenetrans. About half of 122 hybrid selections have shown high resistance in the field.

13. Campos, A. R., L. G. E. Lordello, O. C. Abreu, and D. A. Oliveiera. 1974. [Incidence of Meloidogyne on mulberry varieties.] Lordello, L. G. E. (Editor), Trabalhos apresentados a reuniao de nematologia, Piracicaba, Brasil, 6-7 February, 1974. Sociedade Brasileira de Nematologia, publicacao No. 1, pp. 3-12. (Portugese)

The variety 'Calabresa' was found to be fairly resistant to root-knot nematodes.

14. Canahuazaga, A., Q. Cornejo and S. Huanco. 1975. [Sources of resistance to the false root-knot nematodes (Naccobus sp.) among 50 potato clones.] Fitopatologia 10(2):71. (Es)

15. Canova, A. 1975. [Degeneration and qualification of material for propagating strawberries resistance to fungus, virus and nematode diseases.] Frutticoltura 37(12):27-33.[It]

16. Carlsson, B. 1970. Tolerans hos olika mottagliga potatissorter mot potatiscystnematod--En orienterande undersokning. Vaxtskyddsnotiser 34(2)P:29-33 [En summary p. 33]

The potato varieties tested varied markedly in their tolerance to Heterodera rostochiensis.

17. Castaneda, E. 1973. [Varietal reaction and effect of fertilizer on Meloidogyne spp. of tobacco.] [III Congr. Peruanao de Fitopat., La Molina, Lima, Peru, Marz. 1973. Abstract.] Fitopatologia 8(1):23 [Es, en].

    In the susceptible variety TVN-9, degree of resistance was proportional to amount of added potassium.

18. Castillo, M. B. 1971. Host-parasite relationships with definition of peanut resistance to the northern root-knot nematode, Meloidogyne hapla. Dissertation Abstracts International 31B(8):4433.

19. Castillo, M. B., L. S. Morrison, C. C. Russell and D. J. Banks. Resistance to Meloidogyne hapla in peanut. Journal of Nematology 5(4):281-285.

    Eight strains of cultivated peanut and 4 wild Arachis species were found to be moderately resistant to M. hapla.

20. Caubel, G. 1974. [Reactions of three varieties of lucerne to the inoculation of seedlings with the stem nematode Ditylenchus dipsaci.] Sciences Agronomiques Rennes. pp. 37-42. (Fr)

21. Caviness, C. E. and R. D. Riggs. 1975. Breeding for nematode resistance. In Proceedings of the World Soybean Research Conference pp. 594-601.

22. Caviness, C. E., R. D. Riggs, and H. J. Walters. 1971. MACK, a new soybean variety resistant to cyst nematode and phytophthora rot. Arkansas Farm Research 20(6):5.

    Derived from a complex cross, Mack matures 5-6 days later than Hill and has given higher yields. It is similar to Hill in plant height and seed quality. It is resistant to P. megasperma and race 3 of Heterodera glycines.

23. Caviness, C. E., R. D. Riggs, and H. J. Walters. 1974. Lee 74, an improved soybean resistant to rootknot nematode and Phytophthora rot. Arkansas Farm Research 23(2):7.

    The variety is resistant to Meloidogyne incognita, but not to Heterodera glycines.

24. Caviness, C. E., J. D. Thomas, R. D. Riggs, and E. E. Hartwig. 1973. Genetics of resistance to races 1, 2, 3 and 4 of soybean cyst nematode. Agronomy Abstracts, American Society of Agronomy Annual Meeting (65th), 4.

    A brief report of genetics of soybean resistance to races of Heterodera glycines.

25. Caviness, C. E., H. J. Walters and R. D. Riggs. 1975. Soybean varietal performance. Arkansas Farm Research 24(1):4.

    Yields of varieties with resistance to race 3 of Heterodera glycines (Custer, Forrest, Mack and Lee 74) are reported.

26. Caviness, C. E., H. J. Walters, R. D. Riggs, and D. Boquet. 1975. Soybean varietal performance, 1975. Arkansas Farm Research 25(1):2.

Varieties Mack and Forrest are resistant to Race 3 of Heterodera glycines. Mack and Dare are resistant to Meloidogyne spp.

27. Caveness, F. E. 1975. Screening cowpea germplasm for resistance to root-knot nematodes at IITA. Nematropica 5(2):21. (Abstract)

Only 4 of 241 selections of Vigna unguiculata were resistant. The mixed response of some lines indicates they are heterogenous.

28. Caveness, F. E. 1975. Screening cowpea for resistance/susceptibility to root-knot nematode. Publ: Ibadan, Nigeria: International Institute of Tropical Agriculture 16 pp.

29. Chang, D. N. G. A study of ultrastructural changes in tolerant and susceptible lines of alfalfa induced by stem nematode (Ditylenchus dipsaci Kuhn). Dissertation Abstracts International. 33B(7):2876.

Cytological changes due to infection are described. Tolerant and susceptible lines differed only in the degree of damage and infection rate.

30. Chapene, U. and A. Buyauskas. 1973. [Selection of nematode-resistant varieties of potato.] Kartofel i Ovoshchi 1:13-14 [Ru].

Occurence of resistance to pathotype A of Heterodera rostochiensis in progeny of resistant x resistant and resistant x susceptible is reported.

31. Chaplin, J. F., Z. T. Ford and T. W. Graham. 1971. Association between root-knot resistance and economic characters of flue-cured tobacco after seven backcrosses. Crop Science 11(6):883-886.

Resistance associated with slower leaf senescence and lower market value per unit weight.

32. Chapman, R. A. 1957. Reactions of species of Nicotiana to species of root-knot nematodes. Phytopathology 47(1):5.

34 named species of Nicotiana were tested for susceptibility to 4 species of Meloidogyne. Galls and egg-masses were produced by M. arenaria in 13 species, by M. hapla in 23 species, by M. incognita in 20 species and M. javanica in 17 species.

33. Chatterton, N. J. 1976. Photosynthesis of 22 alfalfa populations differing in resistance to diseases, insect pests, and nematodes. Crop Science 16(6):833-834.

Selection for pest resistance did not affect the photosynthetic capacity and with one exception did not affect leaf area of alfalfa.

34. Chen Guardia, A. M. 1972. [Pathogenicity trials of Meloidogyne incognita acrita and Helicotylenchus dihystera on tomato varieties Roma

and Villano.] Bibliotecologia y Documentacion, IICA/CIDIA (Indice Latinoamericano de Tesis Agricolas). No. 20, Abstract 253. [Es].

35 Chernikova, M. F. and R. V. Cherepanova. 1974. [Evaluation of some nematode-resistant varieties of potato for a number of characters.] Nauch, tr. NII kartof, kh.-va 18:90-97. (Plant Breeding Abstracts 46, 10275.)[Ru].

Thirty varieties with resistance to Heterodera rostochiensis were evaluated in terms of yield and resistance to disease.

36. Chhabra, H. K. and O. S. Bindra. 1974. Screening of citrus rootstocks against the citrus nematode. Indian Journal of Horticulture 31(2):194-195.

Savage orange and Trifoliate orange roots contained significantly fewer nematodes than did the other 8 cultivars tested.

37. Chitwood, B. G., A. W. Sprecht and A. L. Havis. 1951. Reactions of peach seedlings to nematode infections. Phytopathology 41(6):559.

'Variety S-37' showed some resistance to Meloidogyne javanica, and 'Yunnan' was resistant to M. incognita.

38. Cho, J. J. and W. J. Apt. 1977. Susceptibility of proteas to Meloidogyne incognita. Plant Disease Reporter 61(6):489-492.

Several species of Protea and Leucodendron had seedling resistance to the nematode.

39. Choudhary, B., R. Rajendran, B. Singh and T. S. Verma. 1969. Breeding tomato, brinjal, and cowpea resistant to root-knot nematodes (Meloidogyne spp.) (Abstract). All India Nematology Symposium, New Delhi, August 21-22, 1969, pp. 46-47.

40. Christie, J. R. 1949. Host-parasite relationships of the root-knot nematodes, Meloidogyne spp. III. The nature of resistance in plants to root-knot. Helminthol. Soc. Wash. Proceedings 16:104-108.

The production of giant cells is necessary for the development of root-knot females.

41. Christie, J. R. and F. E. Albin. 1944. Host-parasite relationships of the root-knot nematode, Heterodera marioni. 1. The question of races. Helminthol. Soc. Washington Proceedings 11:31-37.

Showed differences in pathogenicity of a number of collections of root-knot nematodes on selected host plants.

42. Chukantseva, N. K. 1976. [Distribution and pathogenicity of the potato stem nematode, Ditylenchus destructor in the central non-chernozem zone of the RSFSR.] (Abstract). In VIII Vsesoyuznoe soveshchanie no nematodnym boleznyam sel'skokhozyaistvennykh kul'tur. Tezisy dokladov i soobshchenii. Kishinev, USSR; Izdatel'stvo "Shtiintsa." 89-90 [Ru].

43. Cia, E., E. Balmer, C. A. M. Ferraz and I. L. G. Papp. 1974. [Improving cotton varieties in relation to Fusarium wilt by selecting lines resistant to root-knot nematode.] Ciencia e Cultura., 26(7) [Pt].

44. Cia, E., E. Balmer, C. A. M. Ferraz and I. L. Gridi-Papp. 1975. [Cotton plant selection for resistance to the Fusarium-nematode complex under glasshouse conditions.] Summa Phytopathologica 1(1):43-50. [Pt, En summary]

45. Cirulli, M. 1969. Resistenza genetica ai nematodi galligeni (Meloidogyne spp.). Studi sul pomodoro. Italia agric. 106:459-468.

Breeding experiments with resistant and susceptible tomato varieties produced some hybrids with desirable processing qualities and disease resistance. Segregation ratios are given.

46. Cirulli, M. 1974. [Genetic resistance to disease in tomatoes and its use in Italy, especially in greenhouse culture.] Genetica Agraria 28(3/4):317-356. [It, En]. (Review) (Plant Breeding Abstracts 45, 4064).

47. Clamot, G. 1968. Greta, premiere variete belge d'avoine resistante au nematode de la tige. Revue Agric., Brux., 21:1205-1211.

48. Clamot, G. 1972. [Improving the resistance of oats to stem nematode Ditylenchus dipsaci (Kuhn) Filipjev.] Bulletin des Recherches Agronomiques de Gembloux 7(1/4):16-40 [Fr].

Of 23 varieties of oats tested, only one, Greta, was resistant. Breeding work with the use of the resistant gene from 'Grey Winter' has produced one good line.

49. Clamot, G. 1975. [The new oat variety Anita.] Revue de l'Agriculture 28(3):637-645. [Fr]

'Anita' is resistant to Ditylenchus dipsaci.

50. Clamot, G. 1975. [Improvement of resistance in oats to the stem nematode, Ditylenchus dipsaci (Kuhn) Filipjev.] Bulletin des Recherches Agronomiques de Gembloux, Semaine d'Etude Agriculture et Hygiene des Plantes. pp. 37-46. [Fr, Eng summary].

'Anita' derived from 'Diane' x 'Greta' is resistant and produces high yields.

51. Clark, F. 1961. Florida 22 - a new nematode resistant flue-cured tobacco variety. Circular. Florida Agriculture Experiment Station No. 5-134,12 pp.

The variety is nematode resistant, tolerant of brown spot, but susceptible to other diseases.

52. Clark, R. L. 1969. Resistance to northern root knot nematode (Meloidogyne hapla Chitwood) in plant introductions of Daucus carota L. Plant Prot. Bulletin FAO 17:136-137.

Of 222 selections, only 13 had low infection scores. Three of them have multiple disease resistance.

53. Clatworthy, J. N. and D. G. E. Holland. A new strain of Panicum maxmum for pastures in Rhodesia. Rhodesia Agricultural Journal 72(2):47-48.

Strain G438 does not support Meloidogyne spp.

54. Clayton, E. E. 1953. Control of tobacco diseases through resistance. Phytopathology 43(5):239-244.

Attempts are to be made to incorporate the genetic resistance to root-knot nematode from Nicotiana megalosiphon to N. tobacum.

55. Clayton, E. E. and H.H. Foster. 1940. Disease resistance in the genus Nicotiana. Phytopathology 30:4. (Abstract)

Slight to moderate resistance to root-knot nematodes in tobacco is recessive and due to multiple factors.

56. Clayton, E. E., T. W. Graham, F. A. Todd, J. G. Gaines and F. A. Clark. 1954. Resistance to the root knot disease of tobacco. Tobacco Science 2:53-63.

Describes resistance as controlled by single gene pair with resistance dominant, but modifier genes apparently affect expression. Nine Nicotiana spp. are described as resistant.

57. Cohn, E. 1972. Nematode diseases of citrus. In: Webster, J. M. (Ed.) Economic nematology. London, UK: Academic Press, pp. 215-244.

The use of resistant rootstocks is discussed.

58. Cohn, E. [Development of populations of Xiphinema on grapevine rootstocks resistant to root-knot nematodes.] Hassadeh 55(2):235-237 [Heb, En summary].

59. Cohn, E. 1975. Nematodes on grapevines. (Abstract) Scientific activities 1971-1974 of the Division of Nematology, Institute of Plant Protection, Bet Dagan, Israel. pp. 129.

No correlation was observed between host status for Xiphinema index and root-knot resistance.

60. Cole, C. S. and H. W. Howard. 1957. The genetics of resistance to potato-root eelworm of Solanum tuberosum subsp. andigena, clone C.P.C. 1690. Euphytica, Wageningen 6(3):242-246.

Resistance to Heterodera rostochiensis in Solanum tuberosum subsp. andigenum clones C.P.C. 1690, CPC 1673, and CPC 1685 is due to a single dominant factor. The 3 clones have similarities in diffusate activity, larval invasion and subsequent larval development, and may, thus, contain the same genetic factor.

61. Cole, C. S. and H. W. Howard. 1959. The effect of growing resistant potatoes on potato-root eelworm (Heterodera rostochiensis Woll.) population. Nematologica 4(4):307-316.

Suggestions are made for avoiding build-up of resistance - breaking biotypes.

62. Cole, C. S. and H. W. Howard. 1962. Further results from a field experiment on the effect of growing resistant potatoes on a potato root eelworm (Heterodera rostochiensis) population. Nematologica 7(1):57-61.

Resistance to biotype A and susceptibility to biotype B was indicated in andigena clones, but in Solanum multidissectum and S. xjuzepczukki the condition was reversed.

63. Collins, J. L. and H. R. Hagan. 1932. Nematode resistance of pineapples. Journal of Heredity 23(II):459-465.

64. Collins, J. L. and H. R. Hagan. 1932. Varietal resistance of pineapple roots to the nematode Heterodera radicicola. Journal of Heredity 23(12):503-511.

65. Contant, R. B. 1976. Pyrethrum. Chrysanthemum spp. Simmonds, N. W. (ed.) Evolution of crop plants. pp. 33-36.

Improved tolerance to Meloidogyne spp. is subject of breeding work in progress.

66. Cook, R. 1972. Reaction of some oat cultivars to Meloidogyne naasi. Plant Pathology 21:41-43.

In a glasshouse pot test Meloidogyne naasi Franklin developed to the adult stage and produced eggs on 11 cultivars of oats. All cultivars were less susceptible than the spring barley control, and there were differences in susceptibility between them.

67. Cook, R. 1974. Nature and inheritance of nematode resistance in cereals. (Symposium paper presented at the 2nd International congress of Phytopathology, Minneapolis, Minnesota, 5-12 September 1973.) Journal of Nematology 6(4):165-174.

Resistance to a number of nematodes is present in varieties of temperate and tropical cereals. The occurrence, nature and inheritance of varietal resistance in cereals is reviewed. Evaluation of the practical significance of nematode resistance in a particular host-nematode combination is discussed in relation to host efficiency, host sensitivity, genetic control of resistance, and presence of virulence in the nematode population.

68. Cook, R. and T. D. Williams. 1972. Pathotypes of Heterodera avenae. Annals of Applied Biology 71(3):267-271. (Review).

The identification of pathotypes by the use of differential hosts is discussed.

69. Coolen, W. A. and G. J. Hendricks. 1972. Investigations on the resistance of rose root-stocks to Meloidogyne hapla and Pratylenchus penetrans. Nematologica 18(2):155-158.

    All of the 13 common commercial Belgian rose root-stocks that were field tested were hosts to both nematode species. Numbers of M. hapla were least on Rosa canina 'Success' and 'Heinsohn's Rekord.' R. rubiginosa showed a slight resistance to both nematodes.

70. Cooper, J. F. 1970. Successfully fighting stem nematode. Bett. Crops 54(2):12-13.

    Slenderstem digitgrass, Coastcross bermuda, Paraguay 22 and some strains of Chloris were some of the grasses showing resistance to Belonolaimus longicaudatus.

71. Cordner, H. B., F. B. Struble and L. S. Morrison. 1951. Reaction of sweet potato varieties and seedlings to root-knot nematode. [Abstract] Proceedings of the Association of Southern Agricultural Workers. 48th Annual Con. 1951 p. 119.

    The varieties Orlis and Oklahoma 29 were able to transmit resistance to their seedlings.

72. Cordner, H. B., F. B. Struble and L. Morrison. 1954. Breeding sweet potatoes for resistance to the root-knot nematode. Plant Disease Reporter Supplement 277:92-93.

    A short summary of resistance breeding at the Oklahoma Ag. Exp. Sta. In various crosses, the percentage of progeny that were resistant, intermediate and susceptible were as follows: resistant x resistant = 50%, 30%, 20%; susceptible x susceptible = 10%, 25%, 65%; resistant x susceptible = equal numbers in the three categories. Some resistant varieties are listed.

73. Cordner, H. B., H. Thomason and C. Galeotti. 1965. Origin and development of the Nemared tomato. Oklahoma Agricultural Experiment Station Bulletin B-635. 19 pp.

    Indicates that resistance to M. incognita acrita is dominant and conditioned by one gene.

74. Cordner, H. B. and R. E. Wester. 1953. Long breeding program promises nematode-resistant baby lima beans. Southern Seedman 16(2):30, 46, 57.

    A review of breeding work, since 1940, with bush lima beans for resistance to root-knot.

75. Cortado, R. V., and D. P. Tabelisma. 1973. Response of different varieties and hybrids of cigar-filler tobacco to Meloidogyne incognita. Philippine Journal of Plant Industry 38(1/2):1-12. (Plant Breeding Abstracts 44, 7067.)

    The hybrid (M 19 (RG x Ky52)) was the only one of 38 varieties tested that was somewhat resistant to M. incognita.

76. Cotten, J. 1963. The resistance of oats and barley to the cereal root eelworm. Report of the Welsh Plant Breeding Station, Aberystwyth Year, 1962, pp. 120-123. (Review).

Pathotypes of Heterodera avenae have different degrees of aggressiveness toward the varieties of oats and barley that have been studied.

77. Cotten, J. 1963. Resistance in barley and oats to the cereal root eelworm Heterodera avenae Woll. Nematologica, 9(1):81-84.

There were differences in pathogenicity between populations of the eelworm, but 3 oat varieties and two barley varieties showed some resistance to all populations.

78. Cotten, J. 1964. Eelworm pests of cereals and their control. Journal of the Agricultural Society, University College of Wales. Aberystwyth, 45:4-7.

Aspects of the breeding program for resistance to Ditylenchus dipsaci in oats as well as resistance to Heterodera avenae into both oats and barley is discussed. The resistance is one in which reproduction is inhibited. Barley varieties Drost and Fero respond differently to British populations of H. avenae indicating pathotypes are present.

79. Cotten, J. 1967. A comparison of cereal root eelworm resistant and susceptible spring barley genotypes at two sites. Ann. Applied Biology 59:407-413.

A comparison between otherwise identical cereal root eelworm resistant and susceptible spring barley was made on two sites, one lightly infested and the other heavily infested with the nematode. Development of the nematode was compared in resistant and susceptible genotypes. Although the nematode was as numerous in resistant genotypes as in susceptible, either invasion or development of the nematode was retarded in resistant genotypes. The female was rarely found in adult form on resistant plants.

80. Cotten, J. 1967. Cereal root eelworm pathotypes in England and Wales. Plant Pathology 16:54-59.

Of 3 barley genotypes tested the cultivar Cb 545 (Rika) was susceptible to a cereal root-knot populations, while the unadapted six-row genotype Cb 824 (No. 191) ws resistant to all populations, except one. The two-row cultivar Cb 917 (Fero) showed a range of reactions. Of the oat genotypes used, S 225 (Milford), was susceptible and Cc4658 (I 376 Avena sterilis) was resistant.

81. Cotten, J. 1969. Cereal varieties resistant to Heterodera avenae and Ditylenchus dipsaci. Proceedings of the 5th British Insecticide Fungicide Conference 1:164-168.

82. Cotten, J. 1970. Field experiments with spring barley resistant to cereal cyst nematode, 1965-1968. Annals of Applied Biology 65:163-168.

On infested sites the resistant lines outyielded susceptible lines by an average of 9% over the 4-year study. There was no detectable change in pathogenicity of the Heterodera avenae population after 3 years of growing resistant barley.

83. Cotten, J. 1970. Some aspects of breeding for cereal root eelworm (Heterodera avenae Woll.) resistance in barley. Proceedings of the 9th International Symposium, Warsaw 1967. p 231.

84. Cotten, J. and J. D. Hayes. 1969. Genetic resistance to the cereal cyst nematode (Heterodera avenae). Heredity, London 24:593-600.

    The genetic basis of resistance of 6 barley genotypes to two populations of cereal cyst nematode was investigated; resistance is characterized by the inability of the female to reach maturity in the root tissue. Genetic analysis showed that resistance to a particular nematode population was controlled by a single dominant gene.

85. Cotten, J. and J. D. Hayes. 1972. Genetic studies of resistance to the cereal cyst nematode (Heterodera avenae) in oats (Avena spp.). Euphytica 21 (3):538-542.

    Genetic analysis of cereal cyst nematode resistance in three genotypes of oats indicates that resistance in Avena sterilis 1.376 is controlled by two dominant genes and in A. sativa cv. Mortgage Lifter by 2 recessive genes. Resistance in A. byzantina P.I. 175021 is dominant and monogenic, and is probably at a locus distinct from the resistance loci in the other two genotypes.

86. Coursen, B. W., R. A. Rohde and W. R. Jenkins. 1958. Additions to the host lists of the nematodes Paratylenchus projectus and Trichodorus christiei. Plant Disease Reporter 42:456-460.

    Of 101 plant species tested, Paratylenchus projectus failed to reproduce on 12 of them.

87. Courtney, W. D. 1962. Stem nematode of red clover in the Pacific Northwest. Bulletin Washington Agricultural Experiment Station No. 640, 17 pp.

    Some plants resistant to the red clover race of Ditylenchus dipasaci are listed.

88. Cralley, E. M. 1952. Control of white tip of rice. Arkansas Farm Res. 1:6.

    Results indicate that the eelworm (Aphelenchoides oryzae Yokoo) which causes white tip of rice, does not overwinter in the soil but are primarily seed borne. Some commercial rice varieties show resistance, but important var. such as Zenith and Rexark are susceptible. A seed treatment is recommended that will kill the seed-borne nematodes without reducing or retarding germination.

89. Crittenden, D. H. 1952. Resistance of asparagus to Meloidogyne incognita acrita (Abstract). Phytopathology 42:6.

After 5 months growth in a heavily infested field, the average occurence of females with egg sacs was 1 per plant. There was no hypertrophy of the roots.

90. Crittenden, H. W. 1954. Factors associated with root-knot nematode resistance in soybeans. Phytopathology 44:388 (Abstract).

Soybean varieties tolerant to low levels of potassium show resistance to root-knot only when grown in potassium deficient soils.

91. Crittenden, H. W. 1955. Root knot nematode resistance of soybeans. Phytopathology 45(6):347.

Of 50 varieties tested for resistance to Meloidogyne incognita only ten were resistant. Five of them were tested with M. hapla and were found to be susceptible.

92. Crittenden, H. W. 1956. Resistance of oat varieties to two species of root-knot-nematodes. Phytopathology 46(8):466. (Abstract)

All varieties of barley and wheat tested were resistant to Meloidogyne hapla and susceptible to M. incognita acrita. All oat varieties were resistant to M. hapla and the following 10 were resistant to M. incognita acrita.

93. Crittenden, H W. 1958. Histology and cytology of susceptible and resistant soybeans infected with Meloidogyne incognita acrita. Phytopathology 48(8):461 (Abstract).

94. Crittenden, H.W. 1959. Production of lateral roots in soybean varieties resistant and susceptible to Meloidogyne incognita acrita. Phytopathology 49(8):523 (Abstract).

Infection of the two susceptible varieties caused a significant decrease in the number of tertiary roots produced, but no such change was observed in resistant plants. The number of lateral roots is affected by potassium.

95. Crittenden, H. W. 1961. Studies of the host range of Meloidogyne incognita acrita. Plant Disease Reporter 45(3):190-191.

Of 18 varieties of oat tested, 10 were resistant. The asparagus variety Martha Washington and 11 of the 62 soybean varieties were resistant.

96. Crittenden, H. W. 1962. Effect of Meloidogyne incognita arita in nodulating and non-nodulating strains of soybean. (Abstract of paper presented at 1961 meeting of the Potamac Division of the American Phytopathological Society.) Phytopathology 52(2):163.

Meloidogyne incognita var. acrita caused excessive root enlargement in a nodulating strain of soybean but in a non-nodulating strain with the same genotype (except for the single nodulating gene) root enlargement was slight.

97. Cunningham, C. E., et. al. 1968. Wauseon: a new potato variety resistant to golden nematode with good processing quality. American Potato Journal. 45(4):146-149.

Crosses between potato varieties Katahdin and USDA seedling B5149-8 gave a new variety, Wauseon. It is resistant to Heterodera rostochiensis, has low translucency ratings of processed diced, acceptable chipping ability and gives yields similar to Katahdin.

98. Curi, S. M. 1969. Coffea canephora var. kouillou, promissora fonte de resistencia genetica no controle do nematoide do cafeeiro, Meloidogyne exiqua. Biologico 35:21-22. [Pt] (Plant Breeding Abstract 39, No. 7285)

C. caneophora's resistance held even when planted only 1 m away from heavily infested C. arabica var. Bourbon.

99. Curi, S. M., A. Carvalho, F. P. Moraes, L. C. Monaco and H. V. Arruda. 1970. [New Coffea sources of genetic resistance for coffee nematode (Meloidogyne exigua) control.] Biologico, 36:293-295. (Pt)

Some Coffea canephora, C. congensis and C. engenioides cultivars were resistant. One cultivar of C. arabica was only slightly infested.

100. Curi, S. M., R. A. S. Kiihl, and S. G. P. da Silveira. 1974. [Preliminary results on soybean resistance to Meloidogyne incognita and M. javanica.] Lordello, L.G.E. (Ed). Trabalhos apresentados a reuniao de nematologia, Piracicaba, Brasil, 6-7 February. Sociedade Brasileira de Nematologia, No. 1, pp. 1-2. [Pt, En summary]

101. Curtis, G. J. 1970. Resistance of sugar beet to the cyst-nematode Heterodera schachtii Schm. Annald of Applied Biology 66(1)169-177.

Of the nearly 3000 lines screened, the plants selected for resistance did not transmit resistance to all their offspring.

1. Dalmasso, A. and Cuani, A. 1976. Resistance of grape stocks to different populations of the nematode Meloidogyne napla.Progres Agricole et Viticole. 96(25):800-807.

2. Dalmasso, A.; Cuani, A.; and Cuany. A. 1976. (Resistance of vine stocks to populations of Meloidogyne napla of different origins.) Progres Agricole et Viticole. 93(25):800-807. (French)

   Evaluation of 6 root-stocks of common grapevines to Meloidogyne napla infections was conducted in pot tests. Riparia, Rupestris and 99R were the least susceptible and 41B and S04 most susceptible. Some differences were also observed with different nematode populations.

3. Davide, R. G.; Gargantiel, F. T.; and Maranan, L. R. 1976. Host-parasite relationships and control of the citrus nematodes (Tylenchulus semipenetrans) in the Philippines. III. Host range, screening for varietal resistance and control of the citrus nematode. NSDB Technology Journal 1(3):8-16.

4. Davies, T. G. 1960. A spring oat variety resistant to the stem eelworm. Nature. London. 186(4727):813.

   Five oat varieties were screened for resistance to Ditylenchus dipsaci. A cross between 61750/11 and Toma introduced as "Manod" (S235) was most resistant.

5. Davies, T. G. and Griffiths, D. J. 1962. Resistance of oats to cereal root eelworm(Heterodera avenae Woll.)". Annals of Applied Biology, 50(4):687-692.

   Cultivated and wild oat varieties were tested for resistance to Heterodera avenae with some resistance occurring in Avena sativa var. Heines Silber II, and a higher level in wild species of A. sterilis. Cc 4608 A. sterilis is considered most promising for English strains of the pest.

6. Dean, J. L. and Struble, F. B. 1953. Resistance and susceptibility to root-knot nematoes in tomato and sweet potato. Phytopathology 43:290. Abstract.

   Reports necrosis in invaded roots of resistant tomato and sweet-potato. In tomato, none of the Meloidogyne incognita larvae developed to the second moult. In sweet potato, a few larvae developed into egg-laying adults.

7. Dement'eva, S. P. and Suvorov, V.T. 1968. (Resistance of some solanaceous plants to the root-knot nematode.) In: Spasski, A.A., (Editor), (Plant nematodes of crops in Moldavia.) Kishinev: Akademiya Nauk Moldavskoi SSR, pp. 71-77. (In Russian)

   One tobacco cultivar, Lycopersicon hirsutum, L. h. glabratum, L.h. minutum, Nicotiana glauca, Solanum nigrum and S. dulcamara were heavily attacked by Meloidogyne incognita but failed to produce any external symptoms of disease. L. peruvianum, L.p. humfusum and Physalis mexicana were practically resistant to Meloidogyne incognita.

8. Dement'eva, S. P. and Suvorov, V. T. 1972. (Susceptibility of some wild and cultivated Solanaceae to the gall nematode.) Kishinev, USSR: Izdatel'stvo "Shtiintsa". Parazity Zhivotnykh i Rastenii (1972). No. 8, 86-97 (Russian).

Solanaceae seedlings (40 types) were evaluated for Meloidogyne infections in controlled tests. Tomatoes were severely infected, however, wild forms of tomato and physalis (ground cherry family) were very resistant.

9. Demirören, S. and Konarli. O. 1969 (Nursery testing of peach seedling rootstocks for resistance to nematodes.) Yalova Bahçe Kültürleni Arastirma ve Eğitim Merkezi Dergisi, 2(4) 49-56. (Turkish, English).

The peach varieties, Nemaguard, Uzunoğlu and Cebelgüney were equally resistant to Meloidogyne javanica.

10. De Scurran, M. M.; Plaisted, R. L. and Harrison, M. L. 1973. Resistance to the potato nematode Heterodera rostochiensis Woll. in clones derived from Solanum vernei. American Potato Journal 50(1):9-18.

11. DeVay, J. E.: and Adler, H. E. 1976. Antigens common to hosts and parasites. Annual Review of Microbiology. 30:147-168.

A review of common antigens and antigenic mimicry mentioning common antigens between root-knot and their hosts.

12. Dhillon, G. S. and Nandpuri, K. S. 1975. Root-knot nematode resistance in tomato (Lycopersicon esculentum Will). Journal of Research, Punjab Agricultural University. 12(4):373-377.

Thirty-eight varieties of tomato were screened (in pot tests) for resistance to Meloidogyne javauica, M. arenaria and M. incognita. The varieties "Kalohi", "Healani", 7544, 7540 and a male sterile line 24/2 were most resistant. Healan: and 7540 developed no galls and the others were relatively free.

13. Dickerson, O. J.; and Franz, T. J. 1974. Resistance in Pratylenchus spp. in dry-edible beans and soybeans. (Abstract). Proceedings of the American Phytopathological Society 1:125.

14. Dieter, A. 1958. Beobactungen über Heterodera major an Hafer. Nachnchenbau fïr den Deutschen Pflanzenschutzdrenst. Berlin. 12(8):155-158.

The oat varieties "Heines Gilber", "Astra" and "Picton" produced few cyst in a resistance screening trial of 17 varieties.

15. Dijkstra, J. 1956. Experiences with the breeding of red clover resistant to the stem eelworm.Euphytica 5:298-307.

Considered symptomless plants as escapes and discarded them from the breeding program.

16. Dijkstra, J. 1957. Symptoms of susceptibility and resistance in seedlings of red clover attacked by the stem eelworm Ditylenchus dipsaci (Kuhn) Filipjev. Nematologica 2:228-236.

The degree of swelling of seedling is correlated with degree of susceptibility. Stunted plants with brown stripes resisted eelworm duplication, and, to some extent, penetration.

17. Dijkstra, J. and Koster, H. 1973. (Testing red clover for resistance to stem nematode, particularly with relation to varietal registration.) Toetsing van rode klaver op resistentie tegen stengelaaltjes special met betrekking tot de rassenregistratie. Zaalbelangen (1973) 27(8):168-173 (Norwegian).

In laboratory experiments, 15 varieties of red clover were tested for resistance to Ditylenchus dipsaci. SVP 2X, Mom Tp 2 and SVP 4X were very resistant. Other plants with 60% or less resistance performed well in the field.

18. Di Muro, A. 1972. Some Nicotiana species and tobacco varieties resistant to Meloidogyne spp. Bulletin d'Information Coresta (1972) Special No. 1976, pp. 96-97.

Thirty-seven varieties of tobacco were tested for resistance to Meloidgyne sp. and 28 were very susceptible. Some varieties only developed a few small galls and Nicotiana langsdorfii, N. nesophila and SC-66 were resistant with no galls.

19. Doney, D. L. and Whitney. E. D. 1969. Screening sugarbeet for resistance to Heterodera schachtii Schm. Journal of American Society of Sugar Beet Technologists. 15:546-552.

Twenty-seven varieties of sugarbeets were screened for resistance to Heterodera schachtii. White females were used as criteria. Little difference if any was found.

20. Doney, D. L. and Whitney, E. D. 1970. Genetic diversity in sugarbeet lines selected for nematode resistance. Journal of the American Society of Sugar Beet Technologists. 16(3):219-224.

21. Doney, D. L. and Whitney, E. D. 1973. Individual plant selection in nematode-infested soil. Journal of the American Society of Sugar Beet Technologists. 17(4):375-380.

Techniques are described for testing Heterodera schachtii resistance. The described technique should give the breeder a method of selecting genetically superior genotypes.

22. Donnelly, E. D. and Minton, N. A. 1968. Nematode-resistant sericea - now possible! Highlts Agricultural Research, 15(2) (reprint 1 page).

Several newly developed lines of sericea are reported which are resistant to Meloidogyne spp. in the U.S.A.

23. Doussinault, G., et. al. 1974. (Use of VPM 1 parents in improving disease resistance in wheat.) Annales de l'Amelioration des Plants. 1974 24(3):215-241. (Plant Breeding Abstracts 45, 6193). (French).

Authors report a wheat breading line VPM-V1112R41 is resistant to two pests, Heterodera avenae and Ophiobolus graminis.

24. Drolsom, P. N. and E. L. Moore. 1955. The interaction of certain tobacco varieties and plant parasitic nematodes. Plant Disease Reporter. 39(10):703-704.

A variety of wilt-resistant tobacco (Dixie Bright 101) was severly stunted by Pratylenchus spp., whereas older varieties could tolerate a higher infection density.

25. Drolsom, P. N. and Moore, E. L. 1958. Reproduction of Meloidogyne spp. in flue-cured tobacco lines of root-knot resistant parentage. Plant Disease Reporter. 42:596-598.

Root-knot resistant breedling lines of flue-cured tobacco (Nicotiana tabacum) were grown individually with two or more species of Meloidogyne. Observations on egg mass formation are presented. Data indicated that breedling lines were highly resistant in the presence of M. incognita and M. incognita acrita and relatively susceptible with M. javanica, M. arenaria, and M. hapla.

26. Drolson, P. N.; Moore, E. L.; and Clayton, E. E. 1957. Resistance to two Meloidogyne species in breeding lines of flue-cured tobacco. (Abstract). Phytopathogy 47:312.

Resistant breeding lines derived from crosses between T. I. 706 and flue-cured tobacco were hybridized with a synthetic allo-tetraploid Nicotiana sylvestris tomentosi formis, producing highly resistant lines with good type and satisfactory yeild. Greenhouse studies indicate high resistance to M. incognita and to M. incognita acrita and susceptibility to M. arenaria. Results with M. hapla and M. javanica were inconclusive.

27. Drolsom, P. N.; Moore, E. L.; and Graham. T. W. 1957. Inheritance of resistance to root-knot in flue-cured tobacco. Agron. Abstract., p. 52.

28. Drolsom, P. N., Moore, E. L. and Graham. T. W. 1958. Inheritance of resistance to root-knot nematodes in tobacco. Phytopathology 48:686-689.

Tests of F_1,F_2,F_3 and back cross progeny of susceptible X resistant support the hypothesis that a single dominant factor, or a block behaving as a single factor, controls resistence to Meloidogyne incognita.

29. Dropkin, V. H. 1959. Varietal response of soybeans to Meloidogyne - a bioassay system for separating races of root-knot nematodes. Phytopathology 49:18-23.

30. Dropkin, V. H. 1969. The necrotic reaction of tomatoes and other hosts resistant to Meloidogyne: reversal by temperatures. Phytopathology 59:1632-1637.

31. Dropkin, V. H., J. P. Helgeson and C. D. Upper. 1969. The hypersensitivity reaction of tomatoes resistant to Meloidogyne incognita: reversal by cytokinins. Journal of Nematology 1:55-61.

Initiation of larval growth, induction of cell necrosis and gall formation in the host were measured as criteria of resistance or susceptibility of tomato seedlings to the root-knot nematode Meloidogyne incognita (Kofoid and White) Chitwood. The study measured the effect of exogenous growth regulatory substances on the early stages of the host-parasite interaction; in particular, modification or expression of genetic resistance by cytokinins was examined.

32. Dropkin, V. H. and Nelson, P. E. 1960 The histopathology of root-knot nematode infections in soybeans. Phytopathology 50:442-447.

Degree of penetration decreased in resistant varieties.

33. Dropkin, V. H. and Webb, R. E. 1967 Resistance of axenic tomato seedlings to Meloidogyne incognita acrita and to M. hapla. Phytopathology 57:584-587.

34. Drozdovskii, E.M.; Blinov, V. A.; and Yakovleva, R. A. 1971. (Selection of strawberry seedlings, resistant to Aphelenchoides-Corynebacterium.) (Abstract). In Kul'tura zemlyaniki v SSSR. Tezisy dokladov simpoziuma. (28 iyunya - 1 iyulya 1971). Moscow, USSR. (1971) 61-63 (Russian) Research Institute for Horticulture of the Non-Chernozem Zone, near Moscow, USSR.

35. DuCharme, E. P. 1948. Resistance of Poncirus trifoliata rootstock to nematode infestation in Argentina. Citrus. Indus. 29:9,15.

Many of the P. trifoliata selections were resistant to Tylenchulus semipenetrans.

36. Duclos, L.A., Epps. J. M. and Hartwig. E.E. 1972. Results of screening the soybean germplasm for resistance to the race 4 soybean cyst nematode. Agronomy Abstracts, American Society of Agronomy Annual Meeting (64th) (1972) 24.

True resistance was not found in more than 3,400 varieties from soybean germplasm collections for Race 4 of Heterodera gylcines. However, varieties "Cloud","Columbia", "Peking", PI 87631-1, PI 188788, PI 89772 and PI 90763 indicated a high level of resistance.

37. Duggan, J. J. 1961. The effect of the cereal root eelworm (Heterodera major) on its hosts. Irish Journal of Agricultural Research 1 (1), 7-16.

Several cereal varieties and grasses were used to study infection levels of Heterodera avenae. Oats was the most susceptible cereal. "Ymer" and "Spratt Archer" recovered after early infection. "Herta" and "Beorna" were damaged at high levels.

38. Dunbier, M. W.; Close, R. C. and Ellis, T. J. 1976. Disease and pest-resistant lucerne cultivars for New Zealand. Proceedings of the 29th New Zealand Weed and Pest Control Conference, 1976. pp. 46-49.

Alfalfa breeding programs for resistance to Ditylenchus dipsaci and bacterial wilt are in progress in New Zealand.

39. Dunbier, M. W. and Sanderson, F. R. 1976. Lucerne cultivars resistant to diseases. New Zealand Journal of Agriculture 132 (2): 10-12.

40. Dunn, R. A. Resistance in potato (Solanum tuberosum) to Pratylenchus penetrans. (Abstract). In International Congress of Plant Pathology (2nd) Minneapolis, Minnesota, September 5-12, 1973. Abstracts of papers. St. Paul, Minnesota, U.S.A.: American Phytopathological Society Inc. (1973) No. 0860.

Three cultivars of potato (Solanum tuberosum L.) were compared in greenhouse tests as hosts for Pratylenchus penetrans. The data from greenhouse tests and field observations indicate that useful resistance to P. penetrans exists in known potato cultivars and that even higher levels may exist within the germ plasm of tuber-bearing Solanum species.

41. Dunnett, J. M. 1957 Variation in pathogenicity of the potato root eelworm (Heterodera rostochiensis Woll.) and its significance in potato breeding. Euphytica 6:77-89.

Found a population of H. rostochiensis which was able to produce cysts on resistant lines of potato; Solanum vernii had some resistance. 10% of the populations of H. rostochientis from 113 sources contained a resistance breaking-strain.

42. Dunnett, J. M. 1957. "Embedded cysts" in relation to the utilization of potato root eelworm resistance. Rep. Scott. Plant Breeding Station (1957):50-56.

Cysts of Heterodera rostochiensis may develop on potato tubers and none on roots of resistant plants. This may indicate a resistance-breaking biotype.

43. Dunnett, J. M. 1959. Variation in pathogenicity of the potato root eelworm (Heterodera rotochiensis Woll.): technique and results of testing wild potatoes for resistance. TagBer. db. Akad. LanwWiss. Berl. 20:107-120.

44. Dunnett, J. M. 1960. Potato breeders' strains of root eelworm (Heterodera rostochinesis Woll.). Nematologica. Supplement II pp. 84-94.

After studing Heterodera rostochiensis resistance in Solanum vernei, S. sanctae rosae and S. multidissectum the author concluded that the eelworm would eventually negate resistance. Eelworm strains are classified on agressiveness to resistant varieties.

45. Dunnett, J. M. 1960. The role of Solanum vernei Bitt. et Wittm. in breeding for resistance to potato root eelworm (Heterodera rostochiensis Woll.) Rep. Scott. Plant Breeding Station (1960): 39-44

46. Dunnett, J. M. 1961 Inheritance of resistance to potato root eelworm in a breeding line stemming from Solanum multidissectum Hawkes. Rep. Scott. Plant Breeding Station (1961):39-46.

47. Dunnett, J. M. 1964. Suggested classification of the potato root eelworm (Heterodera rostochiensis Woll.) in relation to dominant resistance genes in potatos. Nematologica 10(5, Section 2), 55-56.

1. Edward, E. E. 1956. Studies on resistance to the root-knot nematode of the genus Meloidogyne. Proc. Helm. Soc. Wash. 23 (2):112-118.

Extensive tests were made on the susceptibility to root-knot eelworm of the 26 species of indigenous and recently introduced plants on the Gold Coast.

2. Eenink, A. H. 1976. Genetics of host-parasite relationships and uniform and differential resistance. Netherlands Journal of Plant Pathology. 1976. 82(4):133-145.

The author presents a general discussion of nematode host parasitic relationships including resistance genetics.

3. Efremenko, V. P. and Efremenko, T.S. 1961. (Resistance of various potato varieties and seedlings to Heterodera rostochiensis.) Trudi Vsesoyuznogo Instituta Zashchiti Rasteni, No. 16, pp. 140-152. (In Russian:English summary p. 152).

13 of 428 varieties and seedling potatoes were only slightly infected in Heterodera rostochiensis resistance tests.

4. Efremenko, V. P. and Jefremenko, V. P. 1976. (Biological control of Heterodera rostochiensis, using a new resistant potato variety "Meta".) Parasitologicheskie issledovaniva v Pribaltike. Vigis, Moscow, U.S.S.R. Published: Riga, U.S.S.R.; Izdatel'stvo "ZINATNE". 1976.

The potato variety "Meta" was resistant to Heterodera rostochiemsis in that the females failed to develop. Planting this variety in infested soil greatly reduced the population of the pest.

5. Efremko, V. P. and Klimakova, E. T. 1972. (Testing of potato varieties and seedlings for resistance to potato cyst eelworm.) (Abstract). In Nematodnye bolezni sel'skokhozyaistvennykh kul'tur i mery bor'by s nimi. Tezisy soveshchaniya, Moskva, dekar' 1972. Moscow, U.S.S.R.; VASHNIL. (1972) 80-81 (Ru) VIGIS. Moscow, U.S.S.R.

6. Efremenko, V. P. and Klimakova, E. T. 1975. (The ontogenesis of the potato cyst nematode in the roots of susceptible and resistant potato varieties.) Byulleten' Vsesoyuznogo Instituta Gel'mintologii im. K. I. Skryabina. 1975 No. 15, pp. 52-56.

Although Heterodera rostochiemsis larve penetrated the resistant potato variety "Meta", only males developed to maturity (20 days). The number of males developing in this variety was 4 times lower than in a susceptible variety.

7. Elgin, J. H., Jr.; et. al. 1975. Variations in pathogenicity of regional strains of stem nematodes on alfalfa. (Abstract). Twenty-fourth alfalfa improvement conference, University of Arizona, Tucson, 8-10 October, 1974. U.S. Department of Agriculture 1975. pp. 19-20.

The authors concluded that one Ditylenchus dipsaci isolate was all that was needed to test alfalfa for resistance. "Lahortan" and "Caliverde" were resistant to all nine isolates of the pest.

8. Elgin, J. H. Jr.; et. al. 1975. Evaluation of alfalfa for stem nematode resistance. Crop Science. 1975. 15(2):275-276.

A technique of periodic inoculation of alfalfa seedlings with Ditylenchus dipsaci is discussed. Infections are read at 16 weeks after inoculation.

9. Elgin, J. H. Jr.; etal. 1977. Response of resistant and susceptible alfalfa cultivars to regional isolates of stem nematode, Ditylenchus dipsaci, from United States and Canada. Crop Science 17(6):957-959.

10. Ellenby, C. 1948. Resistance to the potato-root eelworm. Nature, London. 162:704.

The testing of the South American tuber-forming Solanum sp. for immunity and resistance to the potato-root eelworm, strongly indicates that S. ballsii, though not completely immune, appears to be exceptionally resistant.

11. Ellenby, C. 1952. Resistance to the potato-root eelworm, Heterodera rostochiensis. (Correspondence) Nature, London. 1952. 170:1016.

Confirms work reported in 1948.

12. Ellenby, C. 1954. Tuber forming species and varieties of the genus Solanum tested for resistance to the potato-root eelworm Heterodera rostochiensis, Wollenweber. Euphytica 3:195-202.

Tests for resistance to potato-worm have been carried out using the South American material or the Commonwealth potato collection. Here is given a list of all the material tested, about 1,300 forms belonging to over 60 wild and cultivated species. All were susceptible except for a few tetraploids of S. tuberosum subspecies andigenum.

13. Ellis, S. E. and Brown, J. A. M. 1976. The reaction of resistant cultivars of barley to some Australian populations of Heterodera avenae. Nematologica. 1976. 22(1):87-93.

The authors describe a laboratory inoculation method using cysts of Heterodera avenae on barley. Both "Marocaine 079" and "Sabarlis" were resistant in field tests conducted in Australia.

14. Elmer, O. H. 1958. The sweet potato variety Kandee. Kansas Agricultural Experiment Station Report September 14, 1958.

15. Elmstrom, G. W. and Hopkins, D.L. 1973. Field resistance to root-knot nematode in muskmelon. HortScience (1973) 8(2):134.

Several Cucumis melo cultivars and breeding lines were tested for resistance to Meloidogyne species. Some common varieties, "VBL C880", "Southland" and Burpee Hybrid" were very susceptible.

16. el-Sherif, M.A.; Hafiz, S.L. and Oteifa, B.A. 1974. Root Phenolic contents of resistant and suceptible soybean cultivars infected with Rotylenchulus reniformis Nematodes. Ann Agricultural Science (Moshtohor) 1:245-250.

17. Endo, B.Y. 1965. Entry and development of Heterodera glycines Ichinohe in susceptible and resistant soybeans. Nematologica 11:36 (Abstract)

18. Endo, B.Y. 1965. Histological responses of resistant and susceptible soybean varieties and backcross progeny to entry and development of Heterodera glycines. Phytopathology 55(4):375-381.

    Root development and changes in resistant and susceptible soy beans in relation to H. glycines was studied. Although syncytia developed in the resistant variety "Peking", they disappeared in a short time.

19. Endo, B.Y. and Yeech, J.A. 1969. Comparative enzyme histochemistry in root-knot resistant and susceptible soybeans. Journal of Nematology 1(4):285-286. Annual Abstracts (8th) Society of Nemotologists.

    A comparison was made of the histochemical and morphological responses of the susceptible (Lee) and resistant (Delmar) soybeans to infection by Meloidogyne incognita acrita.

20. Engel, K. H. and Stelter,H. 1974. (The assessment of nematode resistance in potato breeding). Archiv fur Zuchtungsforschung, 1974. 4(4):269-278.

    A mathematical approach to predicting Heterodera rostochiensis infestation. A larvae count of 500/100cm^{3}soil is considered a threshold value between resistant and susceptible potato varieties.

21. Epps, J. M. 1965. Reaction of sugarbeets varieties to the soybean cyst nematode. Plant Disease Reporter 49(9):747.

    Heterodera glycines did not reproduce on 15 varieties of sugar beets.

22. Epps, J. M. 1970. Breeding soybeans for resistance to the soybean cyst nematode, Heterodera glycines, and the root-knot nematode, Meloidogyne species. 10th International Nematology Symposium of the European Society of Nematologists, Pescara, Italy, September 8-13, 1970. p. 110 (Abstract).

23. Epps, J. M. and Chambers, A. Y. 1959. Mung Bean (Phaseolus aureus), a host of the soybean cyst nematode (Heterodera glycines). Plant Disease Reporter, 43(9):981-982.

    Mung bean (Phaseolus aureus) varieties "Oklahoma 12" and "Kiloga" were susceptible to Heterodera glycines. However, a jumbo strain appeared resistant.

24. Epps, J. M. and Chambers, A. Y. 1965. Nature of resistance in soybean varieties resistant to Heterodera glycines. (Abstract) Phytopathology 55(5):498.

    In graft studies of soybean varieties Lee (susceptible), Peking and NC 55 (both resistant), the data indicated that the factors for resistance or susceptibility are contained in root tissue and is not translocated from the shoots to the roots.

25. Epps, J. M. and Hartwig, E. E. 1972. Reaction of soybean varieties and strains to Race 4 of the soybean cyst nematode. (Abstract). Journal of Nematology 4(4):222.

26. Epps, J. M. and Hartwig, E. E. 1973. "Forrest", a new nematode-resistant soybean variety. Agricultural Experiment Station Bulletin, University of Tennessee Agricultural Experiment Station, 513, 11 p. May, 1973.

27. Erickson, K. B. 1969. Methods in breeding for resistance against nematodes in forage crops. Sver. Utsädesför. Tidskr., 79, Suppl., pp. 124-132.

Methods described for breeding fodder crops for resistance to Meloidogyne spp., Heterodera spp. and Ditylenchus dipsaci.

28. Erickson, K. B. 1971. (Studies on the stem nematode with reference to plant resistance.) (Abstract). Nordisk Jordbruksforskning 53(3):303-304 (Sv)

29. Erickson, K. B. 1972. Studies on Ditylenchus dipsaci (Kuhn) with reference to plant resistance. Department of Plant Pathology and Entomology, Agricultural College of Sweden, 108 pps., illustrated.

30. Erickson, K. B. 1972. Nematode diseases of pasture legumes and turf grasses. In: Webster, J. M. (Editor), "Economic nematology", London, United Kingdom: Academic Press pp. 87-89.

Resistant varieties and breeding for resistance are described.

31. Erokhina, S.; Chernikova, S. and Yandovskaya, I. 1974. (Resistance to Phytophthora in potato varieties). Kartofel' i Ovoshchi (1974) No. 1, 40-41 (Ru) (Plant Breeding Abstracts 44,5298)

Phytophora infestans and Heterodera rostochiemsis resistance are found in a late potato variety "Prominent".

32. Erturk, H. and Ozkut S. 1971 (Studies on the resistance of rootstocks to root-knot nematode (Meloidogyne spp.) in the conditions of the Turkish Aegean area.) Tübitak Bilim Kong. Tarim ve Orman. Teblig Özet (1971) 3, 17-18 (Tr). (Plant Breeding Abstracts 43, 1933)

The author lists varieties of grapevine rootstock in order of resistance to Meloidogyne spp.

33. Erturk, H. and Ozkut S. 1974. Investigations on some grape rootstocks for determining their resistance to root-knot nematodes (Meloidogyne spp.) in Ege region. (Abstract) In Simposio International (XIII) de Nematologia, Sociedad Europea Nematologos, September 1-7, 1974, Granada, Spain.

34. Erturk, H.; Ozkut, S. and Borazanci, N. 1975. (A study on the resistance of the peach rootstock Nemaguard to the root-knot nematodes Meloidogyne incognita and M. javanica in the Aegean region.) Biki Koruma Bulteni, 1975. 15(1):58-65. (Horticultural Abstracts 46, 11069). (Tr; En summary)

    "Nemaguard" peach rootstock was three times more resistant to Meloidogyne incognita and M. javanica than native turkish rootstocks.

35. Evans, K. ; Parkinson, K. J.; and Trudgill, D. L. 1975. Effects of potato cyst-nematodes on potato plants. III. Effects on the water relations and growth of a resistant and a susceptible variety. Nematologica. 1975. 21(3):273-280.

    The authors reported effects of water stress on susceptible and resistant potato varieties planted in Heterodora rostochiemsis, and H. pallida soil. The resistant variety "Maris Piper" tolerated water stress conditions better than "Pentland Dell".

36. Evans, K., Trudgill, D. L. and Brown, N. J. 1977. Effects of potato cyst-nematodes, Globodera pallida, Globodera rostochiensis on potato plants. V. Root system development in lightly and heavily infested susceptible and resistant varieties and its importance in nutrient and water uptake. Nematologica 23 (2):153-164. May, 1977.

    Maris Piper is resistant to G. rostochiensis RO, and also tolerates attacks by G. pallida PA_3 better than does Pentland Dell attacked by G. rostochiensis. Maris Piper has more vigorous root system and thinner roots than does Pentland Dell and may therefore provide fewer transfer cell sites for nematode females per unit length.

37. Ewertson, G. 1974. (Weibull's "Ansgar" - Sweden's first barley variety with resistance against oat cyst nematode. Weibulls Arsbok (1974) 17-20 (Swedish).

    A barley cross from "Hertax Barley 191" called "Ansgar" is resistant to two Heterodora avenae biotypes in Sweden.

38. Ewertson, G. 1975. (Tellus and Ansgar - two very important barley varieties). Weibulls Arsbok (1975) 14-16 (Swedish).

    "Ansgar" a barley variety resistant to two Heterodera avenae biotypes is recommended for planting where the nematode is a problem.

39. Ewertson, G. and Lundin, P. 1974. Weibull's Ansgar - new cereal root eelworm and mildew resistant spring barley. Agricultural Horticultural Genet 32 (1/4):37-43. 1974.

    The Swedish bred barley variety, Weibull's Ansgar, was shown resistant to two pathotypes of Heterodera avenae.

1. Falk, H. 1970. [New almond and peach rootsotcks resistant to nematodes.] Hassadeh 50:1454-1457 [He].

2. Farkas, G. L. and Z. Kiraly. 1962. Role of phenolic compounds in the physiology of plant diseases and disease resistance. Phytopathol. Z. 44:105-150.

In infected cells the metabolic activity may be directed toward production of aromatic compounds with a build-up of phenolics.

3. Farkas, J. and I. Ackerl. 1974. [A disease-resistant forcing tomato.] Kerteszet es Szoleszet 23(2):2 [Hu] (Horticultural Abstracts 44:679.)

4. Fassuliotis, G. 1967. Species of Cucumis resistant to the root-knot nematode, Meloidogyne incognita acrita. Plant Disease Reporter 51(9):720-723.

Resistance was found in C. anguria, C. ficifolius, C. longipes, C. metuliferous, and C. heptadactylus, but not in 9 other species tested.

5. Fassuliotus, G. 1968. Resistance of Cucumis species to a root-knot nematode, Meloidogyne incognita acrita. Nematologica 14(1):6 Abstract.

C. anguria, C. ficifolius, C. metuliferus and C. longipes were found to be resistant; all wild species, they might be important sources of resistance in development of commercial melon varieties.

6. Fassuliotis, G. 1970. Resistance of Cucumis spp. to the root-knot nematode, Meloidogyne incognita acrita. Journal of Nematology 2:174-178.

Resistance in C. ficifolius and C. metuliferus was associated with hindrance of larval development beyond the second stage, delayed develpment of larvae to adults and stimulation toward maleness. Comparison of the histopathology of C. melo and C. metuliferus showed no observable differences in the type of giant cell developments in regions of roots associated with adult females.

7. Fassuliotis, G. 1971. Susceptibility of Cucurbita spp. to the root-knot nematode, Meloidogyne incognita. Plant Disease Reporter 55(8):666.

Of the 542 plants identified as C. maxima, C. pepo and C. moshata none of them showed resistance and all had characteristic root galling.

8. Fassuliotis, G. 1973. Susceptibility of eggplant, Solanum melongena to rootknot nematode, Meloidogyne incognita. Plant Disease Reporter 57(7):606-608.

No varieties of Solanum melongena resistant to Meloidogyne incognita were found in the entire USDA collection nor among the Japanese hybrids that were screened. Hybrids with the wild species S. sisymbriifolium produced fruit but the seeds were not viable.

9. Fassuliotis, G. 1975. Regeneration of whole plants from isolated stem parenchyma cells of Solanum sisymbriifolium. Journal of the American Society for Horticultural Science 100(6):636-638.

The regenerated plants retained their resistance to Meloidogyne incognita.

10. Fassuliotis, G. 1976. Progress, problems and perspectives in breeding food crops for root-knot resistance. International Meloidogyne Project. Proceedings of the research planning conference on root-knot nematodes, Meloidogyne, spp., 12-16 January 1976, Raleigh, North Carolina, USA pp. 81-93.

New breeding methods including somatic hybridization between protoplasts, regeneration of the fused protoplasts into a callus and induction of organogenesis of the hybrid callus to produce a whole plant, are reviewed. A list of 7 cultivated crops to which resistance to one or more Meloidogyne species has been introduced is given.

11. Fassuliotis, G. and E. L. Corley. 1967. Use of seed growth pouches for root-knot nematode resistance tests. Plant Disease Reporter 51:482-486.

12. Fassuliotis, G. and J. R. Deakin. 1973. Stem galls on root-knot nematode resistant snap beans. Journal of the American Society of Horticultural Science. 98(5):425-427.

A successful host-parasite relationship was established in the stems of both resistant and susceptible snap beans (Phaseolus vulgaris L.) with the root-knot nematodes, M. incognita.

13. Fassuliotis, G., J. R. Deakin and J. C. Hoffman. 1970. Root-knot nematode resistance in snap beans: breeding and nature of resistance. Journal of the American Society of Horticultural Science 95:640-645.

Two accessions of Phaseolus vulgaris from Mexico, PI 165426 and PI 165435, were reported highly resistant to Meloidogyne incognita.

14. Fassuliotis, G. and P. D. Dukes. 1972. Disease reactions of Solanum melongena and S. sisymbriifolium to Meloidogyne incognita and Verticillium albo-atrum (Abstract). Journal of Nematology 4(4):222-223.

No resistance to Meloidogyne incognita was found in 300 varieties and plant introductions of Solanum melongena but S. sisymbriifolium was resistant to the nematode and also to Verticillium albo-atrum. Interspecific crosses between the Solanum species are being attempted in order to develop an acceptable eggplant resistant to M. incognita.

15. Fassuliotis, G. and G. J. Rau. 1963. Evaluation of Cucumis spp. for resistance to the cotton root-knot nematode, Meloidogyne incognita acrita. Plant Disease Reporter 47:809.

Of 1465 introductions of Cucumis species, only one (PI 233646, from Ethiopia) had marked resistance. The leaves and fruit of the plants resembled those of the gherkin, C. anguria.

16. Fatunla, T. and A. Salu. 1977. Breeding for resistance to root-knot nematodes in tomatoes. Journal of Agricultural Science (Camb.) 88(1):187-191.

    Resistance in Rossol and Nematex to M. incognita is separately conditioned by single genes. The genes are incompletely dominant and non-allelic. It was not possible to distinguish between homozygous and heterozygous resistant plants in segregating families.

17. Fazuoli, L. C. [Resistance of Coffea racemosa to Meloidogyne exigua.] Ciencia e Cultura 27(7) Supplement, p. 230.

    Plants with resistance to Meloidogyne exigua were found more frequently in Coffea canephora, C. congensis and C. racemosa.

18. Fazuoli, L. C., L. C. Monaco, A. Carvalho and M. H. Scali. 1973. [Study on genetic resistance in coffee to the nematode Meloidogyne exigua.] 1o Congresso Brasileiro sobre Pragas e Doencas do Cafeeiro, 4-6 Julho 1973. (Plant Breeding Abstracts 45, 7571). [Pt].

    100 hybrid coffee plants show resistance.

19. Fazuoli, L. C., L. C. Monaco, A. Carvalho and M. H. Scali. 1974. [Resistance of coffee trees to nematodes] Lordello, L. G. E. (Ed), Trabalhos apresentados a reuniao de nematologia, Piracicaba, Brasil, 6-7 February 1974. Sociedade Brasileira de Nematologia, 1:25-26. [Pt].

    Investigations in the resitance of several Coffea species to Meloidogyne exigua are briefly summarized. The Icata (deried from C. canephora x C. arabica) was the most promising.

20. Feaster. 1963. Evaluation of cotton root-knot nematode resistance of a strain of G. barbadense var. darwinii. Cotton Improvement Con. Proceedings 15:36-44.

21. Feder, W. A. 1968. Differential susceptibility of selections of Poncirus trifoliata to attack by the citrus nematode, Tylenchulus semipenetrans. Israel Journal of Agricultural Research 18:175-179.

    Selections found most resistant were Town F, Rubidoux Sdlg 55-123, and Yamaguchi 56-7.

22. Feder, W. A. and H. W. Ford. 1957. Susceptibility of certain citrus varieties, species, and relatives to the burrowing nematode. Proceedings of Florida State Horticultural Society 70:60-63.

    500 citrus varieties, species and relatives were tested for resistance to the burrowing nematode, Radopholus similis. Several plants were tolerant and a few showed a considerable degree of resistance.

23. Feder, W. A., H. W. Ford, J. Feldmesser, F. E. Gardner, R. F. Suit, A. Pieringer and P. C. Hutchins. 1958. Citrus varieties, species and relatives susceptible to attack and damage by the burrowing nematode, Radopholus similis. Plant Disease Reporter 42(8):934-937.

Screening of nearly 400 named varieties, species and relatives of citrus found them all susceptible.

24. Feder, W. A. and P. C. Hutchins. 1965. Differential susceptibility of selections of Poncirus trifoliata to attack by Tylenchulus semipenetrans. Phytopathology 55(10):1058. Abstract.

25. Fehleisen, S. O. 1969. [Prospects of producing commercial hybrids of tomato.] Revista de la Facultad de Agronomia, Universidad Nacional de la Plata 45(1):70-77 [Es].

Hybrid tomato varieties are being developed with a combined resistance to Meloidogyne incognita and virus and fungal disease.

26. Ferver, A. F. and H. W. Crittenden. 1958. Host-parasite relationships of Avena sativa and a root-knot nematode, Meloidogyne incognita acrita. Phytopathology 48(8):461.

No differences were seen in the amino acid or sugar contents of non-infected roots of susceptible (Lee and Forkedeer) and resistant (Arlington and Atlantic) oat varieties.

27. Fiddian, W. E. H. and D. T. A. Aldrich. 1964. The susceptibility of red clover varieties to clover stem eelworm. Plant Pathology, London, 13(4):139-143.

21 varieties of red clover were tested for resistance to Ditylenchus dipsaci, most were highly susceptible but 2 doublecut varieties showed a high degree of resistance. Late flowering varieties showed moderate to good resistance.

28. Finkner, R. E. and J. F. Swink. 1956. Breeding sugarbeets for resistance to nematodes. Agronomy Journal 48(9):389-392.

The high galactinol content of the root of resistant sugar beets, associated with low root yields, may be also associated with resistance to the sugarbeet nematode, Heterodera schachtii.

29. Finkner, R. E. and J. F. Swink. 1959. Reaction of galactinol selected beet varieties in breeding for nematode resistance. Journal of American Society of Sugar Beet Technologists 10(5):403-423.

Roots with low galactinol content have fewer beet eelworm cysts than roots with high galactinol content. More experimental work is needed to verify or reject the proposed hypothesis that low galactinol beets are more resistant to sugar-beet eelworms than high galactinol beets.

30. Fischnaler, F. A. 1973. [A new tomato variety from El Salvador resistnat to Meloidogyne sp.] Nematropica 3(1):3 [Es].

31. Fobes, J. F. and D. F. Paige. 1975. Refinements in starch gel electrophoresis for genetic screening of horticultural materials: application to nematode testing of Lycopersicon esculentum. Horticulture Science 10(3):313.

Tomato resistance to nematodes correlates with the Aps-1 allele. It is possible to distinguish homozyguos and heterozygous resistant plants by banding pattern segregation at the Aps-1 locus.

32. Follin, J. C. 1975. Kenaf anthracnose (Hibiscus cannabinus L.) Coton Fibres Trop (En edition) 30(2):59-71. Coton Fibres Trop (Fr edition) 30(4):465-473.

33. Ford, H. W. 1956. Citrus rootstock selections tolerant to the burrowing nematode. Proceedings of Florida State Horticultural Society. 69:44-51.

Citrus rootstock selections for nematode tolerance, Rough Lemon A, Rough Lemon B, and Clone x Rough Lemon A supported relatively high populations of burrowing nematodes, although considered tolerant. Resistance factor in Milam (clone x) is associated with the destruction of the eggs of the burrowing nematode laid in the root cortex.

34. Ford, H. W. 1956. Resistance of citrus variety and rootstock selections to spreading decline. Report of the Florida Agriculture Experiment Station. p. 194.

35. Ford, H. W. 1965. Citrus varieties, hybrids, species and relatives evaluated for resistance to the burrowing nematode, Radopholus similis. Citrus Experimental Station Mimeo Ser. No. 65-12.

36. Ford, H. W. 1966. Some field observations of Milam and Estes rootstocks. Florida Sunshine State Reporter. July 8-10.

Milam (Clone x) is susceptible to attack by citrus nematode, Tylenchulus semipenetrans.

37. Ford, H. W. 1967. Burrowing nematode resistant rootstocks as biological barriers in citrus groves. Proceedings of Florida State Horticultural Society. 79:106-109.

38. Ford, H. W. 1971. Nematode status of 'Carrizo' citrange. Proceedings of the Florida State Horticultural Society, Year 1970, 83:87-88.

The Carrizo citrange (naval orange x Poncirus trifoliata) should be classified tolerant but not resistant to Radopholus similis.

39. Ford, H. W. and W. A. Feder. 1958. Procedures used for rapid evaluation of citrus for resistance to certain endoparasitic nematodes. Proceedings of the American Society of Horticultural Societies. 70:60-63.

40. Ford, H. W. and W. A. Feder. 1960. Citropsis gilletiana, a citrus relative resistant to the burrowing nematode in laboratory tests. Proceedings of Florida State Horticultural Society. 73:60-64.

41. Ford, H. W. and W. A. Feder. 1961. Additional rootstock selections that tolerate the burrowing nematode. Proceedings of Florida State Horticultural Society. 74:50-53.

Citrus rootstock selection Rough Lemon A supported relatively high burrowing nematode populations even though considered nematode tolerant. Growth tests with Ridge Pineapple in the greenhouse indicated that populations of burrowing nematodes decreased rapidly within 4 months and disappeared within 9 months.

42. Ford, H. W. and W. A. Feder. 1962. Laboratory evaluations of certain citrus rootstock selections for resistance to the burrowing nematode. Rio Grande Valley Horticultural Society 16:35-39.

'Carrizo' Citrange classified as tolerant to the burrowing nematode. The Californai source of 'Carrito' exhibited the best growth and tolerance to R. similis. 'Algerium' navel has been considered resistant to burrowing nematodes.

43. Ford, H. W. and W. A. Feder. 1964. Three citrus rootstocks recommended for trial in spreading decline areas. Florida Agricultural Experiment Station Circular S-151.

44. Ford, H. W. And W. A. Feder. 1969. Development and use of citrus rootstocks resistant to the burrowing nematode, Radopholus similis. Proceedings of the First International Citrus Symposium, Riverside, California 2:941-948.

A review article. Discusses the methods and criteria used in selection and breeding of resistant rootstocks, the nature of the resistance and field methods of controlling the burrowing nematode.

45. Ford, H. W., W. A. Feder and P. C. Hutchins. 1960. Citrus varieties, hybrids, species and relatives evaluated for resistance to the burrowing nematode, Radopholus similis. Plant Disease Reporter 44(6):405.

Of 950 varieties, hybrids, species and relatives screened for resistance, six kinds have been selected as giving satisfactory growth in infested greenhouse soil.

46. Forster, A. R. 1956. The development of Heterodera rostochiensis and Meloidogyne incognita in cross-graft solanaceous plants with different susceptibilities. Nematologica 1(4):283-289.

An inhibiting factor may be transmitted down from the resistant Lycopersicon peruvianum scion to the tomato rootstock. There was no evidence of transmission of resistance or susceptibility in any of the other grafts.

47. Fortuner, R. 1969. Revue de la lieterature sur Aphelenchoides besseyi Christie, 1942, cause de la maladie 'white tip' du riz. Commonw. Bur. Helminthol.,St.Albans, for Interafr. Phytosan. Commission, Cameroun. 27 p.

48. Fox, J. A. and L. Spasoff. 1976. Resistance and tolerance of tobacco to Heterodera solanacearum. Journal of Nematology 8(4):284-285.

Tests have shown that resistance (inhibition of nematode development) in Nicotiana tabacum to H. solanacearum was genetically independent of tolerance (host's ability to grow in the presence of the nematode).

49. Franco, P. J. 1971. Evaluation of potato, Solanum spp., resistance to the attack of the root knot nematode, Meloidogyne incognita (Kofoid and White) Chitwood, in Peru. (Abstract). Nematropica 1(1):13.

Resistance in hybrids of Solanum demissum.

50. Franco, P. J. 1972. [Response of potato varieties to attck by the root-knot nematode, Meloidogyne incognita (Kofoid and White) Chitwood, in the central coast region of Peru.] Investigaciones Agropecuarias 3(1):25-39 [Es] (Plant Breeding Abstracts 45,441).

Inti Sipa, a complex hybrid derived from Solanum tuberosum ssp. tuberosum, S. dermissum and S. tuberosum ssp. andigenum, was tolerant to Meloidogyne incognita.

51. Frandsen, H. N. 1950. Hvidklover stammernes Resistens mod Kloverall. Tidsskrift for Froavl. 20(1):45.

Experiments have shown that English wild white clover and Lodi, a Ladino clover, are more resistant to white clover eelworm than Danish strains such as Morso and Otofte.

52. Frandsen, K. J. 1951. Studies on the clover stem nematode (Tylenchus dipsaci Kuhn). Acta Agric. Scandinav. I:203-270.

Crosses between susceptible and resistant red clover strains could sometimes give progenies with very high resistance to T. dipsaci.

53. Frandsen, K. J. 1958. Om rodkloverstammernes resistens mod kloveraal og baegersvamp. Tidskrift for Froavl. 23(550):390-396.

Improved resistance has been obtained in some varieties of red clover.

54. Frandsen, K. J. 1965. Observations on the attack by populations of Ditylenchus dipsaci on strains of red clover. Suom. maatal. Seur. Julk 107:18-29.

The infectivity of Ditylenchus dipsaci was variable on several red clover varieties tested. The varition in resistance within the clover strains exceeded the variation of the nematode populations.

55. Frazier, W. A. and R. K. Dennett. 1949. Isolation of the Lycopersicon esculentum type tomato lines essentially homozygous resistant to root-knot. Proceedings of the American Society of Horticulural Science 54:225-236.

After hybridization of Lycopersicon esculentum, 4 lines (3962, 3963, 3999, and 4000) possessing a high level of resistance and improved horticultural characteristics were obtained. The resistance was apparently not to entrance of larvae of Heterodera marioni, but to rootknot formation.

56. French, N. and R. S. Cairns. 1960. A new spring oat variety resistant to stem and bulb eelworm. Plant Pathology. London. 9(4):129.

The spring oat variety Manod showed a high degree of resistance to Ditylenchus dipsaci in field trials.

57. Fresno, A. P. 1975. Resistance of Prunus persica to Meloidogyne spp. Nematologicl Society of Southern Africa Newsletter. 7:12-13.

Of the 27 selections of peach tested for resistance to M. incognita and M. javanica, only four were highly resistant (Nemaguard 4 & 8 and Okinawa 3 & 6). Lignin accumulates around the nematode's head and in Okinawa lateral root formation was directly correlated with initial syncytia development. Application of gibberellic acid to the root stocks caused resistance to be lost.

58. Fuller, J. M. and H. W. Howard. 1974. Breeding for resistance to the white potato cyst-nematode, Heterodera pallida. Annals of Applied Biology 77(2):121-128.

The resistance to H. pallida pathotype E of progeny bred from Solanum vernei and S. tuberosum andigena Clone CPC 2775, as well as the influence of additional resistance derived from the wild species, S. multidissectum, was compared. The progeny of S. vernei and clone CPC 2775 showed variable resistance, such that it was often not possible to clearly designate susceptible and resistant lines. Incorportion of the H_2 gene for resistance from S. multidissectum enhanced the resistance of the S. vernei and CPC 2775 progeny. Resistance can be obtained by combining the factors of resistance from 2 andigena clones CPC 1673 (H_1 and CPC 2275 (H3 and from S. multidissectum (H_2).

1. Gair, R., T. J. A. Price and W. E. H. Fiddian. 1962. Cereal root eelworm (Heterodera avenae Woll.) and spring barley varieties. Nematologica 7(4):267-272.

   The Danish variety Kron was partially resistant to H. avenae in infested soil, yields were good and fewer cysts were produced. Yields were not as high as other varieties however on uninfested soil.

2. Galmarini, H. 1975. [Present state of the work on introducing genetic resistance into horticultural crops in LaConsulta.] Miscelanea, Facultad de Agronomia y Zootecnia, Universidad Nacional de Tucuman. 54:95-106. (Plant Breeding Abstracts 46, 11555.) [Es].

   Back cross progeny derived from the tomato variety Platense J. J. Gomez has shown some resistance to Meloidogyne incognita.

3. Gaskin, T. A. 1965. Susceptibility of bluegrass to root-knot nematodes. Plant Disease Reporter 49:89-90.

   Selections of Poa pratensis were tested for resistance to Meloidogyne incognita acrita.

4. Gentile, A. G., K. A. Kimble and G. C. Hanna. 1962. Reactions of sweetpotato breeding lines to Meloidogyne spp. when inoculated by an improved method. Phytopatholgoy 52(11):1225-1226.

   Data indicates that resistance to Meloidogyne incognita and M. javanica can be transferred to sweetpotato breeding lines. The hypersensitivity reaction of some resistant crosses is undesirable since it results in the destruction of roots and reduced growth.

5. German, E. 1970. [Study of varietal resistance of potato to the stem nematode.](Abstract). In Materialy II nauchnoi konferentsii molodykh spetsialistov i aspirantov. (Tezisy dokladov). Alma-Ata, USSR 50-51 [Ru].

   All 36 potato varieties tested were susceptible to Ditylenchus destructor.

6. German, E. 1972. [Resistance of potatoes to the stem nematode.] Kartofel' i Ovoshchi 10:40 [Ru]. (Plant Breeding Abstracts 43, 3749)

   64 potato varieties and hybrids were tested with Ditylenchus dipsaci. In 11 selections the infection rate was between 1.3 and 20%. The rest had infection rates above 20%.

7. Gharbi-Jaouani, A. 1975. Methods of testing the resistance of almond roots to nematodes and crown gall. Centre International des Hautes Etudes d'Agronomie Mediterraneennes. (Horticultural Abstracts 47, 110.) [Fr].

8. Giamalva, M. J. 1961. The reaction of several varieties of sweet potatoes to 5 species of root-knot nematodes (Meloidogyne spp.). Dissertation Abstracts 22(1):21-22.

Original cultures of M. incognita and M. incognita acrita produced little or no galling on the variety Heartogold, but some galling was produced by their isolates, indicating that there are races within these species that vary in their pathogenicity to this variety. Heartogold and 7 other varieties were also tested for resistance to M. arenaria, M. javanica and M. hapla.

9. Giamalva, M. J., M. J. Martin and T. P. Hernandez. 1960. Reaction of 8 sweet-potato varieties to 5 species of root-knot nematodes. (Abstract of paper presented at 1960 annual meeting of Southern Division, American Phytopathology Society.) Phytopathology 50(8):575.

10. Giamalva, M. J., W. J. Martin and T. P. Hernandez. 1963. Sweet potato varietal reaction to species and races of root-knot nematodes. Phytopathology 53:1187-1139.

8 varieties of Ipomea batatas were tested for resistance to Meloidogyne incognita acrita, M. hapla, M. arenaria, and M. javanica. Varieties Heartogold and Nemagold appeared to be highly resistant. M. arenaria did not produce galls nor develop mature females, but root necrosis was high. Two types of resistance are suggested, one of which is associated with root necrosis.

11. Giebel, J. 1970. Phenolic content in roots of some Solanaceae and its influence on IAA-oxidase activity as an indicator of resistance to Heterodera rostochiensis. Nematologica 16:22-32.

Resistant species on which cysts failed to develop were characterized by a high ratio of monophenols to polyphenols and with little IAA-oxidase inhibition.

12. Giebel, J. 1973. Phenylalanine and tyrosine ammonia-lyase activities in potato roots and their significance in potato resistance to Heterodera rostochiensis. Nematologica 19(1):1-6.

In roots of potato variety 'Sagitta' (Solanum tuberosum x S. tuberosum subsp. andigena) resistant to H. rostochiensis pathotype A, higher activities of phenylalanine ammonia-lyase (PAL) and tyrosine ammonia-lyase (TAL) were found than in roots of the susceptible variety, Pierwiosnek. After infection of the roots with H. rostochiensis larvae, the activity of these enzymes increased, being greater in the resistant plants.

Both trans-cinnamic acid and p-courmaric acid products of PAL and TAL activity, respectively, caused some resistant reaction to the nematode after their introduction into potato plants.

13. Giebel, J. 1974. Biochemical mechanisms of plant resistance to nematodes: a review. Journal of Nematology 6(4):175-184.

14. Giebel, J. 1976. Beta-glucosidase activity in potato roots and its possible role in plant tissue response to Heterodera rostochiensis. Bulletin de l'Academie Polonaise des Sciences (Sciences Biologigues). 24(1):37-42.

B-glucosidase activity increased 4-fold in the roots of susceptible potato varieties as opposed to 1.5-fold in resistant varieties after infection by Heterodera rostochiensis. Applied glucosidase affected the IAA biopathways in susceptible but not resistant plants.

15. Giebel, J. 1976. Investigation on biochemical factors involved in potato resistance to Heterodera rostochiensis. Poznan: Institute for Plant Protection, 72 p.

16. Giebel, J. and N. Jackowiak. 1976. Tryptophan decarboxylase in resistant and susceptible potato roots infected with Heterodera rostochiensis. Nematologica 22(4):462-466.

    Tryptophan decarboxylase activity increased by 25% in the roots of susceptible potato varieties after invasion by H. rostochiensis, as compared with a decrease of 70-80% in resistant plants. In uninfected roots the trytophan decarboxylase activity of resistant plants was about 50% higher than in susceptible. Infected resistant potato roots may lack cofactors, or inhibitors of tryptophan decarboxylase may be present.

17. Giebel, J., N. Jackowiak and J. Krenz. 1977. Relationship between phosphatase activity and Heterodera rostochiensis infection of resistant and susceptible potato roots. Nematologica 23(1):51-56.

    After infection, acid and alkaline phosphatase activity in the roots increased in resistant strains and decreased in susceptible strains. No significant differences were found in the strains in localization of active ATP-ase.

18. Giebel, J. and J. Krenz. 1975. Role of amino acids in plant tissue response to Heterodera rostochiensis. II. Effect of proline and hydroxyproline. Nematologia Mediterranea 3(1):49-53.

    When treated with hydroxyproline or benzimidazole, susceptible roots responded to infection in a manner similar to response of resistant roots. Treating resistant roots with the solution did not alter their response to infection, nor did treament with a mixture of hydroxyproline and proline, alter the response. With susceptible plants, however, treatment with the mixture resulted in a susceptible response.

19. Giebel, J., J. Krenz and A. Wilski. 1970. The formation of ligninlike substances in roots of resistant potatoes under the influence of Heterodera rostochiensis larvae. Nemtaologica 16:601.

    The strongest reactions for lignin were observed in cells adjacent to the head of the nematode and to its excretory pore. This indicates that substances secreted by the nematode are involved in the processes of lignin formation.

20. Giebel, J., J. Krenz and A. Wilski. 1971. Localization of some enzymes in roots of susceptible and resistant potatoes infected with Heterodera rostochiensis. Nemtologica 17(1):29-33.

Necrotic areas in resistant varieties contain large amounts of B-glucosidase, peroxidase and oxidized phenols which lead to lignification. These materials were reduced or lacking in susceptible varieties.

21. Giebel, J., M. Piegat and A. Wilski. 1966. The influence of some exogenic enzymes on root tissues of potatoes susceptible and resistant to the golden nematode (Heterodera rostochiensis Woll.). Pr. Nauk, Inst. Ochr. Rosl. Warszawa 8:205-211. (Pol, En summary)

    Beta-glucosidase introduced into potato roots by glass micro-capillaries caused necrosis in resistant plants and giant cells in susceptible ones.

22. Giebel, J. and M. Stobiecka. 1974. The role of amino acids in plant resistance to Heterodera rostochiensis. I. The protein proline and hydrozyproline content in roots of some solanaceous plants. Nematologica 20(4):407-414.

    50% more hydroxyproline was found in uninfected roots of resistant solanaceous plants than in roots of susceptible ones. After infection, the ratio of proline to hydroxyproline increased in susceptible plants, but decreased in resistanat ones. It is suggested that a decrease of proline/hydroxyproline ratio after nematode infection may inhibit cell hypertrophy and so increase the resistance of the plant to H. rostochiensis.

23. Giebel, J., and A. Wilski. 1970. The role of IAA-oxidase in potato resistance to Heterodera rostochiensis. Proc. IX Int. Nematology Symposium in Warsaw 1967. pp.239-245.

    Extracts from susceptible varieties inhibit horseradish peroxidase, but do not inactivate added IAA, whereas extracts from resistant varieties do the reverse. In resistant potatoes, IAA oxidation is unimpaired or increased by nematode infection.

24. Gilbert, J. C. 1956. The inheritance of resistance to servere root-knot from Meloidogyne incognita intomato. Proceedings of the Hawaiian Academy of Sciences. 31st annual meeting (1955-56). p.17.

25. Gilbert, J. C., J. L. Brewbaker, J. S. Tanaka, J. T. Chinn, R. W. Hartmann, J. A. Crozier, Jr., and P. J. Ito. 1969. Vegetable Improvement at the Hawaii Experimental Station Research Report. p 175.

26. Gilbert, J. C. and D. C. McGuire. 1952. Root-knot resistance in commercial type tomatoes in Hawaii Proceedings of the American Horticulture Science. 60:401-411.

    Gall resistance in the large fruited lines, (both F_1's and homozygous) has not been competely expessed as in the small fruited 4000 line isolated in the second backcross to L. esculentum from the L. peruvianum source of gall resistance.

27. Gilbert, J. C. and D. C. McGuire. 1953. New tomatoes are gall-resistant. Hawaii Farm Science 1(4):2,6.

28. Gilbert, J. C. and D. C. McGuire. 1956. Inheritance of resistance to severe root-knot from Meloidogyne incognita in commercial type tomatoes. Proceedings of the American Horticulture Science 68:437-442.

Resistance to M. incognita in tomato is dominant and conditioned by a single gene, referred to as the M; gene.

29. Giles, J. E. and E. M. Hutton. 1958. Combining resistance to the root-knot nematode, Meloidogyne javanica Chitwood and Fusarium wilt in hybrid potatoes. Australian Journal of Agricultural Research 9(2):182-192.

Tomato strains resistant to M. javanica and Fusarium wilt have been developed by crossing 4 lines of Lycopersicon peruvianum with 12 Australian commercial lines. The mode of inheritance of nematode resistance is not clear: not all the progeny of resistant parents possessed resistance. Breakdown of resistance was seen with the continuous growth of resistant lines in the same nematode-infested soil for 5 years.

30. Gilman, D. F. and D. S. Fontenot. 1976. Reniform nematode inheritance study in the soybean cross Forrest X Ransom. Report, Project Louisiana Agricultural Experiment Station Department of Agronomy p. 61-62.

31. Godect, W. and E. A. Favret. 1955. Observaciones sobre seleccion de alfalfa resistente al nematode del tallo. Revta Investnes Agropec., B.Aires, Serie 2, 2(3):41-54. [En summary, p.41]

The effect of Ditylenchus dipsaci as a selective agent on lucerne. Selection index of 35% for the four years following germination.

32. Goffart, H. 1956. Ergebnisse einer Resistenzprufung Knollbildender Solanum-Arten genenuber Heterodera rostochiensis Wr. International Congress of Zoology, Proceedings. pp.364-366. (14th) Copenhagen August 1953.

S. vernei, S. andigenum and crosses between S. vernei and S.tuberosum showed resistance to H. rostochiensis and are considered as possible sources of resistance in breeding a resistant potato variety.

33. Goffart, H. 1957. [Progress report on the breeding of nematode-resistant potato lines.] Kartoffelban 8(10):194-195. [Ger].

A review of the present work in breeding potatoes resistant to H. rostochiensis and a discussion of the resistant variety Solanum andigenum is included.

34. Goffart, H. 1960. Populationsveranderungen des Kartoffelnematoden (Heterodera rostochiensis Woll.) beim Anbau nematoden-resistenter und nematodenanfalliger Kartoffelsorten unter Berucksichtung des Auftretens aggresiver Biotypen. Nemtologica. Supplement II, pp. 76-83. (Ger)

The population of H. rostochiensis on potato variety 18/53 grown in infested soil, was reduced by 90% in the first year. Resistance-breaking types of the nematode constituted 1.5% of the population, but did not seem to affect the reduction, indicating that environmental as well as genetic factors control the occurrence of resistance-breaking pathotypes.

35. Goffart, H. and Ross. 1954. Untersuchungen zur Frage der Resistenz von Wildarten der Kartoffel gegen den Kartoffelnematoden (Heterodera rostochiensis Wr). Zuchter 24:193-201. (Ger)

Tested 21 wild species of Solanum for resistance to H. rostochiensis. Resistance in Solanum vernei is probably determined by several genes.

36. Goheen, A. C. and C. F. Williams. 1955. Seasonal fluctuations in the populations of meadow nematodes in the roots of cultivated brambles in North Carolina. Plant Disease Reporter. 39(12):904-905.

Two of six varieties of blackberry, Carolina and Earliness, supported smaller population of Pratylenchus vulnus.

37. Golden, A. M. 1958. Interrelationships of certain Beta species and Heterodera schachtii, the sugar-beet nematode. Plant Disease Reporter 42(10):1157-1162.

An eelworm inoculum which reduced the growth of cultivated sugarbeet (B. vulgaris) varieties by 7.5% did not adversely affect the growth of wild resistant species, B. patellaris, B. procumbens and B. webbiana.

38. Golden, A. M. 1959. Susceptibility of several Beta species to the sugar beet nematode (Heterodera schachtii) and root-knot nematodes (Meloidogyne spp.). Journal of the American Society of Sugar Beet Technologists 10(5):444-447.

9 species of Beta were tested for their susceptibility to Heterodera schachtii. B. patellaris, B. procumbens and B. webbiana were shown to be highly resistant to H. schachtii, but were found to be susceptible to 6 species of Meloidogyne.

39. Golden, A. M. and W. Birchfield. 1978. Meloidogyne incognita wartellei n. subsp. (Meloidogynidae), a root-knot nematode on resistant soybeans in Louisiana, pp. 269-277.

The subspecies attacks not only commonly susceptible soybeans, but also soybean varieties that are resistant to other forms of the M. incognita group.

40. Gomes, J. E., J. P. Gutterres and P. Lehman. 1976. [Evaluation of resistance of soya cultivars to Meloidogyne javanica in Rio Grande do Sul.] Conjunta de Pesquisa da Soja, Porto Alegre, Brazil. Agosto, 7 pp. [Pt]

The following lines and cultivars of soybean have shown resistance to M. javanica in the order given: Santa Rosa, JC 5022, JC 5086, IAS-1, JC101A, Bragg, Mack, Lee, Semmes, Bossier, JC5008, JC119A and LC 73-1.

41. Gomes, J. E., P.S. Lehman, J. P. Gutterres, J. C. Goncalves and D. Lorenzato. 1975. [Evaluation of soya cultivars and lines for resistance to Meloidogyne javanica and M. incognita.] Trabalhos apresentados na III Reuniao Conjunta de Pesquisa da Soja, Porto Alegre, Brasil, Agosto, 13. [Pt]

    More than 100 lines and cultivars of soya were tested for resistance to M. incognita and M. javanica. Resistance was seen to M. incognita, tolerance to M. javanica was found in 6 cultivars and 5 lines. Cultivars IAS-1 and Bragg and lines J. C. 5087 and J. C. 5086, had resistance to M. incognita and tolerance to M. javanica.

42. Gomes da Silva, J., L. G. E. Lordello and S. Miyasaka. 1952. Observacnes sobre a resistencia de algumas variedades de soya ao nematoide das gallas. Bragantia. Campinas 12(1/3):59-63. (Pt)

    21 soybean varieties were tested for resistance to two forms of root-knot nematodes related to Meloidogyne incognita. The varieties Palmeto, La41-1219 and N45-3799 were found to be resistant.

43. Gomes Tovar, J. 1973. [Contribution to the study of infestation and dispersion of Cobb's false root-knot nematode Nacobbus serendipiticus Franklin in Peru.] Nematropica 3(1):4 [Es].

    Erodium cicutariuim and Brassica campestris were not susceptible to Naccobus serendipiticus Franklin in the Altiplano de pruno. Hybrids of Solanum andigenum were resistant in field trials.

44. Gommers, F. J. and D. J. M. voor in 't Holt. 1976. Chemotaxonomy of Compositae related to their host suitability for Pratylenchus penetrans. Netherlands Journal of Plant Pathology 82(1):1-8. [Nl, Summary En].

    The susceptibility or resistance of each species related to its content of x-terthienyl 5-(3-buten-1-ynyl)-2,2-bithienyl or acetylenic dithio derivatives (suspected nematicidal products) are given. Of 175 species tested, 70 were found to suppress P. penetrans populations.

45. Gonzalez, J. A. and D. F. Dao. 1973. [Evaluation of clones and varieties of potato from the USA, Holland, Canada, and Mexico for resistance to Heterodera rostochiensis.] (Abstract) Nematropica 3(1):4-5 [Es].

46. Good, J. M. 1970. Nematodes -- U.S. varieties and crops, Unpublished, Pest Management Programs, Extension Service, Room 5535 SouthBuilding, U.S. Department of Agriculture, Washington, D.C. 20250.

    Major crops are listed and their tolerance, susceptibility or resistance to nematode species is tabulated.

47. Goodey, J. B. and D. J. Hooper. 1962. Observations on the attack by Ditylenchus dipsaci on varieties of oats. Nematologica 8(1):33-38.

Of 145 oat varieties tested 12% were resistant and 8% were partially resistant. Resistant Milford seedlings were invaded but reproduction was slower than with susceptible varieties. Resistance increased with age of the host Avena byzantina may have been the original source of resistance.

48. Goody, T. 1950. Stem eelworm and clover. Annuls of Applied Biology 37:324-327.

Eelworms from oats caused brown spots on red-clover seedlings. The eelworms did not multiply.

49. Gooris, J. and J. D'Herde. 1962. Over het voorkomen van resistend-iebrekende biotypes van Heterodera rostochiensis Woll. in Belgie. Mededelingen van de Land bouwhogeschool en de Opzoekings stations van de Staat te Gent, 27(3):738-753.

A resistance-breaking biotype of Heterodera rostochiensis that was able to produce cysts on 18 resistant potato hybrids was found in 4 of 5 Belgian soils. Cysts contained viable larvae andwere of biotype B.

50. Gooris, J. and C. J. D'Herde. 1972. Le cycle de developpment de Meloidogyne naasi Franklin sur cereales de printemps et d'hiver et sur betteraves. Rev. AGric. (Bruss.) 25:651-657.

51. Goplen, B. P. 1974. Alfalfa research in western Canada. (Abstract). Twenty-fourth alfalfa improvement conference. University of Arizona, Tucson, 8-10 October, 1974. U. S. Department of Agriculture 1975, pp. 32-34.

Resistance to Ditylenchus dipsaci has been reported in two alfalfa lines developed from 'Lahontan' and 'Vernal.'

52. Goplen, B. P. and E. H. Stanford. 1959. Studies on the nature of resistance in alfalfa to two species of root-knot nematodes. Agronomy Journal 51(8):486-488.

Vernal alfalfa selection 'M-4' was reported immune to Meloidogyne hapla while Caliverde was susceptible and showed galling. M. javanica, entered the resistant plants, but no galls were produced. Reciprocal grafts of resistant and susceptible varieties provided an interesting study. Unless a resistant rootstock was used the plant was susceptible.

53. Goplen, B. P. and E. H. Stanford. 1960. Autotetraploidy and linkage in alfalfa--a study of resistance to two species of root-knot nematodes. Agronomy Journal 52:337-342.

Plants of the varieties vernal and Hilmar have single dominant gene for resistance to Meloidogyne hapla and another gene for resistance to M. javanica. The genes are linked and inherited tetrasomically.

54. Gorenz, A. M. 1963. Preparation of disease-free planting material of banana and plantain. Ghana Farmer 7(1):15-18.

A banana variety called "local" is reported as being resistant to the namatode (not named).

55. Goswami, B. K., S. P. Raychaudhuri, and S. M. Khurann. 1971. Changes in vitamin C content of fruit in nematode resistant and susceptible tomato varieties with infection of nematode and/or tobacco mosaic virus. Z Pilanzenkr 78(6):355-356.

56. Goto, K. and R. Fukatsu. 1956. [Studies on the white tip of rice plants. III. Analysis of varietal resistance and its nature.] Bulletin of the National Institute of Agricultural Sciences. Tokyo. Series C. Plant Pathology and Entomology. No. 6:123-149. [Ja].

Resistance studies for Aphelenchoides besseyi were conducted in the field on 23 varieties of rice. Tosan 38 showed no symptoms after 3 years of testing, mild symptoms occurred on Norin 8, Norin-modri and Hatsushimo.

57. Gowen, S. R. 1976. Varietal responses and prospects for breeding nematode resistant banana varieties. Nematropica 6(2):45-49.

Resistance to Radopholus similis and Helicotylenchus multicinctus was studied in diploid, triploid and tetraploid bananas. A source of resistance in wild varieties would be desirable.

58. Gowen, S. R. and W. B. Charles. 1969. Screening for root-knot nematode (Meloidogyne incognita (Kofoid and White) Chitwood) resistance in certain lines of Lycopersicon esculentum Mill. for tomato improvement in St. Lucia. Proc. trop. Reg. American Society of Horticulture Science, Year 1968, 12:21-27.

Hybrids of Nemared, a resistant variety of tomatoes were tested for resistance to Meloidogyne incognita. Fewer larvae penetrated Nemared or its hybrids than susceptible varieties, however none produced galls. Further screening of Nemared hybrids resulted in a line H418 with the highest resistance to root-knot symptoms.

59. Graf, A., E. Keller, H. Liechti and A. Savary. 1960. Das Rubenkopfalchen, vorlaufiger Bencht. Mitteilungen fur die Schweizerische Landwirtschaft 8 (3):33-45.

The authors give a comprehensive review of Ditylenchus dipsaci in fodder and sugar beet in Switzerland. None of the 33 varieties tested was resistant.

60. Graham, C. W. and L. E. W. Stone. 1975. Field experiments on the cereal cyst-nematode (Heterodera avenae) in south-east England, 1967-72. Annals of Applied Biology 80(1):61-73.

Rike/Proctor resistant barley cultivars consistently outperformed modern susceptible cultivars where Heterodera avenae was a problem in England.

61. Graham, T. W. 1952. Susceptibility of tobacco species to the root-knot nematode species. Plant Disease Reporter 36(3):87-88.

Nicotiana megalosiphon was highly resistant to several species of Meloidogyne. N. tabacum was damaged by several species of root-knot nematodes.

62. Graham, T. W. 1954. Problems in breeding for resistance to nematodes in tobacco. Plant Disease Reporter Supplement No. 227, p. 89.

The author outlines some of the problems of breeding tobacco for resistance to Meloidogyne spp.

63. Graham, T. W. 1960. A root-knot resistant tobacco breeding line released to breeders. (Abstract paper presented, 1960 Annual Meeting Southern Division American Phytopathology Society. Phytopathology 50(8):575-576.

64. Graham, T. W. 1961. Responses of tobacco breeding lines to three species of root-knot nematodes in greenhouse tests. Plant Disease Reporter 45:692-695.

Selected tobacco breeding lines were consistently resistant to the common root-knot species, Meloidogyne incognita acrita, in greenhouse tests but were susceptible to M. javanica and M. arenaria.

65. Graham, T. W. 1963. Uses of root-knot resistant tobaccos to assess injury caused by root-lesion nematodes. Phytopathology 53(6):623.

Resistance to Pratylenchus spp. in tobacco varieties, NC-95 and Fla 22 and a breeding line 410 was variable.

66. Graham, T. W. 1964. Response of selected tobacco varieties to Meloidogyne javanica and M. incognita acrita in field pathogenicity trials. Phytopathology 54:623.

Variety NC95 and some breeding lines were resistant (no root galls)to M. incognita acrita, but with yield depression. Slight galling developed in presence of M. javanica.

67. Graham, T. W. 1969. A new pathogenic race of Meloidogyne incognita on flue-cured tobacco. Phytopathology 59:114 (Abstract).

Study indicates develoment of new pathogenic race of M. incognita parasitic on tobacco var. NC95, formerly resistant to this species.

68. Graham, T. W., J. F. Chaplin and Z. T. Ford. 1961. Development and evaluation of the root-knot resistant tobacco breeding line PD 611. Tobacco, New York, 153:21-26.

69. Graham, T. W., Z. T. Ford and R. E. Currin. 1964. Response of root-knot resistant tobaccos to the nematode root disease complex caused by Pratylenchus spp. and Meloidogyne incognita acrita. Phytopathology, 52(2):205-210.

Meloidogyne incognita acrita and Pratylenchus are competitive on varieties of potato. Root knot resistant varieties may not have resistance to root lesion nematodes.

70. Graham, T. W. and H. E. Heggestad. 1959. Growth response and root decay development in certain varieties and breeding lines infected with root lesion nematodes. Tobacco. New York, 149(20):21-28.

The authors suggest the more root decay the lower the population of Pratylenchus brachyurus in tobacco. Bell 222 and 263 showed high tolerance.

71. Grainger, J. 1962. Potato physiology and varietal efficiency in disease behavior. European Potato Journal 5(4):267-279.

An early maturing potato variety Epicure sustained a minor loss from H. rostochiensis compared with Kerr's Pink.

72. Granberry, D. M. 1975. Root-knot susceptibility and other characteristics of progeny from a putative interspecific cross of Cucumis melo with C. metuliferus. Dissertation Abstracts Internationl 36B(2):518.

Crossing resistant Cucumis metuliferus with susceptible C. melo var. P1140471 produced progeny that were susceptible to Meloidogyne incognita.

73. Greco, N. and F. Lamberti. 1977. [Susceptibility of carrot varieties to Heterodera carotae.] Nematologia Mediterranea 5(1):103-107. (It)

Several carrot varieties tested were all susceptible to damage by Heterodera carotae. However, Vilmorin 66 and Mezzalunga di Nantes 90 were the most tolerant.

74. Greenleaf, W. H. 1952. Tests for resistance to nematodes in tomatoes. Proceedings of the Association of Southern Agriculture Workers. 49th Annual Convention 1952. p. 107.

A number of tests for Meloidogyne spp. resistance were conducted with Lycopersicon and Physalis. Although none were immune, 7 strains of L. peruvianum and P. exocarpa and 6 tomato lines were very resistant.

75. Greenleaf, W. H. 1967. Atkinson--a root-knot and fusarium wilt resistant tomato variety of Rutgers class. Horticulture Science 2:60.

76. Greet, D. N. and H. R. Wallace. 1962. Diagnosis of eelworm attack in chrysanthemums. Plant Pathology. London, 11(1):43.

Interveinal discoloration due to Aphelenchoides ritzemabosi in resistant varieties.

77. Gregor, J. W. 1963. Director's report. Pages 5-25 in Rep. Scott. Plant Breeding Station Records 1963.

78. Gregor, J. W. 1965. Director's report. Pages 7-25 in Scott. Plant Breeders Station Records 1965.

79. Griffin, G. D. 1972. Interaction of Meloidogyne hapla and Ditylenchus dipsaci on root knot-resistant alfalfa. Phytopathology 62(10)1103. (Abstract)

Stem nematodes predisposed root-knot resistant alfalfa seedlings to damage by Meloidogyne hapla.

80. Griffin, G. D. and J. H. Elgin, Jr. 1975. Comparisons of pathology caused by Meloidogyne hapla on alfalfa selections. Journal of Nematology 7(4):323.

81. Griffin, G. D. and J. H. Elgin, Jr. 1977. Penetration and development of Meloidogyne hapla in resistant and susceptible alfalfa under differing temperatures. Journal of Nematology 9(1):51-56.

In general temperature had little affect upon Meloidogyne hapla invasion of susceptible and resistant alfalfa varieties except at 32°C. Larvae penetrated all varieties but failed to develop in resistant varieties.

82. Griffin, G. D. and O. J. Hunt. 1972. Effect of plant age on resistance of alfalfa to Meloidogyne hapla. Journal of Nematology 4(2):87-90.

There was an inverse relationship between the age of the plants grown from seed and the percentage of plants galled by M. hapla, the older the plants at inoculation, the greater the percentage of gall-free plants. Reproduction of M. hapla on galled progeny of resistant plants was significantly less than on susceptible plants. There was a direct correlation between galling of inoculated seedlings of resistant progeny and temperature, inoculated 8-week-old seedlings of resistant plants were galled only at 32°C.

83. Griffin, G. D. and G. L. Stoker. 1968. Susceptibility of eighteen potato varieties Meloidogyne hapla. Plant Disease Reporter 58:956-957.

All 18 varieties of potato teted for resistance to Meloidogyne hapla were susceptible.

84. Griffin, G. D. and W. W. Waite. 1971. Attraction of Ditylenchus dipsaci and Meloidogyne hapla by resistant and susceptible alfalfa seedlings. Journal of Nematology. 3:215-219.

There was decreased attraction to resistant alfalfa in the presence of susceptible. When grown singly, resistant plants were as attractive to the nematode as were susceptible plants.

85. Griffiths, D. J. J. H. W. Holden and J. M. Jones. 1957. Investigations on resistance of oats to stem eelworm, Ditylenchus dipsaci Kuhn. Annuls of Applied Biology 45:709-720.

All varieties tested that were resistant were traced to English variety, Grey Winter, or similar European varieties. F1 thru F4 generations of various crosses gave resistance determined by single dominant gene. Suggested some additional genes with minor effects.

86. Grujicic, G. 1969. [Contributions to the study of parasitic nematodes on wheat in Yugoslavia.] Savremena Poljoprivreda 17(11/12):531-539. [Sh, En]

Laboratory screening tests have shown that 6 wheat varieties may be resistant to Ditylenchus dipsaci.

87. Grujicic, G. and M. Paunovic. [A contribution to the study of the root-knot nematode (Meloidogyne hapla Chitwood).] Zastita Bilja 22(1112/113):147-152. [Cr, En].

Extensive crop losses (20%) from Meloidogyne hapla were reported on sugarbeets in Yugoslavia. None of four varieties was resistant.

88. Grundbacher, F. J. 1962. Testing alfalfa seedlings for resistance to the stem nematode Ditylenchus dipsaci (Kuhn) Filipjev. Proceedings of the Helminthological Society of Washington, 29(2):152-158.

An inoculation and incubation technique is described to test alfalfa resistance to Ditylenchus dipsaci. Susceptible varieties show swelling and reproduction of nematodes. Resistant varieties show penetration but little swelling.

89. Grundbacher, F. J. and E. H. Stnaford. 1962. Genetic factors conditioning resistance in alfalfa to the stem nematode. Crop Science 2:211-217.

Resistance to stem nematode in alfalfa due to tetrasomically inherited dominant gene.

90. Gunesekaran, C. R. and V.M. Kalyanaraman. 1970. Studies on the root-knot nematode, Meloidogyne incognita (Kofoid and White, 1919) Chitwood, 1949, on tomatoes. Madras Agricultural Journal 57(9 supplement):25.

All 7 varieties tested were susceptible.

91. Gupta, J. C. 1975. Evaluation of various treatments and varietal resistance for the control of banana nematodes. Haryana Journal of Horticultural Science. 4(3/4):152-156.

92. Gushchin, B. E. 1972. [On the resistance of some tomato varieties to root-knot nematodes.] In Nematodnye bolezni sel'skokhozyaistvennykh kul'tur i mery bor'by s nimi. Tezisy soveshchaniya Moskva, dekabr' 1972. Moscow, USSR, VASHNIL 152 [Ru].

Anahu, a tomato variety, was highly resistant to Meloidogyne spp.

93. Guskova, L. A. and R. M. Gladkaja. Integrated approach to control of the Golden Nematode, Heterodera rostochiensis. Journal of Nematology 6(4):185-186.

Use of resistant potato hybrid 61-8/1 or Solanum andigenum cultivars Antinema and Specula in concert with a nematicide and a follwing crop of cereal or clover, reduced the nematode population below the detection level.

94. Gus'kova, L. A., E.L. Krall and O. Z. Metlitskii. 1975. [Gene pool and the prospects of breeding plants for resistance to nematodes.] In Immunitet sel'skokhoziaistvennykh rastenii k bolezniam i vrediteliam. IU. N. Fadeev and others, (eds.) p. 52-58 [Ru].

95. Gus'kova, L. A., E. L. Krall and O. Z. Metlitskii. 1976. [Recent advances in breeding of nematode resistant varieties of farm crops.] Tr Vses Nauchno Issled Inst Zashch Rast 49:53-63. [Ru].

96. Gus'kova, L. A. and S. A. Makovskaya. 1975. Use of nematode resistant potato varieties for eliminating potato root nematode from soil. Informasionnyi Listok, Leningradskii Mezhotraslevoi Territorial'nyi Tsectr Nauchno-Tekhnicheskoi Informatsii i Propagandy, 258-75:3. [Ru].

The authors reported a 75% and 85% reduction in Heterodera rostochiensis cysts within 6 months with the resistant potato variety 'Specula' and hybrid 'Specula' x 'Fortuna' + 'Oda'.

1. Haaland, R. L., C. S. Hoveland and R. Rodriguez-Kabana. 1976. Screening forages for resistance to root pruning nematodes. Proceedings of South Pasture Forage Crop Imp. Conf. 33rd: 36-41.

2. Haaland, R. L., G. R.Smith, C. S. Hoveland and R. Rodriguez-Kabana. 1976. Development of nematode resistant forages. Highlights of Agricultural Research 23(3):3.

3. Hackney, R. W. and H. Ferris. 1975. Infection, development, and reproduction of Meloidogyne incognita in eight grape vine cultivars. Journal of Nematology 7(4):323.

   Eight grapevine cultivars were tested for resistance to a race (biotype) of Meloidogyne incognita having 43 chromosomes. Three cultivars resistant to this biotype were, Carignane, Harmony and AXR1.

4. Hagberg, A. 1974. Breeding for disease resistance in barley. Proceedings of the 1st FAO/SIDA seminar for plant scientists from Africa and the Near East. Cairo, Egypt. 1-20 Sept., 1973. Rome, Italy; FAO. pp 265-267.

   Sweden plans to release several barley varieties resistant to nematodes.

5. Hamlen, R. A. 1971. Identification of carbohydrates in root exudates of alfalfa. Medicago sativa L. cv. DuPuits, grown under gnotobiotic conditions, and their influence on egg hatch of Meloidogyne incognita (Kofoid and White) Chitwood. Dissertation Abstracts International 32B(5):2469-2470.

6. Han, S. C. and Y. B. Lee. 1975. [On the influence of susceptible and resistant soybean varieties on the development of the soybean cyst nematode, Heterodera glycines (Heteroderidae, Nematoda).] Korean Journal of Plant Protection 14(3):113-136 [Ko, en].

   The authors discuss development of Heterodera glycines in resistant and susceptible soybeans. No difference occurred in the attraction of 2nd stage larvae. Numerous females developed on susceptible varieties comprising 3 generations. Only a few females developed in resistant varieties and a few 2nd generations were completed.

7. Hanna, H. R. and E. J. Hawn. 1965. Seedling inoculatin studies with the alfalfa stem nematode. Canadian Journal of Plant Science 45(4):357-363.

   The biology of infection by Ditylenchus dipsaci on susceptible and resistant alfalfa is reported. Seedlilngs up to 9 days of age were most susceptible and very little infection occurred in darkness probably because the stomata were closed.

8. Hansen, C. J., B.F. Lownsbery and C. O. Hesse. 1956. Nematode resistance in peaches. California Agriculture 10(9):5,11.

Shalil and S37 peaches defined as resistant to Meloidogyne incognita acrita and slightly less resistant to M. javanica. Report that resistance in peach stocks was easily secured by hybridization.

9. Hansmarin, G. and R. Kuhn. 1975. [Potato varieties for industrial production in East Germany with resistance to potato nematodes (A. race).] Feldwirtschaft 16(9):424-426. [Ger].

10. Hanson, C. H. 1952. Rowan lespedeza has root-knot nematode resistance. Southern Seedsman 15(1):26, 66.

11. Hanson, C. H., J. L. Allison and D. S. Chamblee. 1952. The performance of lespedeza strains on root knot nematode infested soils in North Carolina. Proceedings of Association of Southern Agriculture Workers (Abstract). 49th Annual Convention pp. 176-177.

    Rowan lespedeza which resembles commercial Korean is resistant to Meloidogyne spp and powdery mildew.

12. Hansen, C. J., B. F. Lownsberry and C. O. Hesse. 1957. Nematode resistance in plums. California Agriculture 11(10):9, 13.

    The plum rootstocks Marianna strains 2623 and 2624 and Myrobalan strains 29C, 29d, 29g and 29 (Sonoma) are either immune or highly resistant to Meloidogyne incognita acrita and M. javanica.

13. Hanson, C. H., H. F. Robinson and J. C. Wells. 1954. Inheritance of reactin to two forms of root-knot nematodes, Meloidogyne incognita and M. incognita var. acrita in Korean lespedeza. Agronomy Journal 46:446-448.

    Crosses between susceptible (FC 31850) and resistant (Rowan) plants gave variable susceptibility in the progeny families.

14. Hare, W. W. 1951. Resistance to nematode in pepper. (Abstract). Phytopathology 41(1):16.

    Of 162 lines of pepper (Capsicum frutescens), the varieties Santanka, Anaheim Chili and Italian Pickling showed marked resistance, while commerical varieties of sweet pepper were particularly susceptible.

15. Hare, W. W. 1953. Nematode resistance in pepper (Abstract). Phytopathology 43(9):474.

    Pepper varieties were tested for their reactions to Meloidogyne arenaria, M. incognita, M. incognita acrita, M. javanica and M. hapla. All showed tolerance to M. javanica. Oakview wonder andM81A were only slightly affected by M. arenaria. M41, Red chili, M152B and Santanka X5 showed very slight to moderate damage by M. incognita and M. incognita acrita.

16. Hare, W. W. 1956. Resistance in pepper to Meloidogyne incognita acrita. Phytopathology 46(1):31.

In greenhouse tests of 162 varieties and strains of pepper (Capsicum frutescens L.) for resistance to root-knot nematode M. incognita acrita, 4 were found to be highly resistant, 14 moderately resistant and 135 susceptible.

17. Hare, W. W. 1956. A major gene for resistance to root-knot nematodes in pepper. Phytopathology 46:14. (Abstract).

    Resistance to Meloidogyne incognita and to M. incognita var. acrita in peppers is due to single dominant gene inherited disomically.

18. Hare, W. W. 1956. Comparative resistance of seven pepper varieties to five root-knot nematodes. Phytopathology 46:669-672.

    The 7 Capsicum frutescens selections demonstrated variation in resistance to the nematode collections. All were susceptible to Meloidogyne hapla. Pepper varieties Santanka x5 and 405B were resistant to the other 4 M. spp.

19. Hare, W. W. 1957. Inheritance of resistance to root-knot nematodes in pepper. Phytopathology 47:455-459.

    In Capsicum frutescens, a single dominant gene controls resistance to two species of root-knot nematode: Meloidogyne incognita and M. incognita var. acrita.

20. Hare, W. W. 1959. Resistance to root-knot nematodes in cowpea (Abstract). Phytopathology 49:318.

    80 F_3 progenies of cowpea (Vigna unquiculata) M455 x Brown Sugar Crowder inoculated with M. incognita showed 18 plants resistant, 38 segregating and 24 susceptible.

21. Hare, W. W. 1965. The inheritance of resistance of plants to nematodes. Phytopathology 55:1162-1167.

    Review of literature related to the mechanism of inheritance of resistance. Lengthy references (51).

22. Harmon, F. N. and E. Snyder. 1956. Comparative value of 4 rootstocks for Sultanina grape in root-knot nematode-infested soil. Proceedings of the American Society of Horticulture Science 67:308-311.

    The grape variety Sultanina (Vitis vinifera) was used as a scion on its own rootstock, and on 3 others, to test resistance to Meloidogyne spp. V. champinii and 1613 had the lowest root-knot ratings.

23. Harmon, S. A. 1976. Breeding and testing sweet potatoes for nematode resistance. (Abstract) Hortscience 11(3):228.

    Only 1% of more than 500 varieties of sweet potato tsted for resistance to Meloidogyne incognita had the high degree of resistance required.

24. Harrison, A.L. 1960. Breeding of disease resistant tomatoes with special emphasis on resistance to nematodes. IN: Proceedings of Plant Science Seminar, Campbell Soup Comany, Camden, New Jersey pp57-58.

Suggests that resistance could be dependent on a block of genes acting as a unit.

25. Hartmann, R. W. 1968. Manoa Wonder, new root-knot nematode resistant pole bean. Circ. Hawaii agricultural Experiment Station 67:10 pp.

A new pole bean, 'Manoa Wonder' (Phaseolus multiflorus) is resistant to Meloidogyne incognita.

26. Hartmann, R. W. 1970. Bredding for root-knot resistance in beans (Phaseolus vulgaris). (Abstract) HortScience 5(4, Sect. 2):42.

27. Hartmann, R. W. 1971. Inheritance of resistance to root-knot nematodes (Meloidogyne incognita) in beans (Phaseolus vulgaris L.). Journal of American Society of Horticulture Science 96(3):344-347.

Breeding experiments with Phaseolus vulgarius variety Alabama No. 1 (resistant to M. incognita) and Hawaiian Wonder (susceptible) and the segreation patterns of the F_3 families suggest that there are at least 3 pairs of genes which are equal in action, but a certain minimum number of genes is required before all resistance is lost.

28. Hartmann, R. W. 1976. Breeding for nematode resistance in vegetables. SABRAO Journal 8(1):1-10.

Resistance-breeding to species of Meloidogyne, Heterodera and Pratylenchus in tomato, eggplant, Capsicum, potato, soybean, cowpea, Phaseolus, cucurbits sweet potato and maize is covered.

29. Hartwig, E. E. 1973. Varietal development. In Caldwell, B. E., R. W. Howell, J. W. Judd and H. W. Johnson (Eds). Soybeans: improvement, production and uses. Madison Wis., USA American Society of Agronomy 187-210. (Plant Breeding Abstracts 44, 7350, 7354.)

Breeding of soybeans with resistance to Heterodera spp.is reviewed.

30. Hartwig, E. E. 1976. Breeding soybeans resistant to disease. Proceedings of the International workshop on grain legumes. 13-16 January, 1975. Hyderabad, India 305-310.

Soybean varieties with resistance to Meloidogyne incognita and Heterodera glycines and the existence of 4 Heterodera glycines pathotypes are discussed. The cultivar Peking is resistant to H-glycine races one and three. The cultivar Forrest is highly resistant to the commonest races of H. glycines, Meloidogyne and Rotylenchus reniformis.

31. Hartwig, E. E. and J. Epps. 1977. Bedford shows resistance to cyst nematodes. Mississippi Agr and Forestry Experiment Station, Res. Highlights 40(12):4.

32. Hashioka, Y. 1963. The rice stem nematode Ditylenchus angustus in Thailand. Plant Prot. Bulletin, UN Food Agric. Organization 11:97-102.

Laboratory inoculations of rice caleoptiles showed that 43% of plants of Khao-tah-oo were infected, compared to 81% of Khao-tah-haeny 17. Another test suggested that four japonica varieties were more resistnat than three indica varieties.

33. Hayes, J. D. and J. Cotton. 1971. Breeding for nematode resistance with particular reference to Heterodera avenae Woll. 527-534 in Proceedings of the 2nd International Barley Genet. Symposium, WAshington D.C.

34. Haynes, R. L. 1974. Resistance in cucumber (Cucumis sativus L.) to the southern root-knot nematode and the melon aphid. Dissertaion Abstracts International 35B.6:2535. (Plant Breeding Abstracts 47, 833.)

Significantly fewer M. incognita larvae were produced in the root tissue of the bitter (Bi) than on the non-bitter (bibi) lines of Market more 70 and Tablegreen 65 lines of cucumber.

35. Hearn, C. J., D. J. Hutchinson and H. C. Barrett. 1974. Breeding citrus rootstocks. HortScience 1974 9(4):357-358. Agriculture research Service USDA, Orlando, Florida.

Rootstocks with resistance to Radopholus similus, Tylenchulus semipenetrans and other pathogens are listed.

36. Heggestad, H. E. and J. J. Grosso. 1956. Resistance of Nicotiana knightiana and other tobacco species to root-knot nematodes. (Abstract paper presented at 13th Annual Meeting of the Potomac Division, American Phytopathology Society March 1956.) Phytopathology 46(8):467.

32 of 48 species of Nicotiana tested were susceptible to root-knot nematodes (mainly M. incognita acrita) resistance was seen in N. knightiana, N. repanda, N. arenstsii, N. otophora and N. panicula. More testing is suggested.

37. Heijbroek, W. 1977. Partial resistance of sugarbeet to beet cyst eelworm (Heterodera schachtii Schm.). Euphytica 26(2):257-262.

Within Beta vulgaris and B.maritima origins some partial resistance to beet cyst eelworm was found. After the second backcross to commercial sugar beet varieties and successive selection of the inbreds this resistance was lost. It was shown that in the root systems of resistant plants as many nematodes penetrate and develop as in susceptible ones but the ratio between males and females is different. It is suggested that this resistance is polyfactorial and merely recessive.

38. Heiser, C. B., Jr. 1971. Notes on some species of Solanum (Sect. Leptostemonum) in Latin America. Baileya 18(2):59-65. (Plant Breeding Abstracts 42, 9323).

Meloidogyne resistance found in S. hirtum.

39. Henderson, R. G. 1950. Stem nematode--the cause of new Alfalfa disease in Virginia. Virginia Journal of Science. New Series, 1(4):333.

    Nematode-resistant selections of alfalfa tested in Virginia are reported. The remaining plants after 2 years growth in infested fields are being used for further selection, progagation and testing.

40. Hermsen, J. G. T. 1975. [Observations on breeding for resistance to potato cyst nematode.] Zaadbelangen 29(8):262-263. [N1].

    The difficulties encountered in breeding for either monogenic complete resistance or partial polygenic resistance to individual pathotypes of Heterodera rostochiensis are presented.

41. Hernandez, T. P., R. T. Hernandez, R. J. Constantin, and W. J. Martin. 1974. Jasper: a new sweet potato variety. Louisiana Agriculture. 18(2):3, 16.

    The characteristics of the new sweet potato variety Jasper, are given, including its moderate resistane to Meloidogyne spp.

42. Hernandez, T. P., A. Miller, A. J. Adams , R. T. Brown and W. Etzel. 1972. Pelican: a new root-knot resistant tomato variety. Louisiana Agriculture 15(4):3, 16.

    The new tomato variety Pelican is resistant to Meloidogyne incognita.

43. Hesling, J. J. and P. R. Ellis. 1972. The pathogenicity and increase of Heterodera rostochiensis on tomato cultivars, self-rooted or grafted on to rootstocks. Annals of Applied Biology 71(3):251-261.

    The reactions of self-rooted tomato varieties Ailsa Craig and Kingley Cross and Scions of Ailsa Craig grafted onto different rootstocks to Heterodera rostochiensis (pathotype A) are recorded.

44. Hesling, J. J. and H. R. Wallace. 1960. Susceptibility of varieties of chrysanthemum to infestation by Aphelenchoides ritzema-bosi. Nemtalogica 5(4):297-302.

    Cuttings from 13 chrysanthemum varieties were infected with 110 Aphelenchoides ritzembosi of different stages. Mature plants showed marked differences in susceptibility to damage between different varieties. Susceptibility was not determined by stomatal size, density of epidermal hairs on leaves or stems, size of mesophyll air spaces or thickness of lef cell walls.

45. Hesling, J. J. and H. R. Wallace. 1961. Observations on the susceptibility of chrysanthemum varieties infested at two different times with chrysanthemum eelworm, Aphelenchoides ritzemabosi. Nematologica 6(1):64-68.

    The reactions of different susceptible varieties of chrysanthemum to Aphelenchoides ritzemabosi are reported. Plants infected in March were destroyed whereas those infected in August showed no effects on the crop of blooms although symptoms were present.

46. Hesse, C. O. 1975. Peaches. J. Janick, J. N. Moore (Eds.) Advances in fruit breeding. Temperate fruits. Purdue University Press. pp. 285-335.

Resistance of peach to Meloidogyne spp. is discussed.

47. Hijner, J. A. 1951. De gevoeligheid van wilde bieten voor het bietencystenaaltje (Heterodera schachtii). Mededelingen van het Instituut Rationele Suikerproductie. Bergen-op-Zoom 12(1):1-13.

8 species and one variety of Beta were tested for susceptibility to Heterodera schachtii. All were susceptible except B. patellans, B. webbiana and B. procumbens.

48. Hifner, K. 1972. [Study of the resistance and susceptibility of winter-wheat varieties and trial varieties to wheat eelworm and its evaluation in artificial infection experiments.] Orszagos Mesogazdasagi Fajtakiserleti Intezet 163-177 [Hu, ru, en, de] (Plant Breeding Abstracts 43, 7771).

Winter wheat variety Karcag 344 was the only one of 17 varieties tested found to be resistant to Anguina tritici.

49. Hine, R. B. 1975. Root and crown diseases of alfalfa in the southwest (Abstract). Twenty-fourth alfalfa improvement conference, University of Arizona, Tucson, 8-10 October, 1974. US Department of Agriculture pp. 16-17. (Plant Breeding Abstracts 46, 1505, 1509).

A new alfalfa cultivar with a high resistance to Ditylenchus dipsaci is reported.

50. Hinson, K., R. L. Smith, R. A. Kinloch and H. W. Lundy. 1973. Hutton soybean. Circ Florida Agricultural Experiment Station Inst Food Agricultural Science University Florida Gainesville S-225:7p.

51. Hodosy, S. 1975. [Possibilities of utilizing disease-resistant tomato varieties. II. Results and prospects of work on resistance to Verticillium and Fusarium.] Kertgazdasag 7(3):67-82. [Hu] (Plant Breeding Abstracts 47, 4801.)

Kecskemet (resistant forcing) is resistant to Meloidogyne incognita.

52. Hof, J. 1974. [Gene banks: treasure chambers for plant breeding.] Samen Sterk 3:3-4. [Nl] (Plant Breeding Abstracts 44, 6525.)

Wild and primitive potatoes, expected to be good sources for breeding resistances to Heterodera rostochiensis are kept at the German/Dutch gene bank at Braunschweig, Germany.

53. Hollis, J. P. 1958. Relations between root-knot and Fusarium wilt discoloration in cotton varieties. Phytopathology 48(12):661-665.

4 cotton varieties (see below) were grown in 7 field sites in 4 regions of Louisiana where root-knot-wilt infestations were moderate to severe. Although the degree of infestation of both pathogens varied greatly between sites, they both affected the cotton varieties in the same descending degree of severity: DPL 15, Coker 100 wilt, Plains, Auburn 56.

54. Hollis, J. P. and W.J. Martin. 1960. Greenhouse pathogenicity trials with nematode-infested soil. (Abstract of paper presented at the 52nd Annual Meeting of the American Phytopathological Society, August 1960.) Phytopathology 50(9):639-640.

55. Holston, E. M. and H. W. Crittenden. 1951. Resistance in soybeans to root-knot nematodes (Abstract). Phytopathology 41(6):562.

Histological examination of roots treated with strong Flemming's solution showed that the apparently resistant Illini variety was as severely affected as the susceptible variety Chief. Gross examination of gall formation may indicate tolerance, not true resistance.

56. Holtzmann, O. V. and J. C. Gilbert. 1967. Factors influencing resistance of tomato to root knot nematode. In Proceedings of the Symposium on Tropical Nematology 29 November to 1 December, 1967, University of Puerto Rico. 40-45.

Resistance to Meloidogyne incognita was lower at 30 and 34.5° C than at 20 and 25°C. Infestation was still less than in susceptible varieties at these temperatures.

57. Hoppner, E. 1976. [The coming and going of potato varieties over 25 years (1950-1975).] Kartoffelbau, 27(8):240-242. [De] (Plant Breeding Abstracts 47, 13490

Potato varieties grown in the German Federal Republic during this period are reviewed. Potato varieties resistant to race A of Heterodera rostochiensis are included.

58. Houssny, H. H. and B. A. Oteifa. 1956. Preliminary tests for evaluating some tomato varieties for resistance to root-knot nematodes, Meloidogyne spp. Plant Disease Reporter 40(11):974-976.

The variety Pearl Harbour showed a high degree of resistance to M. javanica, M. hapla, M. incognita and M. incognita acrita. Urbana and Illinois T19, was fairly susceptible to M. javanica and M. hapla, but tolerant to M. incognita and M. incognita var. acrita.

59. Howard, H. W. 1955. Breeding potatoes for resistance to root eelworm (Heterodera rostochiensis). (Abstract paper presented, 116th Meeting of the Genetical Society of Great Britain). Heredity. London 9(1):150.

Resistance to H. rostochiensis seen in some lines of Solanum tuberosum andigenum is dominant when these plants are crossed with S. tuberosum tuberosum.

60. Howard, H. W. 1959. Eelworm-resistant potatoes--the present position. Tech. Bull. Ministry of AGric, Fish and Food. London 7:157-160.

    The history and progress of breeding potatoes resistant to Heterodera rostochiensis is reviewed. The nature and genetics of resistance, resistance-breaking biotypes, and nematode population dynamics are discussed.

61. Howard, H. W. 1969. Breeding potatoes resistant to cyst-nematode. British Insecticide Fungicide Conference (5th), Proceedings, Vol I:159-163.

62. Howard, H. W. 1972. Breeding potatoes for resistance to cyst nematodes. ADAS Quarterly Review 7:132-138 (Plant Breeding Inst., Cambridge, UK.)

    Resistance to pathotype A of Heterodera rostochiensis in Britain and the Netherlands is conferred by the H_1 gene found in Solanum tuberosum andigenum. Resistance to pathotypes B and E (later identified as H. pallida) is greatest in those hybrids with genes H_1, H_2 and H_3.

63. Howard, H. W., C. S. Cole and J. M. Fuller. 1970. Further sources of resistance to Heterodera rostochiensis in the Andigena potatoes. Euphytica 19:210-216.

64. Howard, H. W., C. S. Cole, J. M. Fuller and G. J. Jellis. 1975. Plant Breeding Institute Cambridge reports. Seed Potato 15(3):77-81.

    All the selections derived from the Pentland Crown X maris Piper cross, carried the H_1 gene for resistance to Heterodera rostochiensis pathotype A. Solanum vernei has been used as a source of resistance to H. pallida and H. rostochiensis.

65. Howard, H. W. and J. M. Fuller. 1971. Resistance to the cream and white potato cyst nematodes. Heterodera rostochiensis. Plant Pathology 20(1):32-35.

    Clones of the Solanum tuberosum ssp. andigena were tested against populations of potato cyst nematodes. One clone of this new source possessed 2 genes for resistance (H_1 and H_3), another only one H_3 gene. The clone with H_1 and H_3 was resistant to all populations. The clone with H_3 was resistant to many populatons but susceptible to others, including the pathotype A population.

66. Howard, H. W. and J. M. Fuller. 1975. Testing potatoes bred from Solanum vernei for resistance to the white potato cyst-nematode, Heterodera pallida. Annals of Applied Biology 81(1):75-78.

    3 clones of potatoes derived from Solanum vernei were tested for resistance to two populations of H. pallida. The degree of pathogenicity of the 2 populations varied, and it is suggested that the resistant clones would perform best when used in conjunctions with nematicide treatment.

67. Hoyman, W. G. 1974. Reaction of Solanum tuberosum and Solanum species to Meloidogyne hapla. American Potato Journal 51:281-286.

218 clones of S. tuberosum and 238 alcessions of 55 tumberous Solanum species were planted in M. hapla infested soil. Of S. tuberosum families B7147 (Penobscot X W39-1) was the most resistant. Of the accessions of other Solamum species, 81% were free of rod galls; of the 81%, S.microdentum (PI132-312) and S. tuberosum ssp. andigena (PI245926) had the most extensive root systems.

68. Huijsman, C. A. 1955. Breeding for resistance to the potato root eelworm. Euphytica 4:133-140.

Confined resistance in potato (Solanum tuberosum x S. tuberosum andigenum) to Heterodera rostochiensis controlled by single dominant gene. Showed at least one other type of resistance in S. tuberosum andigenum.

69. Huijsman, C. A. 1956. Breeding for resistance to the potato root eelworm in the Netherlands. Nematologica 1(2):94-99.

Tests of plants derived from Solanum andigenum intercrosses and from S. andigenum x S. tuberosum varieties indicate that introduction of resistant genes is easily accomplished, but that combining resistance with other favored features is more difficult. Both resistant and susceptible plants were invaded by equal numbers of the nematode, but development was inhibited in resistant plants.

70. Huijsman, C.A. 1957. Veredeling van de aardapper op resistentie tegen Heterodera rostochiensis Woll. Mededeling. Stichtig voor Plantenveredeling, Wageningen. 14:85.

A discussin of breeding potatoes for resistance to H. rostochiensis, the nature of resistance, and the effects of cultivation of resistant plants in infested soil.

71. Huijsman, C. A. 1958. Resistance to the potato root eelworm in S. tuberosum subsp. andigena and its importance for potato breeding. Netherlands Journal of Agriculture Science 6(1):39-46.

Diploid clones of Solanum macolae and S. famatinae are resistant to H. rostochiensis. Races of the nematode pathogenic to the potatoes have been discovered in England, Scotland and Peru.

72. Huijsman, C. A. 1959. Nature and inheritance of the resistance to the potato root eelworm Heterodera rostochiensis Woll. in Solanum Kurtzianum. Medelingen Landbouwhogeschool en de Opzoekingsstations van de Staat de Gent, 24(3/4):611-613.

Resistance in S. kurtzianum and S. indigenum is similar. It was suggested that the resistance is determined by two polymeric genes.

73. Huijsman, C. A. 1960. Some data on the resistance against the potato root-eelworm (Heterodera rostochiensis W.) in Solanum kurtzianum. Euphytica, Wageningen 9(2):185-190.

Resistance genes in S. kurtzianum are effective against race B of H. rostochiensis. A potato variety with resistance genes derived from S. tuberosum subsp. andigen CPC 1673 and from S. kurtzianum are resistant to both A and B race.

74. Huijsman, C. A. 1972. Resistance as a means of control of the potato root eelworm. EPPO Bull (Eur Mediterr Plant Prot Org) 7:27-30.

75. Huijsman, C. A. 1972. [Some aspects of breeding for resistance to potato root eelworm.] Enkele aspekten van de veredeling op aardappelmoeheidsresistentie. Landbouw en Plantenziekten 2:21-25 [N1] (Plant Breeding Abstracts 43, 7037.)

Wild and primitive plants from S. america must be used more extensively in potato breeding programs.

76. Huijsman, C. A. 1974. Host-plants of Heterodera rostochiensis Woll. and the breeding for resistance. Bulletin OEPP 4(4):501-509.

A discussion of important aspects in potato and tomato breeding programs. The nature of resistance and mode of inheritance are also discussed. Distinquishes between tolerance and resistance.

77. Huijsman, C. A., C. H. Klinkenberg and H. Ouden. 1969. Tolerance to Heterodera rostochiensis Woll. among potato varieties and its relation to certain characteristics of root anatomy. Eur. Potato Journal 12:134-147.

Of 118 varieties tested, Multa and Panther were the most tolerant and gave highest yields. There were differences in necroses between the varieties.

78. Huijsman, C. A. and H. Laberts. 1972. Breeding for resistance to the potato cyst-nematode in the Netherlands. In International Symposium on Key Problems and Potentials for Greater Use of the Potato in Dev World. Lima-Peru. P161-171.

Review of the Netherlands breeding program for resistance to Heterodera rostochiensis in potato.

79. Huisingh, D., R. T.Sherwood. 1968. The role of calcium in resistance of alfalfa to Ditylenchus dipsaci. Nematologica 14:8-9.

When the resistant Lahotan alfalfa was grown at normal levels of nutrition, accumulation of divalent cations resulted from inoculation with the nematode. When plants were grown at low calcium levels, the accumulation did not occur and some resistance was lost. Although the calcium levels modify resistance, it is not sufficient to explain Lahotan's hypersensitive response.

80. Hukano, H. and S. Yokoyama. 1951. [Studies on the white tip of rice plant, with special reference to the damage and varietal resistance.] Kyushu Agricultural Research 8:89-90 [Ja].

81. Hung, C.L. and R. A. Rohde. 1973. Phenol accumulation related to resistance in tomato to infection by root-knot and lesion nematodes. Journal of Nematology 5(4):253-258.

82. Hung, Y. P. 1971. [White tip disease of rice.] In Chiu, R. J. (Ed) Rice disease: proceedings of a symposium on rice diseases held at the Joint Commissin on Rural Reconstruction,Taipei, September 9-12, 1969 pp237-256 [Ch].

Data on the pathogenicity of Aphelenchoides besseyi or various rice cultivars in Taiwan is given.

83. Hunnius, W. and M. Scheidt. 1974. [A contribution to breeding for resistance to the potato nematode Heterodera rostochiensis Woll. based on S. spegazzinii.] Ein Beitrag zur Resistenzzuchtung gegen den Kartoffelnematoden Heterodera rostochiensis Woll. auf der Basis S. spegazzinii. Bayerisches Landwirtschaftliches Jahrbuch 51(3):294-303 [De, en].

Higher proportions of progenies with resistance were obtained from S. spegazzinii-S. tuberosum backing crossing hybrids x S. andigena (CPC 1673)-S. tuberousm hybrids than were obtained from back crossings with S. tuberosum using S. spegazzinii hybrids as the male parent reduced the number of progeny having resistance.

84. Hunt, O. J. 1973. Nematode resistance in plants: breeding problems and opportunities. Abstract Pap. 2. int. Congress Plant Pathology, Minneapolis, Minn. :0612.

A review.

85. Hunt, O. J., L. R. Faulkner and R. N. Peaden. 1972. Breeding for nematode resistance. American Society of Agronomists. 15:355-370.

86. Hunt, O. J. and R. N. Peaden. 1972. Resistant plants combat the alfalfa nematode. Crops Soils 24(6):6-7.

87. Hunt, O. J. et al. 1969. Development of resistance to root-knot nematode (Meloidogyne hapla Chitwood) in alfalfa (Medicago sativa L.) Crop Science 9:624-627.

The transfer of Meloidogyne hapla resistance to clones derived from resistant parents, alfalfa varieties Washoe and Lahontan, was relatively easy. The progeny also retained resistance to Ditylenchus dipsaci.

88. Hussey, R. S. and L. R. Krusberg. 1698. Histopathology of resistant reactions in Alaska pea seedlings to two populations of Ditylenchus dipsaci. Phytopathology 58: 1305-1310.

Alaska 14A peas become infected and show initial reactions similar to susceptible varieties, but later development of the nematode is impared.

89. Hutchins, L. M. 1937. Nematode resistant peach rootstocks of superior vigor. Proceedings of the American Society for Horticulture Science 34:330-338.

90. Hutchison, D. J. and J. H. O'Bannon. Evaluating the reaction of citrus selections to Tylenchulus semipenetrans. Plant Disease Reporter 56(9):747-751.

Severinia buxifolia and all varieties of orange tested were found to be resistant or moderately resistant to T. semipenetrans.

91. Hutchinson, M. T. 1960. Resistance and tolerance of tea to nematodes. Tea Quarterly. Tea Research Institute of Ceylon 31(1):13-18.

A review of the program at the Tea Research Institute for breeding resistant or tolerant coffee lines to Pratylenchus coffeae.

92. Hutton, E. M. and L. B. Beall. 1957. Root-knot nematode resistance in two pasture species of Phaseolus. Journal of Australian Institute of Agricultural Science. 23(2):158.

Resistance to Meloidogyne incognita was found in Phaseolus bracteatus Nees and Mart and P. atropurpureus D. C. The plants grew normally with no evidence of root galling.

1. Ibrahim, I. K. A., Ibrahim, I. A.; and Massoud. S. I. 1972. Induction of galling and lateral roots on five varieties of soybeans by Meloidogyne javanica and M. incognita. Plant Disease Reporter (1972) 56 (10):882-884.

Five varieties of soybean were tested for resistance to Meloidogyne javanica and M. incognita. All varieties were susceptible to M. javanica. The "Laredo" and "Delmar" varieties were somewhat resistant to M. incognita.

2. Ichinohe, M. 1959. Studies of the soybean cyst nematode Heterodera glycines and its injury to soybean plants in Japan. Plant Disease Reporter, Supplement 260, pp. 239-248.

A general review of H. glycines in Asia is presented with a discussion on varietal resistance.

3. Ichinohe, M. 1961. Studies on the soybean cyst nematode, Heterodera glycines. Report of the Hokkaido National Agricultural Experiment Station, No. 56, pp. 80.

A comprehensive review of the soybean nematode is given, including a discussion of resistant varieties and their use in a cropping program.

4. Ichinohe, M. 1972. Nematode disease of rice. In: Webster, J. M. (Editor), Economic Nematology. London, United Kingdom: Academic Press, pp. 127-143.

A discussion of nematodes affecting rice includes some 30 nematodes. Detailed discussions are given for the genera Aphelenchoides, Ditylenchus and Hirschmanniella. Natural resistance of rice in Japanese paddies may have developed.

5. Ichinohe, M. and Asai, K. 1956. (Studies of the resistance of soybean plants to the nematode, Heterodera glycines. I. Varieties "Daiichi-hienuki" and "Nangun-takedate".) Research Bulletin of the Hokkaido National Agricultural Experiment Station. No. 71 pp. 67-79.

Soya bean varieties "Nangun-takedate" and"Daiichi-hienuki" were resistant and showed no symptoms when exposed to H. glycines. Two other varieties "Kokuso" and "Takachi-nagaha" were very susceptible.

6. Idiatulina, F. F. 1974. (A study and evaluation of the world collection of kenaf for resistance to root know nematode). Materially 7 Nauchnoi Konferentsii Molodykh Uzbekistana po s. kh. Zashchita rastenii. Tashkent, Uzbek SSR. (Referativnyi Zhurnal Rastenievodstvo (1974), 12.55.229) Languages: (Russian).

All but 2 of 237 strains of Kenaf examined were attacked by Meloidogyne. Strain K-512 (from India), 286922 (from Sudan) and a variety of Hibiscus radiotus were resistant and may be recommended for breeding material.

7. Interiano, J. D. and Quintanilla Arevalo, J. D. 1972. Response of improved wild tomato species (Lycopersicon pimpinellifollium) to the root-knot nematode (Meloidogyne spp.) (Abstract) Nematropica 2(1): 5-6,19.

Selections of Lycopersicon pimpinellifolium vary in their response to infection by Meloidogyne spp.

8. Isbell, C. L. 1931. Nematode-resistance studies with pole snap beans. T. Hered. 22:191-198.

Selection of root-knot resistant snap beans.

9. Ismail, W. 1972. Effect of different levels of potassium on the growth of castor and development of Rotylenchulus reniformis. Proceedings of the 59th Session of the Indian Science Congress Association, Calcutta, 1972. Part III. Abstracts, p. 592.

10. Ismail, W. 1972. Effect of different levels of potassium on the development of Meloidogyne incognita on tomato and castor. Proceedings of the 59th Session of the Indian Science Congress Association, Calcutta, 1972. Part III. Abstracts, pp. 591-592.

11. Ivanova, B. P. 1975. (Trials of selected potato varieties for resistance to Ditylenchus destructor). Byulleten' Vsesoyuznogo Instituta Gel'mintologii im. K. I. Skryabina, 1975. No. 15 pp. 63-65. (Ru)

Extensive field test of Ditylenchus destructor resistance in Solanum species resulted in classifying 87 samples of 184 tested as resistant.

12. Ivanova. I. V. and Shesteperov, A.A. 1974. (Susceptibility of certain cultivated plants in the Moscow region (USSR) to gall nematode infections in the open ground.) Byulleten' Vsesoyuznogo Instituta Gel'mintologii im. K. I. Skryabina. 1974. No. 14,82. (Ru)

A discussion is given on susceptibility of flax,alfalfa, clover, cucumber and agrostis to Meloidogyne javanica and M. incognita.

13. Ivanova, K. A. 1970 (Varietal immunity of strawberry to Aphelenchoides fragariae in the northwestern area of the RSFSR). Nauchn. tr. Sev,-Zap. n.i. in-t s. kh. (1970) No. 16, 198-206 (Russian) from Plant Breeding Abstracts 43,2245.

The strawberry varieties "Saksonka" and "Festival'naya" were the only resistant cultivars of the 13 tested against Aphelenchoides fragariae.

14. Ivanova, T. S. and Kankina, V. K. 1974. (A nematode parasitic on strawberry.) Zashchita Rastenii (1974) No. 8, 50 (Russian)

Two varieties of strawberries "Ziger" and "Luiza" were infected with Longidorus elongatus, however, the variety "Luiza" was relatively tolerant to infection.

1. Jacobsen, B. 1972. (Nematode resistance in potato varieties). Landbonyt 26(3):149-150, 152-153. March 1972. (Danish).

2. Jain, R. K. and Sehgal, S. P. 1975. Testing of different varieties, strains and species of wheat for resistance to the cereal cyst nematode, Heterodera avenae. Indian Journal of Mycology and Plant Pathology. 1975, published 1976. (51):18.

3. James, M. 1969. Nine varieties of southern peas resistant to the soybean cyst nematode. Plant Disease Reporter 52:245.

4. Janas, K. M. 1976. Activity of indolyl-3-acetic acid oxidase and peroxidase in roots of carrot infested with Meloidogyne hapla Chitw. Acta Agrobotanica. 1976 29(1):107-117.

   Results of study indicate that the degree of plant tolerance to the nematode is correlated with the ratio of IAA-oxidase inhibitor, rather than the absolute activity of the oxidase.

5. Janke, C., Heide, A., and Lucke, W. 1972. (The effect of varied water supply and sprinkler irrigation on the population dynamics of Heterodera rostochiensis Woll. when growing resistant potato varieties.) Arch Pflanzenschutz 8(5):371-385. English summary. 1972. (German)

6. Jatala, P. and Rowe, P.R. 1976. Reaction of 62 tuber-bearing Solanum species to the root-knot nematode, Meloidogyne incognita acrita. Journal of Nematology. 1976 8(4):290.

   Of 3,000 clones of cultivated potatos tested, none exhibited adequate resitance to M. incognita acrita. No galling or nematode reproduction was seen on S. acroscopicum Pl 365315, Sgourlayi oka 4532, S. megistacrolobum oka 4460, or S. Sparsipilum Tl 310933.

7. Jatala, P. and Russell, C. C. 1972. Nature of sweet potato resistance to Meloidogyne incognita and the effects of temperature on parasitism. Journal of Nematology 4(1);1-7. 1972.

   A root exudate repellent to M. incognita is proposed as a hypothetical basis for resistance in sweet potatoes.

8. Jena, R. N. and Rao, Y. S. 1974. Root-knot nematode resistance in rice. Indian Journal of Genetics and Plant Breeding. 1974 34A, pp. 433-449.

   Rice varieties were tested for resistance to Meloidogyne graminicola and the nature of their resistance was examined. Resistance was found in Hamsa, 1R-5-47-2, Manoharsali and Barhasia, with resistance seen in the inhibition of synctial formation, nematode development and egg mass production. The roots of resistance varieties also had fewer roots, dense root

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hairs, highly sclerotized exodermis, narrow cortex and stele, few phloem points, low starch, protein and nitrogen content, high lignification and high aspartic acid and alanine content.

9. Jena, R. N. and Rao, Y. S. 1976. Nature of root-knot (Meloidogyne graminicola) resistance in rice (Oryza sativa). I. Isolation of resistant varieties. Proceedings of the Indian Academy of Sciences. 1976. 83B (5):177-184.

Nematode development and egg mass production was inhibited in the rice variety Hamsa, resistant to Meloidogyne gramincola.

10. Jena, R. N. and Rao, Y. S. 1977. Nature of resistance in rice (Oryza sativa L.)to the root-knot nematode (Meloidogyne graminicola Golden and Birchfield. II. Mechanisms of resistance. Proceedings of the Indian Academy of Science, Section B, 86(1): 33-38. 1977.

The structural and chemical features of roots of 55 rice varieties were correlated with degree of susceptibility to the root-knot nematode, M. graminicola. Less roots, dense root hairs, highly sclerotised exodermis narrow cortex and stele, few phloem points, low starch, protein, nitrogen, high lignification, high aspartic acid and alanine contents characterised roots of resistant plants.

11. Jena, R. N. and Rao, Y. S. 1977.Nature of resistance in rice (Oryza sativa L.) to the root-knot nematode (Meloidogyne graminicola Golden and Birchfield). II. Histopathology of nematode infection in rice varieties. Proceedings of the Indian Academy of Sciences, Section B 86(2):87-91. 1977.

Disruption and hypertrophy of cortical cells due to the migration and movement of larvae of Meloidogyne graminicola partly contributed to the development of knots in rice roots. Hyperplasia of protophloem and abnormal xylem proliferation caused swelling of stele at sites of nematode attack and establishment. In tolerant varieties, poor giant cell formation caused delay in nematode development; in resistant varieties, nematode activity was further inhibited due to cell necrosis.

12. Jenkins, Jr. S.F. (no date) Disease resistance in vegetable varieties. Plant Pathology Information. Note 188. North Caroline State University, Mimeo Publication.

13. Jensen, H. J. 1972. Nematodes pests of vegetable and related crops. In: Webster, J. M. (Editor), Economic nematology. London, United Kindgon: Academic Press, pp. 377-408.

Control by the use of resistant varieties and by nematicides continue to be the most widely used and effective methods.

14. Jiminez, Roco, M. and Acuna Gonzales, J. 1976. (Evaluation of varieties and hybrids of tomato (Lycopersicum esculentum Mil.) resistant to the root-knot nematode Meloidogyne sp.) Ingeniero Agronomo. Especialidad Nematologia Agricola, Dep. de Agric, CICA, Univ. del Norte, Arica, Chile. Indesia, Chile, 1976. No. 4, pp. 69-76. Language (Espanol).

12 varieties and hybrids of tomato with resistance to Meloidogyne sp. grew well in infested soil, with good commercial characteristics and high yields.

15. Jimenez-Millan, F. 1966. About the specificity of Tylenchulus semipenetrans Cobb (Nematoda, Tylenchidae) to several species of citrus roots. Boln R. Soc. esp. Hist. nat., Secc. biol., 64:57-62.

8 of 15 Spanish varieties of citrus were susceptible to Tylenchulus semipenetrans. T. penetrans did not infect Vitis vinifera or Olea europa.

16. Johnson, A. W. 1975. Resistance of sweetcorn cultivars to plant-parasitic nematodes. Plant Disease Reporter 59(4):373-376. 1975

15 sweet corn cultivars were evaluated for resistance to plant parasitic nematodes including Criconemoides ornatus Raski, Meloidogyne incognita, Chitwood, Helicotylenchus dihystera Sher and Trichodorus christiei Allen. Use of nematicides and selection of cultivars with some resistance to several species of nematodes will delay buildup of these pests to damaging levels.

17. Johnson, A. W. and Burton, G. W. 1973. Comparison of millet and sorghum sudan grass hybrids grown in untreated soil and soil treated with two nematicides. Journal of Nematology 5:54-59.

Pearl millet cultivar "Tiflate" has resistance to Pratylenchus species and Belonalaimus longicaudatus.

18. Johnson, H. W. 1972. Development of crop resistance to diseases and nematodes. Journal of Environmental Quality 1(1):23-27. 1972.

19. Joley, L. E. and Whitehouse, W. E. 1953. Root-knot nematode susceptibility - a factor in the selection of pistachio nut root-stocks. Proceedings of the American Society of Horticultural Science 61:98-102.

The degree of infestion with Meloidogyne sp. varied in the several species and hybrids of Pistacia tested, being low or absent in crosses of P. vera with P. atlantica, P. integerrima and P. chinesis and P. mutica x P. chinesis.

20. Jones, A.; Dukes, P. D.; and Cuthbert, F. P. Jr. 1975. W-13 and W-178 sweet potato germplasm. Horticultural Science. 1975 10(5):533.

Sweet potato breeding line W-13 is resistant to Meloidogyne incognita and has good commercial qualities.

21. Jones, A.; Dukes, P. D. and Cuthbert, F. P., Jr. 1976. Mass selection in sweet potato: breeding for resistance to insects and diseases and for horticultural characteristics. Journal of the American Society for Horticultural Science, 1976. 101(6):701-704.

Resistance to Meloidogyne incognita is mentioned.

22. Jones, E. T. 1949. The breeding of disease-resistant varieties of oats. Part 1. Physiologic races, diseases and pests. Emp. J. Exp. Agric. 17:199-204.

23. Jones, F. G.W. 1954. First steps in breeding for resistance to the potato-root eelworm. Ann. Appl. Biol. 41:348-353.

Discussion of the resistance of Solanum verni, S. andigenum and S. tuberosum to potato-root eelworm. Resistance is believe to to controlled by a single dominant gene.

24. Jones, F. G. W. 1957. Resistance-breaking biotypes of the potato-root eelworm (Heterodera rostochiensis Woll.) Nematologica 2:185-192.

Agressive populations of H. rostochiensis found to be common in English soils (14 of the 20 populations tested on Solanum tuberosum subspecies andigena and on seedlings bred from crosses subspecies andigena and subspecies tuberosum.

25. Jones, F. G. W. 1957. Breeding for resistance to potato-root eelworm, Heterodera rostothiensis Woll. Proceedings of the S-19 Workshop in Phytonematology, Univesity of Tennessee, July 1-6, 1957, 17 pp.

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The work on the breeding of potatoes resistance to H. rostochiensis is reviewed. Resistance in Solanum tuberosum subspecies andignea is controlled by a single dominant gene, however, since the plant roots produce a hatching factor, resistance is only partial and plants are heavily invaded by larvae. Resistance-breaking biotypes are also discussed.

26. Jones, F. G. W. 1958. Resistance-breaking populations of the potato-root eelworm. Plant Pathology 7:24-25.

Of 20 populations of potato-root eelworm (Heterodera rostochiensis Woll.) tested to determine their behavior towards resistant potatoes bred from Silanum tuberosum subspecies andigena, 14 contained forms capable of breaking the resistance of an F_1 hybrid, 2317, in excess of 1% and there was a suggestion that the B_1 (first backcross hybrids) were less resistant that F_1 hybrids.

27. Jones, F. G. W. 1960. Plant parasitc nematodes. Advancement of Science. London, 17(66):174-180.

Biotypes and biolgic races of nematodes and the problems due to their presence in resistance-breeding and mentioned in "Host-range and host-parasite relationships".

28. Jones, F. G. W. 1960. Resistance-breaking biotypes of potato-root eelworm. International Congress of Crop Protection (4th), Hamburg, September 1957. Proceeding Vol. I, pp. 591-594.

A review of the literature on Heterodera rostochiensis resistance-breaking biotypes, with hypotheses for population changes.

29. Jones, F. G. W. 1962. Plant Nematodes, Science Progress, Longon, 50(200):550-567.

Many aspects of plant nematology are briefly reviewed, including breeding for resistance.

30. Jones, F. G. W. 1966. The population dynamics and population genetics of the potato cyst nematode, Heterodera rostochiensis Woll. on susceptible and resistant potatoes. Rep. Rothamsted Experiment Station for 1965, pp. 301-316.

31. Jones, F. G. W. and Parrott, D. M. 1965. The genetic relationships on pathotypes of Heterodera rostochiensis Woll. which reproduce of hybrid potatoes with genes for resistance. Ann. Appl. Biology 56(1):27-36.

It seems that the major genes for resistance to Heterodera rostochiensis in potatoes bred from Solanum tuberosum andigena (Ab), from S. multidissectum (a^B) and from both (AB) are matched by recessive genes in the nematodes able to overcome resistance.

32. Jones, F. G. W.; Parrot, D.; and Williams, T. D. 1967. The yield of potatoes resistant to Heterodora rostochiensis on infested land. Nematologica 12:301-310.

Larval pathotypes unable to breed on resistant plants nevertheless damage them. In plants with one resistant gene derived from ex andigena, another from ex multidissectum, and with both genes together, there is some evidence that these genes increased injury to tolerance.

33. Jones, F. G. W. and Pawelska. 1963. The behavior of populations of potato-root eelworm (Heterodera rostochiensis Woll.) towards some resistant tuberous and other Solanum species. Ann. Appl. Biol. 51:277-294.

47 British populations of H. rostochiensis were tested on plants with resistance derived from Solanum tuberosum subspecies andigena S. multidissectum, S. vernei, S. santae-rosae, S. famatinae and S. x juzepczuki and S. nigrum, S. sarachoides and Nicotiana species. The reactions varied.

34. Jones, J. E. and Birchfield, W. 1967. Resistance of the Experimental cotton variety, "Bayou", and related strains to root-knot nematode and Fusarium wilt. Phytopathology 57:1327-1331.

Resistance to root-knot nematode and Fusarium wilt was confirmed in the cotton varieties "Bayou", 3 related strains and Auburn 56. Populations on these lines increased only slightly or not at all. during the growing season. Resistance in Bayou and Auburn 56 was characterized by fewer egg masses per plant and fewer eggs per egg mass.

35. Jones, J. E., etal. 1972. Evaluation of advanced cotton strains selected for resistance to the Fusarium wilt-root-knot nematode disease complex. Rep. Proj. Dep. Agron. La State Univer. Agric. Mech. Coll. Agric. Exp. Stn. p. 24-28. 1972

36. Jones. N. M.; Griffiths, D. J.; and Holden, J. H. W. 1955. Varietal resistance in oats to attacks by the stem and bulb eelworm.Plant Pathology. London 4(2):43-53.

Oat varieties Grey Winter, Early Grey Winter, Unique, Picton, S. 81, S. 172, S. 147, S. 225 and"S. 147 mixture" were compared for resistance to attack by Ditylenchus dipsaci. Of the resistant varieties all but Picton were found to be resistant.

37. Jones, R. W. 1972. Titan, a seed source for F_1 almond X Nemaguard peach hybrids. Fruit varieties and Horticultural Digest 26(1) 18-20 (English) USDA Horticultural Station, Fresno, California From Plant Breeding Abstracts 43, 7334

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37. Continued:

Titan seedlings are resistant to nematodes and drought and are good rootstocks for peach or almond scions.

38. Jonsson, H. A. 1974. (Weibull's original red clover variety Britta.) Weibulls original Britta rodklover. Weibulls arsbok (1974) 8-10 (Swedish) Weibullsholms Vaxforadlingsanstalt, Landskrona, Sweden. From Plant Breeding Abstracts 44, 5254.

Relatively high resistance to Ditylenchus dipsaci was seen in the medium. Late diploid red clover variety Britta, with more than 50% of the plants showing resistance.

39. Jonsson, H. A. 1976. (Britta - a red-clover variety with considerable disease resistance.) Weibulls Ansbok, 1976. pp. 10-12. (Swedish).

40. Jorgensen, C. A. and Thomsen, M. 1928. Bygsorter og Havreal. Tidssk. Planteavl 34:680-691.

Only small number of Heterodera cysts found on Danish barley variety Rex, which produced rather high yield on infected soil.

41. Jorgenson, E. C. 1968. Tolerance of sugarbeet to the sugarbeet nematode, Heterodera schachtii Schmidt. (Abstract) Journal of Nematology 1(4):294-295.

42. Joubert, F. G. La G and Rappard, C. E. 1971. Roodeplaat Albesto-eelworm-resistant tomato cultivar. Fing. S. Afr., 46(10): 3, 11 14.

The new tomato variety Roodeplaat Albesto has shown resistance to Meloidogyne specie (except M. hapla) and good fruit quality and yield in South Africa.

1. Kaan, F. etal. 1974. A study of 100 tomato varieties in relation with climatic adaptation and resistance to 7 prevalent diseases in the West Indies. Proceedings of the 12th Annual Meeting of the Caribbean Food Crops Society, Jamaica, 30th June to 5th July, 1974, pp. 102-110.

An evaluation of 100 varieties of tomatoes in the West Indies is presented. Reaction to seven diseases including resistance to Meloidogyne species is reported. High temperature may contribute to the breaking of resistance.

2. Kalnozols, A. E. 1965. (New potato varieties resistant to the potato root nematode) Zashch. Rast. Vredit. Bolez, Sornyak., Uilnius., pp. 36-38 (Russian).

Potato varieites Sagitta and Spekula and new hybrids K-3774, K-3776, K-3777 resistant to Heterodera rostochiensis.

3. Kalnozols, A. E. 1970. (Biological control of the potato root nematode in the Latvian SSR.) Materially 7go Pribaltiiskogo Soveshchaniva po Zashchaniya po Zashchite Rastenii, Part 1. Ministerstvo Sel'skogo Khozyaistva.

A resistance and yield trial of four potato varieties against Heterodera rostochiensis is reported.

4. Kalnozols, A. E. 1972. (Resistance of various potato varieties to Heterodera/) In Kratkie doklady po voprosam zashchity rastenii. (VIII Pribaltiiskaya konferentsiya po zashchite rastenii. Part II.) Kaunas, USSR; Litovskii Nauchno-Issledovatel'skii Institut Zemledeliya. (1972) 86-87 (Russian) Latvian Scientic Research Inst. of Plant Production, USSR.

5. Kalnozols, A. 1976. (Study of the interspecific hybrid potato resistant to nematodes.) In Zashchita sel'skokhoziaistvennykh kul'tur ot vreditelei boleznei i sorniakov. V. Eglitis and others. Editors p. 91-99. 1976 Russian.

6. Kameraz, A. 1975. (Problems of potato breeding in the nonchernozem region.) Kartofel' i Ovoshchi. 1975. No. 1, pp.6-8 (Plant Breeding Abstracts 45, 10101.) (Russian)

A discussion of problems involved with potato breeding to pests including Heterodera rostochiensis is given. A list of resistant varieties and species is given.

7. Kameraz, A. Ya. 1976. (Ways of obtaining nematode resistant varieties of potato.) (Abstract). VIII Vsesoyuznoe soveshchanie no nematodnym boleznyam sel'skokhozyaistvennykh kul'tur. Tezisy dokladov soobsnchenii. Kishinev, USSR; Izdatel'stvo "Shtiintsa". 1976 pp. 50-51. (Russian)

Resistance to Heterodera rostochiensis and H. pallida through hybridisation of wild Solanum specie in Belorussian SSR is discussed.

8. Kameraz, A. Ya. and Olefir, V. V. 1974. (Resistance to the stem nematode (Ditylenchus destructor Throne) in different species and interspecific hybrids of potato.) Trudy po Prikladnoi Botanike, Genetike i Selektsii, 1974. 53(1):216-231. (Plant Breeding Abstracts 46, 2579.)

Resistance to Ditylenchus destructor in tests of 206 wild Solanum species indicated that most of 50 selfed seedlings of S. andigenum were resistant. S. cantorthruna, S. bakasovii, S. verni, S. infudibuliforme, S. acaule, S. chacoense, S. commenersonii, S. semidemissum and S. jamesii were also resistant.

9. Kameraz, A. Ya.; Ponin, I. Ya.; and Samersova, V.A. 1974. (The selection of initial material for breeding potatoes with combined resistance to the cyst and stem nematodes and wart.) Kartofeievodstvo, 2. Minsk, White Russian SSR; Uradzhai. 1974 pp. 35-36. (Plant Breeding Abstracts 47, 1363.) (Russian)

A series of Solanum crosses were found resistant to Heterodera rostochensis and Ditylenchus dipsaci.

10. Kameraz, A. Ya. and Ponin, I. Ya. 1974. (Initial material and proposals for using it in breeding potatoes for resistance to the potato nematode (Heterodera rostochiensis Woll.) Trudy po Prikladnoi Botanike, Genetike i Selektii, 1974. 53:(1): 199-215. (Plant Breeding Abstracts 46, 2578.) (Russian)

Extensive tests of wild Solanum species, cultivated varieties and their hybrids were screened for resistance to Heterodera rostochiensis. A clone of S. chacoense f. subtilis combined resistance to H. rostochenis, Ditylenchus destructor and Synchytrium endobioticum.

11. Kameraz, A. Ya.; Yashina, I. M. and Skivarova, N. P. 1974. (Genetics of the resistance of potato to the commonest diseases.) Genet. i selektsiya bolezneustoichivykh sortov kul't rast. Moscow, USSR; Nauka. 1974 pp. 247-268. (Plant Breeding Abstracts 46, 9182). (Russian)

The authors review breeding of Solanum species for resistance to Heterodera rostochiensis, Phytophthora and virus diseases. A discussion of genetic basis for resistance is included.

12. Karsun, A. I. 1976. (The study of polyphenoloxidases in varieties of tomato resistant and susceptible to Meloidogyne infection.) (Abstract). VIII Vsesoyuznoe soveshchanie no nematodnym boleznyam sel'skokhozyaistvennykh kul'tur. Tezisy dokladov i soobshchenii. Kishinev, USSR: Izdatel'stvo "Shtiintsa". 1976 pp. 115-116. Russian.

13. Kasano, H. 1975. (Characteristics of the high-yielding mint variety Wasenami and cultural and processing techniques.) Agriculture and Horticulture. 1975 50(1):125-127. (Plant Breeding Abstracts 46, 10757.) (Japanese)

A high-yielding mint variety "Wasenami" (hybrid of Mentha arvensis var. piperasiens and M. spicata var. crispa) was tolerant to Pratylenchus curvitatus.

14. Katinskaya, Yu. K. (The relative resistance of strawberry cultivars to stem nematode.) Nauchnye Trudy Krym. Opyt.-Selekts. St. (1973) 7, 295-298 (Russian) From Referativnyi Zhurnal (1974) 3.55.787.

Degree of resistance to Ditylenchus dipsaci was studied in 150 strawberry cultivars. Those classified as resistant included Mitze Schindler, while Surprise (de Halles) was only slightly susceptible.

15. Kawase, K. 1972. Resistance of peach rootstocks to the root-knot nematode (Meloidogyne incognita acrita Chitwood) in Japan. Bulletin of the Horticultural Research Station, Japan D (Engei Shikenjo Hokoku, D) (1972) 7,1-11 (English, Japanese). From Plant Breeding Abstracts 43, 3891.

Resistance to Meloidogyne incognita acrita in Japanese wild and cultivated peach species and 5 resistant U.S. rootstocks were studied. Seedlings of wild peaches "Iwatekokonoha A" and "Noganohigashichikuma" were not infected. Progeny of the later and Juseito were also resistant.

16. Kazaka, T. 1950. (On the resistance of sweet potato to nematode disease.) Kyushu Agri. Research 7, 65-66. (Japanese.)

17. Kegasawa, K. 1974. (Breeding soybean varieties resistant to nematode, Heterodera glycines.) Shokubutsu Boeki 28(10):409-412. 1974. (Japanese)

18. Kehr, A. E. 1966. Current status and opportunities for the control of nematodes by plant breeding. Pest Control by Chemical Biol. Genet. and Phys. Means 126-138.

19. Kehr, W. R., etal. 1975. Registration of alfalfa germplasm pools NC-83-1 and NC-83-2 (Reg. No. GP 45 and GP 46). Crop Science. 1975. 15(4):604-605.

Alfalfa germplasm pools have been developed in the Northcentral Region of the U.S. to be used as a source of resistance to Ditylenchus dipsaci resistance.

20. Kester, D. E.: Hansen, C. J.; and Lownsbery, B. F. 1970. Selection of F_1 hybrids of peach and almond resistant and immune to root-knot nematodes. (Abstract.) Hort. Science 5(4,Sect. 2), 304.

21. Khan, A.M.; etal. 1975. Reaction of certain cultivars of tomato to root-knot nematode, Meloidogyne incognita. Indian Phytopathology, 1975. 28(2):302-303.

A large number of potato varieties were tested for resistance to Meloidogyne incognita. All varieties were susceptible, however; "Anahu" and "Nemared" were most resistant.

22. Khan, A. M. etal. 1969. Relative susceptibility of different vegetables and ornamentals to Tylenchorhynchus brassicae, (Abstract) All India Nematology Symposium, New Delhi, August 21-22, 1969. p. 63.

23. Khanna, M. L. and Nirula, K. K. 1964. Breeding potatos for resistance to root-knot nematode. Current Science, Bangalore, 33(10) 314.

Only one of 101 lines of Solanum tuberosum cultivars tested was resistant to Meloidogyne incognita. H. C. 294 (also referred to as H. C. 194) obtained by crossing Kufri Red X ("gladstome X Taborky") confirmed in pot tests that only a few larvae penetrated the roots but none developed into mature females.

24. Khiznyak, P. A. and Efremenko, V. P. 1956. (On nematode resistance of certain potato varieties.) Kartofel. 1956 No. 4. pp 60-61. (In Russian)

25. Kikukawa, S. and Sakai, K. 1969. (Studies on methods of breeding sweet-potato varieties resistant to nematodes.) Bull. Kyushu agric. Exp. Stn, 14(3):365-397. (Japanese: English summary) 397.

The authors discuss the possibility of breeding sweet potatoes for resistance to Meloidogyne incognita and Pratylenchus coffeae. Selection should be possible in the seedling stage.

26. Kinloch, R. A. and Hinson, K. 1973. The Florida program for evaluating soybean (Glycine max L. Merr.) genotypes for susceptibility to root-knot nematode disease. Proceedings of the Soil and Crop Science Society of Florida (1973). 32, 1973-176 (English.

Numerous varieties of soybean lines were screened for resistance to Meloidogyne incognita in Florida. "Bragg", a highly resistant cultivar produced higher yield than susceptible varieties grown with nematicide treatment.

27. Kinloch, R. A. and Hinson, K. 1974. Comparative resistance of soybeans to Meloidogyne javanica. (Abstract). Nematropica (1974) 4(2):17-18. (English) Agricultural Research Center, Jay, Florida 32565, USA.

Soybean cultivars "Forrest" and "Bragg" were the most resistant of 12 cultivars and 44 breeding lines in Florida trials.

28. Kirkpatrick, J. D. and Van Gundy, S. D. 1964. The nature of resistance of Poncirus trifoliata to the citrus nematode. Nematologica, 10(1):78. (Abstract)

29. Kirkpatrick, J. D. and Van Gundy, S. D. 1966. Scion and rootstock as factors in the development of citrus nematode populations. Phytopathology, 56(4):438-441.

Reciprocally grafted scion and rootstocks of resistant and susceptible citrus demonstrated that scions influences nematode development and reproduction; the rootstocks govern feeding and penetration of the nematodes.

30. Kirkpatrick, J. D.; Van Gundy, S. D. and Bitters, W. P. 1962. A factor in root sap of citrus rootstocks associated with resistance to citrus nematode. (Abstract.) Phytopathology, 52(8):738.

Root extracts of Severinia buxifolia, Poncirus trifoliata and Citrus jambhiri were toxic to second-stage Tylenchulus semipenetrans larvae.

31. Kirtbaya, E. K. 1972 (Strawberry breeding in the northern Caucasus). In kul'tura zemlyaniki v SSSR. Doklady simpoziuma, (28:yunya-1 iyulya 1971). Moscow, USSR; "Kolos", 1972, pp. 223-225. (Russian)

The new strawberry hybrid Komsomolka X Desertnaya kubani is relatively resistant to nematodes.

32. Kiryu, T.; Nishyzawa, T. and Yamamoto, S. 1950. (Studies on the varietal resistance of rice plants to the white tip caused by nematodes.) Kyushu Agri. Research, 6:33-34 (Japanese).

33. Kish, A.J. and Adams, R. E. 1973. Resistance-breaking biotypes in the root-knot nematode. Abstract. Phytopathology (1973) 63:7):803 (English) West Virgina University, Morgantown, USA.

(Meloidogyne incognita biotypes break resistance in tomato resistant varieties.)

34. Kishore, H. etal. 1969. Breeding potato varieties for resistance to golden nematode. (Abstract) All India Nematology Symposium, New Delhi, August 21-22, 1969, pp. 58-59.

35. Klotz. L. J., etal. 1972. Field testing for resistance to fungi and citrus nematodes. Citrograph (1972) 57(11):395-396, 411-413 (English) University of California, Riverside, USA.

In a progress report of field testing, rootstock-scion combinations of many varieties for disease and Tylenchulus semipenetrans, "Citremon"1449 X "Pomeroy" and "Rubedoux" trifoliate varieties were almost free of nematodes.

36. Klyukvina, Vu. V.; and Laptev, Yu, P. 1970. (Theoretical bases of breeding potatoes for resistance to late blight.) Sel'.-khoz. Biol., 5, 365-372.

Breeding potatoes for resistance to nematodes is included.

37. Knott, D. R. and Dvorak. J. 1976. Alien germ plasm as a source of resistance to disease. Annual Review of Phytopathology. 1976. 14:211-235.

A review describing the success of transfering alien germ plasm from wild types to cultivated plants is given. Resistance to Meloidogyne transferred from Lycopersicon peruvianum to L. esculentum, transfer of resistance to Heterodera schachtii from Beta procumbens and others are given as examples.

38. Kochba, J. and Samish. 1971. Effect of kinetin and 1-napthylacetic acid on root-knot nematodes in resistant and susceptible peach root stocks. Journal of American Society for Horticultural Science 96:458-461.

Exogenous application of kinetin and an auxin (NAA) encouraged giant cell and gall formation in infected roots of resistant rootstocks.

39. Kochba, J. and Samish, R. M. 1972. Level of endogenous cytokinins and auxin in roots of nematode resistant and susceptible peach rootstocks. American Society for Horticultural Science Journal 97:(1):115-119. 1972.

The roots of infected susceptible plants had high levels of endogenous auxins and cytokinins compared to roots of uninfected susceptible or of infected resistant plants.

40. Kochba, J. and Spiegel--Roy, P. 1972. Resistance to root-knot nematode in bitter almond progenies almond X Okinawa peach hybrids. HortScience (1972) 7(5):503-505 (English). Institute of Horticulture, The Volcani Center, Israel.

Progenies of bitter almond X "Okinawa" peach hybrids consistently indicated a high level of resistance in pot tests to Meloidogyne javanica. Sweet almond crosses with the same peach seedling also produced a high level of resistance.

41. Kochba, J. and Spiegel--Roy. P. 1975. Inheritance of resistance to the root-knot nematode (Meloidogyne jayanica Chitwood) in bitter almond progenies. Euphytica., 1975. 24(2):453-457.

Progenies from bitter almond indicate a dominance for resistance to Meloidogyne javanica even when used with susceptible crosses.

42. Kochba, J. and Spiegel--Roy, P. 1976. Alnem 1, Alnem 88, Alnem 201 almonds: nematode-resistant rootstock seed source. HortScience. 1976. 11(3):270.

Bitter almond cultivars have been developed in Israel that are 100% resistant to Meloidogyne javanica. Resistance is complete in F_1 seed progenies but useless in F_2 progenies. A source of sweet almond, "Alnem 1", 88 and 201 are available for testing.

43. Kogiso, S.; Wada, K. and Munakata, K. 1976. Isolation of nematicidal polyacetylenes from Carthamus tinctorius L. Safflower, plants resistant to nematodes. Agric. Biol. Chem. 40(10); 2085-2089. 1976.

44. Komada, H. 1974. (Damage of vegetables by soilborne pathogens which have recently become a problem.) Agriculture and Horticulture (Nogyo oyobi Engei). 1974. (Plant Breeding Abstracts 46(6):5861.) (Japanese)

A discussion of breeding tomato for resistance to Meloidogyne specie is given in this report.

45. Kondakova, E. L. and Ignatova, S. I. 1976. (Search for tomatoes resistant to Meloidogyne incognita infection.) (Abstract). VIII Vsesoyuznoe soveshchanie no nematodnym boleznyam sel' skokhozyaistvennykh kul'tur. Texisy dokladov i soobschchenii. Kishinev, USSR: Izdatel'stvo "Shtiintsa". 1976 pp. 104-105. (Russian)

46. Kondo, T. etal. 1972. (Differences in susceptibility of sweet potato varieties to root-knot nematode, Meloidogyne incognita.) Japanese Journal of Nematology (1972). 1,14-17 (Japanese, English) Sanbu District Extension Service Station, Chiba, Japan.

Degrees of resistance were found among 75 varieties of sweet potatoes to Meloidogyne incognita and these were grouped into five categories.

47. Korol'chuk, V. V., etal. 1971 (Evaluations of the resistance of local varieties of sugarbeet to Heterodera schachtii.) In Parazity zhivotnykh i rastenii. Kishinev:Izdatel'stuo "Shtiinsta". No. 7, pp. 150-155 (Russian).

Of 37 Russian varieties tested, all were infested, though to widely differing degrees. Reduction of sugar content was not proportional to intensity of infection, and some of the most heavily infested varieties were the least affected as regards sugar content.

48. Kort, J. 1962. De vermeerdering ban biotypen van het aardappelcystenaaltje, Heterodera rostochiensis Woll., op verschillende Solanum species. Mededelingen van de Landbouwhogeschool en de Opzoekingsstations van de Staat te Gent, 27(3):754-759.

This is a short graphically illustrated account of experiments to determine the increase of various biotypes of Heterodera rostochiensis on different Solanium species. Of 549 plots examined 76% contained biotype A (only S. tuberosum infected) and 24% contained biotype AB (both S. tuberosusm and S. andigenum infected).

49. Kort, J. 1969. Der Einfluss resistenter Kartoffein auf Mischpopulationen von Heterodera rostochiensis Woll. 1923. Mitt. Biol. BundAnst. Ld-u. Forstw., No. 136, pp. 32-38. (English sum. p. 38).

Author discusses the reproduction of different biotypes of Heterodera rostochiensis on susceptible and resistant plants. Not all larvae inherit the resistant-breaking factor.

50. Kort, J. 1972 Nematode diseases of cereal of temperate climates. In Webster, J. M. (Editor) Economic nematology London United Kingdom: Academic Press, pp. 97-126. (English)

Author presents a discussion of nematode pests (Heterodera avenae, Ditylenchus dipsaci and Meloidogyna naasi on cereal crops.

51. Kort, J.; Dantuma, G, and Van Essen, A. 1964. On biotypes of the cereal root eelworm (Heterodera avenae) and resistance in oats and barley. Netherlands Journal of Plant Pathology. 70:9-17.

Varieties Morocco and Marocaine 079 were resistant to all four Dutch races of H. avenae. Varieties Drost and barley no. 191 were resistant to some, but not all, the four races.

52. Kort, J.; Jaspers, C. P.: Kijkstra, D. L. 1972. Testing for resistance. to pathotype C of Heterodera rostochiensis and the practical application of Solanum vernei-hybrids in the Netherlands. Ann Appl. Biol. 71(3):289-294. 1972.

Experience has shown that breeding for resistance to H. rostochiensis in S. vernei is much more difficult than in S. andigena. In screening for resistance to pathotype C. in S. vernei the following differences became evident. A.) There is no clear cut division between resistant and susceptible clones in S. vernei, b.) the number of newly formed cysts in resistant S. vernei clones is higher than in S. andigena, C) in S. vernei, there may be great differences in cyst numbers between plants within clones and d) results from tests using 3 plants per S. vernei clone are not reproduceable. The authors discuss their modified testing method.

53. Kostina, L. and Zholudeva, A. 1971. (Varieties of potatoes resistant to nematodes.) Kartofel Uvoshchi 10:36-37. 1971 (Russian).

54. Kostina, K. and Zholudeva, A. 1974. (Promising potato varieties.) Kartofel'i Ovoshchi (1974). No. 3, 20-21 (Russian)

Potato varieties, "Ali", "Anett", "Apta:, "Vanda", "Poet", "Fekula", and "Khorza" were the only varieties resistant to Ditylenchus destructor in the USSR of 111 varieties tested.

55. Kostina, L. and Zholudeva, A. 1974. (Varieties resistant to potato nematode.) Kartofel'i Ovoshchi (1974) No. 8 39-42 (Russian)

Results are given of new nematode resistant potato varieties tested against Heterodera rostochiemsis in the USSR.

56. Kostina, L. I. and Zholudeva, A. P. 1974. (Potato varieties resistant to Heterodera rostochiensis Woll.) Trudy po Prikladnoi Botanike, Genetike i Selektsii, 1974. 53(2):176-184. (Plant Breeding Abstracts 45, 7484). (Russian)

The authors present useful agronomically characters (starch, protein and ascorbic acid) of potato varieties resistant to Heterodera rostochiensis.

57. Kostyuk, I. K. etal. 1976. (Resistance of potato to Colorado beetle and stem nematode.) Kartofel' i Dvoshchi. 1976. No. 9 39. (Russian)

Varieties and hybrids of 62 potato varieties were tested in Ukranian SSR for resistance to Ditylenchus dipsaci. Two cultivars, 18150 c/70 and 22-4 c/70 H were resistant.

58. Kosuge, E.; Iijima, T. and Ida, S. 1977. Studies on the breeding of tomato resistant to Verticillim wilt - on the breeding of new tomato lines, "NFVR" and "VR". Bulletin of the Tokyo-to Agricultural Experiment Station, 1977. No. 10 pp. 3-29. (Japanese.)

Progenies of a cross between "Tropi-Red" and "NFR2", a tomato line NFVR has resistance to Meloidogyne incognita acrita and Fusarium and Verticillium wilts.

59. Krall, E., etal. 1970. (A new biological race of Anguina radicicola parasitizing fodder grasses in Estonia.) Materialy 7go Pribailiiskogo Soveshchaniya po Zashchite Rastenii, Part 1. Elgava, USSR: Ministerstvo Sel'skogo Khozyaistva Latviiskoi, SSR. 1970 pp. 5--60. (Russian)

A. radicicola first time recorded on Phalaris arundinacea. Six races of the nematode are preposed: 1) Parundinacea race, barley race (Scandinaera), 3) Elymus arenarius race (maritime European countries), 4) (Europe, Baltic and Ukraine), 5) Saskatchewan race, and 6) Rhode Island race.

60. Krall, E.; Krall, H. 1970. (A new pest of lucerne in Estonia.) Uus Iutsernikahjur Eestis. Sotsialistlik Pollumajandus (1970) 25(20):922-924 (Ee).

First record of lucerne race of Ditylenchus dipsaci in European USSR.

61. Kratzig. P. 1973) (Growing nematode-resistant varieties.) Zum Anbau nematodenfester Sorten. Kartoffelbau (1973) 24(5):127-138. (Danish) (Plant Breeding Abstracts 43, 7038).

Potato varieties resistant to Heterodera rostochiensis pathotype A are reported.

62. Kratzig, P. 1974. (Eighteen new potato varieties.) Kartoffelbau (1974). 25, 140 (Danish).

Varieties Marion, Culpa, Elvira, Gitte, Vevi, Anla and Filli are resistant to biotype A of Heterodera rostochiensis and Cordia is resistant to both biotypes A and B.

63. Kratzig, P. 1975. (Now there are 131 permitted potato varieties.) Kartoffelbau. 1975 26(3):72. (Danish)

Nematode resistant "Granola", "Miranda", "Renema" and "Alexa" are added to West Germanys' official list.

64. Kratzig, P. 1975. (The cultivation of nematode-resistant potato varieties.) Karloffelbau. 1975. 26(8):228. Plant Breeding Abstracts 46, 7255. (Danish)

Tabulation of 30 nematode resistant varieties from Federal German list. All are resistant to Heterodera rostochiensis race A, with two of the varieties also resistant to the Harmery race.

65. Kratzig, P. 1976. (Five new potato varieties.) Kartoffelbau, 1976. 27(1): 33. (Plant Breed Abstracts 47, 467.) (Danish)

66. Kratzig, P. 1976. (Now 126 potato varieties.) Kartoffelbau, 1976. 27(3):94. (Plant Breeding Abstracts 47, 470.) (Danish)

67. Kratzig, P. 1976. (Cultivation of nematode-resistant potato varieties.) Kartoffelbau, 1976. 27(6):205. (Plant Breeding Abstracts 47, 2444.) (Danish)

68. Krnjaic, D., etal. 1975. (The susceptibility of some tomato varieties and hybrids to the root nematode Meloidogne incognita (Kofoid and White, 1919) Chitwood, 1949. Preliminary communication.) Zastita Bilja, 1975. 26(133):269-274. Plant Breeding Abstracts 46, 6660. (Cr) (Summary Languages: English)

Of 42 varieties tested for resistance, only one (Pinta) was free from galls. Five others had only light galling.

69. Kubajak, A. 1976. (Preliminary investigations upon tomato resistance to Meloidogyne hapla (Chitwood) and Meloidogyne javanica (Treub).) Roczniki Nauk Rolniczych. Series E. 1976. 5(2):141-144. Polish.

Three French tomato cultivars were resistant to Polish populations of M. javanica. Resistance in breeding line No. 44 was overcome by Polish populations of M. hapla.

70. Kuhn, H. 1958. Uber die Abwehrnekrose eines Kartoffelbastardes gegen den Kartoffel, nematoden, Heterodera rostochiensis Wr. M. Solanum tuberosum subspecie andigens. Zeitschrift fur Pflanzen krankheiten (Pflanzenpathologie) und Pflonzenshutz 65, (8):465-572.

In resistant potatoes, necrosis of the plant cells deprives the nematode of nutrition.

71. Kuiper, K. 1960. Resistance of white clover varieties to the clover cyst eelworm, Heterodera trifolii. Nematologica Supplement II, pp. 95-96.

Eight of 100 clones of white clover were considered resistant to H. trifolii.

72. Kunde, R.M.: Lider, L. A.; and Schmitt, R. V. 1968. A tests of Vitis resistance to Xiphinema index. American Journal Enol. Vitic., 19(1):30-36.

Continue

72. Cont.

Most resistant species tested were Vitis cendicans, V. solonis, V. arizonica, V. rufotomentosa and V. smalliana. Rootstocks Solonis X Othello 1613 showed moderate resistance.

73. Kuriyama, S. 1971. (Root-knot nematode resistance tests and the root incubation method for mass collecting of its larva.) Agric. Hortic. 46(11):1609-1610. 1971 (Japanese)

74. Kuthe, K. and Dern, R. 1970 Erfahrungen bei der Untersuchung von Ditylenchus-Befall an Mais (Zea mays) in Hessen. Gesunde Pfl., 22(6):101-104. (English summary p. 104.)

Of the 7 corn varieties tested for Ditylenchus dipsaci resistance, Inrakorn and Inrafruh yielded best (13% and 52%, respectively, of the plants were attacked).

1. Laan, P. A. van der and C. A. Huijsman. 1975. Een waarneming over het voorkomen van fysiologische rassen van hef aardappelcystenaaltje, welke zich sterk kunnen vermeerderen in resistente nakomelingen van Solanum tuberosum subsp. andigena. Tijdschrift over Plantenziekten 63(6):365-368.

Although crosses of cultivated varieties of Solanum tuberosum with resistant S. tuberosum supsp. andigena are regarded resistant to Heterodera rostochiensis, crosses are now found to be susceptible to Peruvian populations.

2. Lakhmeneva, K. 1965. (Nematode infection of strawberry) Zashch. Rast. Tredit. Bolez., No. 10, p. 39 (Russian)

14 varieties of strawberries are listed as heavily susceptible to strawberry nematode (Aphelenchoides fragariae). 10 varieties showed average susceptibility and 2 were little infected.

3. Lamberti, F. F. and Baines, R. C. 1970. Infectivity of three biotypes of the citrus nematode (Tylenchulus semipenetrans) on two varieties of olive. Plant Disease Reporter, 54(8):717-718.

Tylenchulus semipenetrans populations from olives were more injurious to olive seedlings than those obtained from sweet orange trees. The olive variety "Manzanillo" was more tolerant than "Ascolana".

4. Lamberti, F. and Lownsberry, B. F. 1968. Olive varieties differ in reaction to the root-knot nematode Meloidogyne javanica (Treub) Chitw. Phytopathology Mediterranea, 7:48-50.

"Ascolano" and"Manzanillo" olive cuttings were tested for susceptibility to population levels of Meloidogyne javanica. "Manzanillo" was most tolerant, showing very litte loss of weight inspite of population levels.

5. Lamberti, F. ; Vovlas, N.; and Tirro, A. 1976. An Italian biotype of the citrus nematode. Nematologia Mediterranea. 1976 4(1):117-120.

Different reactions of three populations of Tylenchulus semipenetrans to citrus, olive and grapevine hosts indicated that more than one biotype exists in Italy.

6. Layne, R. E. C. 1974. Breeding peach rootstocks for Canada and the northern United States. HortScience. 1974 9(4):364-366.

Evaluation of peach breeding stocks of Canada and northern USA indicate that Russian clones, Y322, Y327, Y461 are resistant to Pratylenchus penetrans and that US clone H661203 (Nemaguard X Okinawa) is tolerant to P. penetrans and resistant to Meloidogyne javanica and M. incognita.

7. Layne, R. E. C. and H. A. Quamme. 1975. Janick, J. and Moore, J. N. (Eds). Advances in fruit breeding. Temperate fruits. Purdue University Press, 1975. pp. 38-70.

Includes resistance of pears to Meloidogyne.

8. Lazareva. A. G. 1973. (Strawberry pests in the Krasnodar region and the resistance of different species and varieties of this crop.) Trudy po Prikladnoĭ Botanike, Genetike i Selektsii (1973). 50(2):194-202. (Russian)

An evaluation of 110 varieties and species of strawberry to Ditylenchus dipsaci infections indicated that 7 were highly resistant and another 7 were very tolerant.

9. Lear, B. and Miyagawa, S. T. 1972. Development of a strain of the sugarbeet nematode as a potential pest of tomato. Journal of Nematology (1972) 4(4):2960297.

The authors report a strain of Heterodora schachtii, that damages tomatoes.

10. Lear, B.; Miyagawa, S. T.; Dropkin, V.H. and Thomas, C.A. 1966. Susceptibility of safflower varieties to root knot nematodes and to the sugarbeet nematode. Plant Prot. Bulletin, F.A.O. 14(4): 69-71.

6 safflower varieties were good hosts for root-knot nematodes, but not for the sugarbeet nematode.

11. Lebedev, A. A. 1968. (Solanum vernei as the initial species for the production of potato forms with complex resistance.) Zap. leningr. sel'.-khoz. Inst., 117(3):63-68. (Russian)

Breeding material from Solanum vernei has been used in polypoid form in hybrids involving 6 species to develop resistance to Heterodera rostochiensis.

12. Lebedeva, M. E.; Metlitskii, O.Z.; Drozdovskii, E.M. 1972. (Chrysanthemum eelworm as a parasite of strawberry in southern Ukraine.) In Kul'tura zemiyaniki v SSSR. Doklady simpoziuma, (28 iyunya - 1 iyulya 1971). Moscow, USSR; "Kolos". 1972 446-450. (Russian).

The strawberry varieties "Yasma" seems to be less susceptible to Aphelenchoides ritzemabosi than "Korallovaya 100" or "Mato".

13. Lebedeva, N. A. and Lebedev, A.A. 1966. (Prospects of breeding potatoes for resistance to potato eelworm.) Genetika, Mosk., No. 7 pp. 90-99. (In Russian.)

14. Lee, Y. B. and Evans, A.A.F. 1973. Correlation between attractions and susceptibilities of rice varieties to Aphelenchoides besseyi Christie, 1942. Korean Journal of Plant Protection. 1973 12(4):147-151.

The largest numbers of nematodes were recovered from varieties that had been shown to be most attractive to the nematode. Varieties Suweon 234, Nong-Baek and Poong-Gwang were the least susceptible.

15. Lekhnovich, V.S. and Pimskaya. V.N. 1976. (Introduction and quarantine work with potato at the Pavlovsk Experimental Station of the Institute of Plant Industry (VIR). Byulleten' Vsesoyuznogo Ordena Lenia i Ordena Druzhby Narodov Instituta Rastenievodstva Imeni N. I. Vavilova., 1976. No. 61:53-58. (Plant Breeding Abstracts 47, 5540) (Ru)

Wild species of Solanum which have resistance to Ditylenchus destructor or Heterodera are listed.

16. LePrade, J. L.; Henderson, R. G.; and Terrill, T. R. 1972. Registration of Va770 tobacco. Crop Science (1972) 12(2):258.

The variety is highly resistant to Meloidogyne incognita.

17. Levin, D. A. 1976. The chemical defenses of plants to pathogens and herbivores. Annual Review of Ecology and Systematics. 1976 7:121-159.

Included in the comprehensive review is a section on plant products associated with resistance in nematodes. The compounds most frequesntly identified in highest concentrations are phenolics which accumulate in infected tissues.

18. Lewis, S. A. and Mc Clure, M. A. 1975. Free amino acids in roots of infected cotton seedlings resistant and susceptible to Meloidogyne incognita. Journal of Nematology 7(1):10-15.

Quantities of free amino acids in segments of cotton roots resistant and susceptible to M. incognita were compared. Following infection the root knot susceptible cultivar, M8, had greater percent increase of certain individual free amino acids than the resistant cultivar, Clevewilt, but the sum total of free amino acids was greater in the resistant cultivar.

19. Liao, S. C. and Dunlap, A.A. 1950. Arrested invasion of Lycopersicon peruvianum roots by the root-knot nematode. Phytopathology 40:216-218. (Notes.)

L. peruvianum strain P.I. 128651 (nematode-resistant) and L. esculentum variety Earliana (nematode-susceptible) seedlings grown in infested soil were examined microscopically. In the susceptible strain, all seedling died within four weeks, but in the resistant strain, invasion of the roots by nematodes was arrested when approximately one half of the worm had become embedded in the rootlet tips. There were no above ground symptoms of the disease.

20. Lider, L. A. 1954. Inheritance of resistance to a root-knot nematode (Meloidogyne incognita var. acrita Chitwood) in Vitis spp. Helminthol. Soc. Wash. Proc. 21:53-60.

Tests from F_1 may indicate that resistance is from a single dominant gene. Vitis champini appears to be heterozygous, V. candicans homozygous dominant, and V. virifera, V. labrusca and V. rupestris homozygous recessive.

21. Lider, L. A. 1960. (Experiment Station, Davis, California) Vineyard trials in California with nematode-resistant grape rootstocks. Hilgardia, 30(4):123-152.

The author reviews the literature on vine rootstocks (grapes) resistant to Meloidogyne spp. Nineteen of these stocks (crosses) were tested in California. "Vitis solonis" x "Othello 1613", Dogridge (Vitis champini) and Salt Creek (Vitis champini) were most resistant.

22. Lider, L. A. and Shaulis, N. 1974. Resistant rootstocks for New York vineyards. New York Food Life Science Bulletin, New York State Agricultural Experiment Station, 45: 3 p. August 1974.

23. Lindsey, D. W. 1969. Suitability of soybean host for the lesion nematode Pratylenchus brachyurus.(Abstract) Journal of the Alabama Academy of Science (1969) 40(3):139.

The 4 cultivars varied in their response to the nematode.

24. Loos, C. A. 1953. Meloidogyne brevicauda, n. sp., a cause of root-knot of mature tea in Ceylon. Helmintho-. Soc. Wash. Proc. 20:83-91

Tea plants become more resistant to root-knot as they mature.

25. Lordello, L. G. E. 1972 Nematode pests of coffee. In: Webster, J. M. (Editor), Economic nematology. London, United Kingdom: Academic Press. pp. 268-284. (English)

The author presents a general account of nematodes in coffee (Meloidogyne exigua, M. coffeicola, and Pratylenchus spp.).Resistant rootstocks and prevention are the major control measures.

26. Lownsbery, B. F.; Martin, G. C.: Forde, H. I.; and Moody, E. H. 1974. Comparative tolerance of walnut species, walnut hybrids, and wingnut to the root-lesion nematode, Pratylenchus vulnus. Plant Disease Reporter (1974) 58(5):630-633.

The authors tested a variety of walnut species, walnut hybrids and wingnut species to Pratylenchus vulnus. Pterocarya stenoptera (wingnut) proved to be the most tolerant.

27. Lucke, E. Untersuchungen zum Hafernematoden problems (5. Mitteiling). Mitt. Biol. Bundesanst. Land-Forstwirt, Berl.-Dahlem 136:41-49.

28. Lucke, E. 1976. (Pathotype investigations with populations of Heterodera avenae Woll. (1966-1975).) Zeitschrift fur Pfanzenkrankheiten und Pflanzenschutz. 1976. 83(11):647-656. (Ger) (English Summary).

Numerous cereal varieties from Denmark and Germany were tested in Germany for resistance to Heterodera avenae. The international cereal pathotype test determined that the following pathotypes existed in Germany: A and E very frequent, C less frequent and B and D very infrequent.

29. Lundin, P. 1969. Breeding of lucerne for resistance to stem nematode and Verticillium wilt. Sver. Utsädesför. Tidskr., 79 Supplement, pp. 133-139.

An alfalfa breeding line combining resistance to Ditylenchus dipsaci and Verticillium wilt was produced. Nematode resistance was due to a small number of major genes, but wilt resistance was more complex.

30. Lundin, P. 1969. Ljus i ålamörker? Weibulls Årsh. Växtförädl. Växtodling, Year 1969, pp. 12-14.

Breeding lines of barley, oats and wheat have been produced with resistance to Heterodera avenae, combined with resistance to mildew in some varieties.

31. Lundin, P. and Jonsson, H. A. 1974. (Weibull's Britta - a new medium-late diploid red clover variety with high resistance against clover rot.) Weibulls Britta - en ny medelsen, diploid rodklover med hog resistens mot kloverrota. Agri Hortique Genetica (1974) 32(1/4):44-54. (Swedish, English).

"Britta" a medium late variety of clover used in southern Sweden has satisfactory resistance to Ditylenchus dipsaci and Sclerotinia trifoliorum.

32. Lundin, P. and Jonsson, H. A. 1974. Weibull's Vertus, a lucerne variety with high resistance to stem nematodes and V erticillium wilt. Agri Hortique Genetica. 1974 33 (1/4):17-32.

A new variety of alfalfa ("Vertus") has been developed in Sweden that is highly resistant to Ditylenchus dipsaci.

33. Lupton, F. G. H. 1976. The plant breeders' contribution to the origin and solution of pest and disease problems. Cherrett, J. M.; Sagar. G. R. (Editors), Origins of pest, parasite, disease and weed problems. (18th Sympposium British Ecological Society, Bangor. 12-14 April 1976),pp. 71-81.

It is suggested that polygenetically inherited disease resistance be selected even though low levels of infection may be necessary. Multilines and varietial mixtures may be useful in controlling disease spread.

34. Lus'kova, L. A.; Gladkaya, R. M.; and Ponin, I. Ya. 1972. (Study of potato varieties resistant to Heterodera rostochiensis.) In Nematody rastenii. Voronezh, USSR: Tsentral'no-Chernozemnoe Knizhnoe Izdatel'stve. (1972) pp. 51-58 (Russian).

1. Macaron, J. 1975. [Studies on the resistance of two varieties of tomato to Meloidogyne spp. and Phytophthora parasitica.] Nematologia Mediterranea 3(1):35-41. [Fr Summary En, It]

   The tomato variety Piersol was resistant to M. incognita, M. arenaria and M. javanica. The mechanism of resistance involves the production of substances toxic to Meloidogyne larvae. The toxic phenolic compounds are discussed in detail.

2. Macaron, J., H. Latterot, P. Davet, K. Makkouk, and A. Revise. 1976. [Study of the behavior in Lebanon of varieties and hybrids of Lycopersicum esculentum Mill.] Poljopr Znan Smotra 39:113-119. [Fr].

3. MacDonald, K. H. 1956. A comparison of cysts of Heterodera rostochiensis from roots of resistant and susceptible plants. Phytopathology 46(1):19.

   Root diffusates of resistant potato lines Solanum andigenum, S. vernei and S. sucrense inhibited the hatching of larvae from Heterodera rostochiensis cysts.

4. Macedo, M. C. M. 1974. [Susceptibility of coffee to the reniform nematode.] Solo 66(2):15-16 (Plant Breeding Abstracts 47, 1472.) [Pt, Summary En].

   Resistance to Rotylenchulus reniformis is reported in coffea cane phora Guarini.

5. Mackie, W. W. 1934. Breeding for resistance in blackeye cowpeas to Fusarium wilt, charcoal rot, and nematode root knot. Phytopathology 24:1135.

   Resistance to root-knot was dominant in the F_1 progeny of a cross between iron cowpea (resistant) and a susceptible variety.

6. Madamba, C. P., J. N. Espina and L. T. Empig. 1974. Screening sugarcane varieties for resistance to root-knot nematode, Meloidogyne spp. Sugarcane Pathologists' Newsletter 11/12:27-31.

   4 of 40 sugarcane varieties tested were resistant to both Meloidogyne incognita and M. javanica, 12 were resistant to M. javanica only and 7 showed resistance only to M. incognita. The varieties and their reactions are listed.

7. Mahajan, R., J. S. Kanwar and K. S. Nandpuri. 1975. Field screening of some tomato varieties and hybrids against the root-knot nematode (Meloidogyne incognita.) Journal of Research. Punjab Agricultural University 12(1):40-42.

   85 hybrids and 18 parents were tested for resistance to Meloidogyne incognita. The variety Nematex was completely resistant and hybrids having Nematex as a parent also showed a high degree of resistance.

8. Mai, W. F. 1952. Susceptibility of Lycopersicum to the golden nematode. Phytopathology 42(8):461.

5 species and 4 varieties of Lycopericon were grown from seed in soil heavily infested with Heterodera rostochiensis. 2 collections of L. peruviarum showed resistance, having 0.4 and 1.0 females per gram of root as compared with 51 and 107 females per gram of root found in the 2 L. esculentum varieties. All the others tested were found to be susceptible.

9. Mai, W. F. and L. C. Peterson. 1952. Resistance of Solanum hallsii and Solanum sucreuse to the golden nematode, Heterodera rostochiensis Woll. Science. Lancaster, Pa. 116(3009):224-225.

Resistance derived from Solanum sucrense is variable in the progeny of crosses with standard potato varieties.

10. Makovskaya, S.A. 1975. [Pale potato nematode.] Zashchita Rastenii 2:49 [Ru].

Populations of potato cyst nematodes were differentiated by their effects on resistant and susceptible potato varieties. 2 strains were found to be H. rostochiensis and one agreed morphometrically with H. pallida.

11. Malec, K. [Potato varieties resistant to the nematode Heterodera rostochiensis.] Ochrona Roslin 16(4):10-11. [Pol].

12. Malec, K. 1973. [Results of preliminary investigations on the prevalence of biotypes of the potato root eelworm (Heterodera rostochiensis Woll.).] Biuletyn Instytutu Ziemniaka 10:75-81 [Pl, en, ru].

Two of 656 Heterodera rostochiensis populations (in Poland) formed cysts on the potato variety Specula which is resistant to H. rostochiensis biotype A. Another population infected Solanum nigrum (resistant to biotype A), but did not infect Specula.

13. Malec, K. and K. Stefan. [Investigations into the resistance of tomatoes to the potato root eelworm, Heterodera rostochiensis Woll.] Biuletyn Instytutu Ziemniaka 12:129-136 [Pl, en ru]. Plant Breeding Abstracts 45,2393.

Of 278 varieties and 57 non-economic species and forms of tomato, only Lycopersicon pimpinelli folium showed complete resistance. A relatively high degree of resistance was seen in other L. pimpenelli folium forms, some botanical varieties of L. esculentum and in the cultivars Gingian-ju and Rote Beere.

14. Malloch, W. S. 1923. The problem of breeding nematode-resistant plants. Phytopathology 13(10):436-450.

15. Malo, S. E. 1965. Morphologicl evaluation of the nature of resistance in peach selections to the root-knot nematode Meloidogyne javanica. Diss. Abstract 25(10):5487.

Nature of resistance--nematode development was abnormal and apparently stopped completely after advanced stages of giant cell walling off in resistant plants.

16. Malo, S.E. 1967. Nature of resistance to Okinawa and Nemaguard peach to the root-knot nematode Meloidogyne javanica. Proceedings of the American Society of Horticulture Science 90:39-46.

    Resistance is due to incomplete development of giant cells which were initiated in the resistant plants.

17. Mankau, G. R. and M. B. Linford. 1956. Soybean varieties tested as hosts of the clover cyst nematode. Plant Disease Reporter 40(1):39-42.

    27 varieties of soybean were grown in soils heavily infested with Heterodera schachtii var. trifolii. Larvae entered the roots of all varieties, but further development was inhibited in 19. Poorly developed females, without eggs, were found on 6 varieties. Females which had failed to develop and a small number of eggs were found on the varieties Earlyana and Dunfield.

18. Mankau, R. 1958. Pathological disturbances caused by Heterodera trifolii in susceptible and resistant plants (Abstract) Phytopathology 48(8):395.

    Only occasionally did Heterodera trifolii females develop normally on red clover and other resistant crops. The size and rate of development of the nematode on susceptible plants (Ladino clover) were related to the size and rate of development of the synctia around the heads of the attacking nematodes.

19. Manser, P. D. 1971. Notes on the rice root-knot nematode in Laos. FAO Plant Protection Bulletin 19(6):138-139.

    More than 8 rice varieties were planted in Laos in soil infested with Meloidogyne graminicola in an attempt to discover resistant varieties. In all cases, there was some degree of infection. A list of susceptible varieties is given. Lists of hosts and non-hosts of M. graminicola in Laos, with comparable data for the USA are also included.

20. Marrewijk, G. . M., van and O. M. B. de Ponti. 1975. Possibilities and limitations of breeding for pest resistance. Mededelingen van de Faculteit, Landbouwwetenschappen Rijksuniversiteit Gent. 40(2/1):229-247.

    Potato varieties resistant to Heterodera rostochiensis are mentioned.

21. Martin, G. C. 1961. The susceptibility of clovers (Trifolium spp.) and trefoils (Lotus spp.) to the common root-knot nematode Meloidogyne javanica. Rhodesia Agricutural Journal 58(1):62-65.

    Of 2 species of Lotus and 17 of Trifolium grown in a field heavily infested with M. javanica, all but 3 varieties of L. corniculatus were heavily galled.

22. Martin, G. C. and A. M. Armstrong. 1975. Susceptibility of apricot seedlings, pyrethrum and pangola grass to Meloidogyne spp. Nematological Society of Southern Africa Newsletter 7:20-21.

    All but one apricot (Prunus armeniaca) seedlings exposed to Meloidogyne javanica became heavily galled. Chrysanthemum cinerariifolium was heavily infected when exposed to M. hapla, plants exposed to M. javanica usually showed some galling with 2 plants having heavy infection and 2nd stage larvae. Pangola grass (Digitaria decumbers) remained free of galls when exposed to M. javanica.

23. Martin, J. P. and W. P. Bitters. 1962. Greenhouse citrus replant studies with various rootstock seedlings and rootstock-scion combinations. Proceedings of the American Society of Horticulturalists 80:274-284.

    13 years of study dealing with a complex of various citrus root parasites such as Tylenchulus semipenetrans and various fungi, as well as the effects of different chemical and physical soil factors, resulting in the marked reduction in tree growth or in feeder root decay, are summarized in this report.

24. Martin, W. J. 1953. Reaction of the Deltapine 15 variety of cotton to different isolates of Meloidogyne. Phytopathology 43:292. Abstract.

    13 M. incognita, M. incognita var. acrita and M. hapla isolates from 22 host plants in different parts of Louisiana failed to develop on cotton, but other isolates multiplied rapidly and affected the cotton.

25. Martin, W. J. and W. Birchfield. 1973. Further observations of variability in Meloidogyne incognita on sweetpotatoes. Plant Disease Reporter 57(3):199.

    Found a race of M. incognita severely pathogenic on soybeans but failing to develop mature females on a sweetpotato (Centennial) considered very susceptible to root-knot nematodes. Also, a race of M. incognita severely pathogenic and reproducing abundantly on a sweetpotato (Louisiana 4-73) previously considered resistant to M. incognita populations.

26. Martin, W. J., W. Birchfield and T. P. Hernandez. 1966. Sweetpotato varietal reaction to the reniform nematode. Plant Disease Reporter 50:500-502.

    Of 24 sweet potato selections tested, cultivar Goldrush was the least suitable to reniform nematode, but it was very susceptible to root-knot nematode. Indicated that factors controlling suitability of sweet potatoes as hosts for the reniform nematode differ from those controlling resistance to root knot.

27. Martin, W. J., L. W. Nielsen and L. S. Morrison. 1970. Diseases. In: Thirty years of cooperative sweet potato research 1939-1969. Bulletin of the Southern Cooperative Series 159:46-48.

    The resistance of 47 sweet potato varieties and selections to Meloidogyne spp. is given.

28. Masood, A. and S. I. Husain. 1974. Biochemical study of the root-knot disease of vegetables. I. Phenolic and ortho-dihydroxy phenolic changes and their role in the resistance and susceptibility of three tomato varieties. Simposio Internacional (XII) de Nematologia, Sociedad Europea de Nematologos,1-7 Septiembre, 1974, Granada, Spain, p. 69.

29. Masood, A. and S. I. Husain. 1975. Carbohydrate changes and their role in the resistance and susceptibility of three tomato varieties against root-knot disease. Geobios 2(5):132-135.

    The resistant plant, Nemared, had the highest concentration of carbohydrate in its shoots and roots; the lowest concentrations were seen in the Marglobe variety (highly susceptible). Changes in concentration were seen with the age of the seedlings.

30. Masseneer, J. de. 1964. Leaf browning of Ficus sp. new host plants of Aphelenchoides fragariae (Ritzema Bos.). Nematologica 10:403-408.

    Unlike healthy leaf tissue, browned portions of the leaf contained chlorogenic acid. Polyphenols can be liberated in the host by action of beta-glucosidase on conjugated phenols. Presence of the enzyme in A. fragariae was demonstrated.

31. Mastenbroek, C. and P. Schelling. 1970. [Two new Cebeco varieties in the 1970 varietal list.] Twee nieuwe Cebeco-rassen in de rassenlijst 1970. Samen Sterk 54(1):16-17.

    Resistance to Heterodera rostochiensis has been found in the new potato variety, Amigo.

32. Mathison, M. J. 1966. Field resistance of Oat cultivars to cereal root eelworm (Heterodera avenae). Australian Journal of Experimental Agriculture and Animal Husbandry 6(21):179-182.

    Orient, New Zealand Cape and other contemporary oat cultivars were tested for resistance to Heterodera avenae. It was found that the infestation of a susceptible crop is not necessarily followed by lower yields in the subsequent crops.

33. Mathur, B. N., H. C. Arya, H. C. Mathur and D. K. Handa. 1974. The occurrence of biotypes of the cereal cyst nematode (Heterodera avenae) in the light soils of Rajasthan and Haryana, India. Nematologica 20(1):19-26.

    5 biotypes of Heterodera avenae have been established from 76 Indian populations tested on a range of indicator varieties of cereals and grasses. They appear to be different from those recorded in Denmark, the Netherlands, Britain, German and Australia.

34. Mathur, R. L., D. K. Handa and B. N. Mather. 1973. Resistance of varieties of cowpea, green gram and guar to root knot nematodes (Meloidogyne javanica and M. incognita). Indian Journal of Mycology and Plant Pathology 3(2):182-183.

20 varieties of green gram (Phaseolus mungo), 20 varieties of cowpea (Vigna sineusis) and 8 varieties of guar (Cyamopsis tetragonoloba) were tested against M. javanica and M. incognita. 2 varieties of guar were considered immune, the other 6 varieties were tolerant or moderately tolerant. Green gram varieties, T44 and T2 were immune and moderately resistant respectively and the cowpea variety RS9 was also moderately resistant.

35. Mathur, R. L., D. K. Handa, B. M. Mathur and P. K. Dixit. 1971. Relative susceptibility of brinjal varieties to, and host range of, Meloidogyne javanica causing root-knot in Rajasthan. Indian Journal of Mycology and Plant Pathology 1(2):132-135. From Plant Breeding Abstracts 44, 1212.

36. Mathur, R. L., D. K. Handa, B. M. Mathur and A. Kumar. 1972. Field screening of muskmelon (Cucumis melo L.) against root knot nematode Meloidogyne javanica (Treub) Chitwood. Indian Phytopatholgoy 24(3):601-604.

    66 varieties and selections and 80 crosses of 10 parents of muskmelon (Cucumis melo) were tested for susceptibility to M. javanica. Some of the crosses were tolerant, but all were susceptible to varying degrees.

37. Matsumoto, S. 1974. Resistance to soybean cyst nematode by soybean variety. Japan Agricultural Research Quarterly 8(4):189-193.

    A brief review of soybean breeding programs for resistance to Heterodera glycines in Japan and a list of resistant varieties bred in Japan are included.

38. Matsumoto, S. 1976. [On the new soya-bean variety Karumai.] Bulletin of the Tohoku National Agricultural Experiment Station 52:31-48. (Plant Breeding Abstracts 47, 6024.) [Ja, Summary En].

    The new soybean variety Karumai derived from Tohoku 6 x Yamashiratama cross is resistant to Heterodera glycine.

39. Mattson, B. 1975. [Sol II, an oat variety with field resistance to nematodes.] Aktuellt fran Svalof 1:25-27. [Sv]

    The oat variety Sol II had significantly fewer cyst develop than other varieties in 3 years of testing. Resistance is seen in the reduced ability of the nematodes to penetrate the roots.

40. Maxwell, J. D., H. L. Musen and C. W. Blackmon. 1971. Lance nematode resistance in soybeans. Agronomy Abstracts 36.

    4 of 192 lines of soybean tested for resistance to Hoplolaimus columbus, were tolerant. No correlation was found between resistance to this nematode and resistance to Heterodera glycines.

41. McClure, M. A. 1972. Comparative biochemistry of cotton resistant and susceptible to the root-knot nematode. Phytochemistry 11(2):2209-2212.

Cotton varieties resistant and susceptible to the root-knot nematode, Meloidogyne incognita, have been compared by selection analyses of naturally occurring constituents of the roots. Quantitative data are presented on the occurrence of amino acids, free sugars, fatty acids, sterols, total lipids, total phenols and gossypol. No qualitative differences and only small quantitative differences between varieties were detected.

42. McClure, M. A., K. C. Ellis and E. L. Nigh. 1974. Resistance of cotton to the root-knot nematode, Meloidogyne incognita. Journal of Nematology 6(1):17-20.

Cotton plants resistant to Meloidogyne incognita had roots characterized by fewer and smaller galls and females that produced fewer egg masses than did susceptible plants. Penetration of the resistant cultivar was equal to that of the susceptible cultivar and independent of the number of nematodes in the inoculum.

43. McClure, M. A., K. C. Ellis and E. L. Nigh. 1974. Post-infection development and histopathology of Meloidogyne incognita in resistant cotton. Journal of Nematology 6(1):21-26.

3 types of histologicl responses were observed in infected, resistant roots, and these correlated with the degree of nematode development. Some galls contained only fragments of nematodes, others contained no detectable traces of developing larvae.

44. McClure, M. A. and E. L. Nigh. 1970. Cotton resistance to root-knot nematodes: penetration and post-infection development. Cotton Improvement Conference Proceedings 1970:68

45. McElroy, F. D. 1972. Nematodes of tree fruits and small fruits. In: Webster, J. M. (ed) Economic nematology. London, UK: Academic Press, pp. 335-376.

46. McFarland, J. S., E. Hartzler and W. A. Frazier. 1946. Breeding tomatoes for nematode resistance and for high vitamin C content in Hawaii. Proceedings of the American Society of Horticulture Science 47:262-270.

Lycopersicon esculentum x L. peruvianum produced 5 plants: 3 highly resistant to root-knot and 2 moderately resistant. Only one F_1 plant produced progeny: they were resistant but had higher gall index than of the F_1. The F_2 was not fertile with L. esculemtum.

47. McGuire, D. C. and R. W. Allard. 1958. Testing nematode resistance in the field. Plant Disease Reporter 42:1169-1172.

Tests of parents and F_3 families of many crosses of Phaeolus lunatus indicated that there were several genes for resistance in the collection. Resistance in strain L76 could be accounted for by one or two major genes.

48. McGuire, D. C., R. W. Allard and J. A. Harding. 1961. Inheritance of root knot nematode resistance in lima beans. American Society of Horticultural Science Proceedings 78:302-307.

Tests of F_2 and F_3 plants indicated resistance was controlled by up to three major genes.

49. McLeod, R. W. 1976. Sources of resistance to Heterodera avenae Woll. in New South Wales. Proceedings of the Linnean Society of New South Wales 100(3):195-201.

Australian cultivars of wheat, oats, barley and rye, and European cereal cultivars and lines were tested for resistance to the local pathotype of H. avenae.

50. Melard, V. 1970. [The new potato varieties onthe Belgian list.] Les nouvelles varietes de pommes de terre de la list belge. Rev. Agric., Brux. 23(9):1275-1281.

The potato variety Marijke was resistant to Heterodera rostochiensis.

51. Melard, V. 1972. ['Scaldia', a Belgian variety of potato resistant to the golden nematode (Heterodera rostochiensis Woll.).] Revue de l'Agriculture 25(4):597-602. [Fr]

Resistance to H. rostochiensis derived from Solanum andigenum has been established in the potato variety Scaldia.

52. Melard, V. 1972. [Studies on the genetic improvement of the potato in Belgium.] Revue del'Agriculture 25(8):1073-1081 [Fr].

Breeding of improved varieties of potato with resistance to Heterodera rostochiensis with resistance derived from Solanum andigenum continues.

53. Metlitski, O. Z. 1967. [On the possibility of obtaining strawberry varieties resistant to stem nematodes.] Trudy gel'mint. Lab., 18:69-78 [Ru].

54. Michell, R. E. and D. I. Edwards. 1973. Susceptibility of soybean to Meloidogyne naasi. Plant Disease Reporter 57(3):207-209.

An Illinois isolate of the barley root-knot nematode, Meloidogyne naasi, parasitized Hawkeye 63 soybean, but was not pathogenic at the highest inoculum level of 8000 larvae. Ten varieties were screened for susceptibility to M. naasi; all varieties, with the exception of Bragg, which was a nonhost, were poor hosts. A small number of galls were observed on Paragg, all of which were devoid of females.

55. Mikhnova, E. S. 1958. [Litovskaya opitnaya stantsiya po koloradskomu zhuku, nematodam i raku kartofelya, USSR.] [A study of the susceptibility and resistance of some species of Solanaceae to Heterodera rostochiensis Woll.] Papers on Helminthology presented to AcademicianK. I. Skryabin on his 80th birthday. Moscow: Izdatelstvo Akademii Nauk SSSR, pp. 228-230 [Ru].

Solanum melongena, Nicotiana rustica, Capsicum annuatum, Physalis mexicana, Solanum nigrum, Hyoscyamus niger, H. niger, H. niger var. albus, H. agrestis, Datura Stromonium and D. inermis were resistant to infection by Heterodera rostochiensis.

56. Miles, L.E. 1939. Some tests of varietal susceptibility to a combination of root-knot nematode and cotton wilt. Phytopathology 29:974-978.

Of 31 varieties of cotton tested, Sea Island 13133 had the lowest pecentage (44.53) of plants infested with root-knot.

57. Miller, L. I. 1970. Fecundity of Heterodera virginiae on 63 lines or varieties of Nicotiana tabacum. Abstract. Va J. Science 21:102.

63 lines and varieties of Nicotiana tabacum varied in reaction to Heterodera virginiae.

58. Miller, L. I. 1972. Resistance of plant introductions of Arachis hypogaea to Meloidogyne hapla, Meloidogyne arenaria and Belonolaimus longicaudatus (Abstract) Virginia Journal of Science 23(3):101.

Of 2000 peanut selections tested for resistance to B. longicaudatus, M. hapla and M. arenaria, all were susceptible to the nematodes. Two lines were resistant to one population of M. hapla, indicating presence of pathotypes.

59. Miller, L. I. 1973. Development of a Virginia isolate of Meloidogye arenaria on eighteen inbred lines of Zea mays. (Abstract) Virginia Journal of Science 24(3):110.

Of 18 lines of Zea mays grown for 2 months in Meloidogyne arenaria-infested soil, 6 were free of egg masses and galls and 10 were only lightly infested.

60. Miller, L. I. 1974. Susceptibility of Norman pigeon pea (Cajanus cajan) to certain isolates of Heterodera glycines. (Abstract). Virginia Journal of Science 25:51.

61. Miller, L. I. 1975. Susceptibility of tomato (Lycopersicon esculentum) to certain isolates of the soybean cyst nematode (Heterodera glycines). Proceedings of the American Phytopathological Society 2:125.

62. Miller, L. I. and P. L. Duke. 1969. Fecundity of Heterodera tabacum on 42 lines or varieties of Nicotiana tabacum. (Abstract). Virginia Journal of Science 20:99.

9 lines of Nicotiana tabacum showed moderate to high resistance to Heterodera tabacum.

63. Miller, L. I. and J. A. Fox. Specificity of resistance of inbred lines of Zea mays to races of Meloidogyne incognita (Abstract). In International Congress of Plant Pathology(2nd), Minneapolis,Minnesoata, September 5-12, 1973.

Results of resistance tests indicate that in the corn hybrids studied the resistance is race specific and possibly a gene-for-gene relationship exists in the host-parasite interaction.

64. Miller, L. I. and L. Spasoff. 1970. Fecundity of the undescribed Osborne's cyst nematode on 62 lines or varieties of Nicotiana tabacum. Virginia Journal of Science 21:103.

Reactions of N. tabacum to Heterodera virginiae were variable, with some lines showing tolerance or resistance.

65. Miller, L. I., A.R. Stone, L. Spasoff and D. M. Evans. 1974. Resistance of Solanum tuberosum to Heterodera solanacearum (Abstract). Proceedings of the American Phytopathological Society 1:153.

Solanum tuberosum is not susceptible to Heterodera solanacearum.

66. Milne, D. L. 1966. Screening of Nicotiana plants for resistance to Meloidogyne spp. by the use of hypersensitive root reaction. South African Journal of Agricultural Science 9(2):435-441.

A simple method of detecting hypersensitivity has been used to assess the resistance of Nicotiana species and cultivars to Meloidogyne javanica and in some cases to M. incognita acrita. Reactions of roots after 3 days were correlated with degree of galling after 8 weeks. Technique is proposed as rapid screening method for the selections of resistant breeding material. A number of new sources of hypersensitivity to M. javanica in the genus Nicotiana are noted.

67. Milne, D. L. 1972. Nematodes of tobacco. In: Webster, J.M. (Ed.) Economic nematology. London, UK: Academic Pess 159-186.

No commercial variety of tobacco has yet been developed for resistance to Meloidogyne javanica.

68. Milne, D. L., D.N. Boshoff and P.W. W. Buchan. 1965. The nature of resistance of Nicotiana repanda to the root-knot nematode, Meloidogyne javanica. South African Journal of Agricultural Science 8(2):557-570.

Tests carried out to discover the nature of resistance of N. repanda roots revealed that the roots contained more chlorogenic acid and 33% higher chlorogenic acid oxidase activity than N. tabacum (susceptible to M. javanica). Oxidation of the polyphenols may retard nematode development by inhibiting exoenzymes.

69. Milne, D. L., F. A. Kuhne, H. T. Brodrick, J. M. Logie, E. A. De Villiers and R. Wood. 1975. Yellow granadilla Passiflora edulis. outshines purple granadilla in yield and disease resistance. Citrus Sub-Tropical Fruit Journal 502:11-12, 24.

70. Minton, N.A. 1961. Investigations into the resistance of cotton for root-knot nematodes, Meloidogyne spp. Dissertation Abstract 21(10):2851.

71. Minton, N. A. 1961. Root histopathology of root-knot resistant and susceptible cotton. (Abstract of paper presented at 37th Annual meeting of the Southern Division, American Phytopathology Society.) Phytopathology 51(9):644.

A highly resistant wild selection of Gossypium barbadense was inoculated with Meloidogyne incognita acrita larvae and the reactions were compared with those of two G. hirsutum varieties, Auburn 56 (moderately resistant) and Rowden (highly susceptible).

72. Minton, N. A. 1962. Factors influencing resistance of cotton to root-knot nematodes (Meloidogyne spp.) Phytopathology 52:272-279.

Conditions within the roots of resistant cotton varieties that prevent or delay larval development and not the failure of nematodes to penetrate the roots, or the morphological characteristics of the roots, are responsible for the resistance to Meloidogyne incognita acrita. Resistance in Gossypium barbadense to M. incognita acrita is associated with several reactions: increased root necrosis, reduced hypertrophy and hyperplasia, a reduction in tissue organization and failure of the nematode to develop.

73. Minton, N.A., W. C. Adamson and G. A. White. 1970. Reaction of kenaf and roselle to three root knot nematode species. Phytopathology 60(12):1844-1845.

Hibiscus cannabinus and H. sabdariffa resistance to Meloidogyne incognita acrita, M. javanica and M. arenaria are reported. H. cannabinus showed good, uniform resistance to all 3 species and H. sabdariffa was resistant to M. incognita acrita and M. javanica but not to M. arenaria.

74. Minton, N. A., E. J. Cairns and A. L. Smith. 1960. [Crops Research Division,ARS, USDA, Auburn, Alabama, USA] Effect on root-knot nematode populations of resistant and susceptible cotton. Phytopathology 50(11):784-787.

Reproduction of Meloidogyne incognita acrita was slow on resistant cotton lines (Gossypium barbadense, a Mexican line of G. hirsutum and Auburn 56), on more susceptible lines (Empire and Rowden of G. hirsum, reproduction was rapid.

75. Minton, N. A. and E. D. Donnelly. 1967. Additional Vicia species resistant to root-knot nematodes. Plant Disease Reporter 51(7):614-616.

V. calcarata, V. serratifolia, V. cornigera and seventeen F_7 and F_8 hybrids from V. sativa x V. cordata are resistant to Meloidogyne incognita, M. i. acrita and M. javanica but susceptible to M. arenaria and M. hapla. V. leganyana and V. anqustifolia are susceptible to all five Meloidogyne spp.

76. Minton, N. A. and E. D. Donnelly. 1973. Nematode-resistant Sericea being developed. Georgia Agricultural Research 14(3):7-9.

High forage yields and resistance to Meloidogyne spp. are 2 of the characteristics of Lespedeza sericea lines being developed.

77. Minton, N. A., E. D. Donnelly and R. L. Shepherd. 1966. Reactions of Vicia species and F_5 hybrids from V. sativa x V. anguistifolia to 5 root-knot nematode species. Phytopathology 56(1):102-107.

Histopathological studies of resistance to Meloidogyne incognita, M. incognita acrita, M. javanica, M. arenaria and M. hapla in Vicia spp. and in F_5 hybrids from V. sativa x V. augustifolia crosses are reported.

78. Minton, N. A., E. D. Donnelly and R. L. Shepherd. 1966. Reaction of varieties and breeding lines of Sericea (Lespedeza) to 5 root-knot nematode species. Phytopathology 56(2):180-182.

Several breeding lines of Lespedeza cuneata were resistant to one or more of the following: Meloidogyne incognita incognita, M. incognita acrita and M. hapla. Resistance to M. arenaria or M. javanica was seen in individual plants. Some of the Sericea lines were resistant to M. hapla, with some resistance also seen to M. incognita incognita and M. incognita acrita.

79. Minton, N. A. and R. O. Hammons. 1975. Evaluation of peanut for resistance to the peanut root-knot nematode, Meloidogyne arenaria. Plant Disease Reporter 59(12):944-945.

All of the 512 cultivars, breeding lines and plant introductions of Arachis hypogea tested were susceptible to M. arenaria. The names of the peanut entries are not given.

80. Minton, N. A., M. B. Parker and R. A. Flowers. 1975. Response of soybean cultivars to Meloidogyne incognita and to the combined effects of M. arenaria and Sclerotium rolfsii. Plant Disease Reporter 59(11):920-923.

Soybean varieties Bragg, McNair, Bossier an FFR666 showed resistance to M. arenaira. Varieties Bragg, McNair, Coker 136, Hutton, Coker 71-211, Coker 338 and Cobb were resistant to M. incognita.

81. Minz, G. and E. Cohn. 1962. Susceptibility of peach rootstocks to root-knot nematodes. Plant Disease Reporter 46(7):531-534.

Peach variety S-37 showed some (variable) resistance to M. javanica; Krabi apricot was completely resistant.

82. Misuraca, S.A. 1971. Effect of root-knot nematodes, Meloidogyne incognit on sweet potato cultivars. Dissertation Abstracts International 31B(8):4430-4431.

83. Mizogani, T. Anatomical research on the resistance of sweet potato to the root-knot nematode. 1947. Proceedings of the Meeting AGr. Res.Workers in Kyushu Vol. I:19-20.

Described necrosis in invaded roots of sweet potato.

84. Moh, A. E., S. H. Nassar, and M. S. Attia. 1972. Gawaher (Gize 1), a tomato variety with resistance to the root knot nematode. Agricultural Research Review, Arab Republic of Egypt 50(4):39-45.

Resistance in tomato to Meloidogyne incognita acrita and M. javanica appears to be controlled by dominant genes. Most of 88 varieties tested were susceptible.

85. Mohammed, A. 1970. Relative resistance of 25 varieties of wheat against ear cockle of wheat (Anguina tritici). (Plant Breeding Abstracts 42, 4665.) In Pakistan Science Conference (21st-22nd), Rajshahi, 1970, Part III, Proceedings. Lahore, Pakistan: Association for Advancement of Science A81-A82.

Data are presented on the percentage incidence of A. tritici on each of 25 varieties, Nainari 60 and Pitic 62 were least affected.

86. Monastra, F., C. Fideghelli, P. Manzo, A. Cirillo and G. Grassi. 1976. [Apricot rootstocks.] Frutticoltura 38(9):17-21. (Plant Breeding Abstracts 47, 4590.) [It].

Peach rootstocks INRA GF 305, Nemaguard S37 and S60, and Marianna 2624 resist Meloidogyne incognita. Marianna 2624 also resists M. javanica.

87. Montaldo, A. 1951. Fitomejoramiento para resistencia a la nematosis de la papa. Agricultura Tecnica. Chile. 11(1):64-65.

Resistance to Heterodera marioni was found in 28 of 896 potato varieties and seedlings. Varieties Royal Kidney and C77-1 have been resistant in trials for 5 years. Resistance is conditioned by recessive genes.

88. Montaldo, A. 1974. Sources of resistance to the cyst nematode in Venezuela. Revista de la Facultad de Agronomia, Univ. Central de Venezuela 7(4):37-61. [Es].

Heterodera rostochiensis cysts from 2 localities in Venezula produced cysts on potato varieties with the H_1 gene for resistance indicating the presence of pathotype A. Extensive bibliography is included.

89. Moore, E. L., P. N. Drolsom, and E. E. Clayton. 1955. High Black Shank resistance and tolerance to parasitic nematodes in flue-cured tobacco. Phytopathology 45:349. Abstract.

Dixie Bright 102 crossed with susceptible Hicks and Bottom special. The latter was further crossed in F_2 to Dixie Bright 101. F_6 lines from Hicks cross had higher resistance than, and F_5 lines from the Bottom Special cross had equivalent resistance of, Dixie Bright 102. The lines had tolerance to root-knot and meadow nematodes.

90. Moore, R. S. 1940. Nematode resistant rootstocks. California Cultivator 87:125, 133.

91. Moraes, M. V. de, L. G. E. Lordello, O. A. Piccinin and R. A. Lordello 1973. [Susceptibility of coffee trees to a root-knot nematode.] Nematological Mediterranea 1(2):107-110 [Pt, it en].

    Allof the varieties of Coffee of the species Coffea arabica, C.canephora, C. excelsa and C. congensis) tested were susceptible to 2 populations of Meloidogyne incognita.

92. Morozova, E. 1973. [Resistance of tubers of Solanum andigenum to mechanical injuries and nematodes.] Kartofel Ovoschi 12:9-10 [Ru].

    Twenty-seven varieties of Solanum andigenum resistant to Heterodera rostochiensis and 22 to Ditylenchus dipsaci are listed.

93. Morozova, E. 1975. [The use of Solanum andigenum in breeding potato.] Kartofel' i Ovoshchi 10:10-11. Plant Breeding Abstracts 46,3482 [Ru].

    The author lists the breeding forms of Solanum andigenum tested in Leningrad provience, USSR for resistance to Heterodera rostochensis.

94. Morrison,L. S. 1970. Nematode diseases. In; Thirty years of cooperative sweet potato research 1939-1969. Bulletin of the Southern Cooperative Series 159:56-59.

    Meloidogyne incognita resistance is found in several varieties of sweet potato. Jersey lines are resistant to Meloidogyne spp. Physiological race sexist in M. incognita and M. incognita acrita. Goldrush was the least suitable for Rotylenchulus reniformis.

95. Mosiek, M. 1975. New potato varieties of the Institute for Potato Research, Bonin: Rys (Z49598). Ziemniak 2:269-271. Plant Breeding Abstracts 46, 11232, 11237.

    A potato variety Rys (Lynx) bred from Spekula x 32089 and Epoka is resistant to Heterodera rostochensis race A.

96. Mountain, W. B. and Z. A. Patrick. 1959. The peach replant problem in Ontario. 7. The pathogenicity of Pratylenchus penetrans. Canadian Journal of Botany 37:459-470.

    Lesion nematode enzymes hydrolize amygdalin, releasing hydrocyanic acid which is detrimental to the parasite and the host tissue. Resistant peach rootstocks are characterized by high concentrations of amygdalin.

97. Mukhopadhyaya, M. C., M. R. Dalai, S. Saran and S. S. Kharub. 1972. Studies on the molya disease of wheat and barley. Indian Journal of Nematology 2:11-20.

    Although susceptible, wheat varieties Kalyan Sona dn PV18 supported fewer cysts than other varieties tested.

98. Murai, T., S. Kato, T. Yamada and S. Fujita. 1976. [Breeding the flue-cured variety F210, resistant to bacterial wilt, black shank and root knot nematode.] Bulletin of the Iwata Tobacco Experiment Station 8:11-24. (Plant Breeding Abstracts 47, 3520.) [Ja].

Resistance to Meloidogyne incognita, Phytophthora parasitica var nicotianae and Pseudomonas solanacearum are inherited from the Coker 254 parent of F210 (cross fo GH4 with Coker 254).

99. Murai, T., T. Yamada, Y. Ohashi and Y. Shimizu. 1975. [Breeding of the flue-cured variety F209 with multiple disease resistance.] Bulletin of the Iwata Tobacco Experiment Station (Iwata Tabako Shikenjo Hokoku). 7:1-17. (Plant Breeding Abstracts 46, 2667). [Ja].

Resistance of tobacco variety F209 to Meloidogyne spp. is one of the characteristics of this variety.

100. Murai, T., T. Yamada, Y. Shimizu, M. Oka, et. al. 1975. [Results of trials of the flue-cured varieties F202 and Coker 254 with multiple disease resistance.] Bulletin of the Iwata Tobacco Experiment Station (Iwata TAback Shikenjo Hokoku). 7:49-70. (Plant Breeding Abstracts 46, 2665) [Ja].

Varieties of tobacco including Coker 254 and F202 resistant to Meloidogyne spp. and other pathogens are rated for quality and yields.

101. Muralidharan, R. and C. V. Sivakumar. 1975. Susceptibility of certain Indian varieties of cotton and wild species of Gossypium to the reniform nematode, Rotylenchulus reniformis. Indian Journal of Nematology 5(1):116-118.

A number of varieties of Gossypium were tested for resistance to Rotylenchulus reniformis and varieties K7, K8 of G. arboreum and all wild types were most resistant.

102. Murphy, H. J., M. J. Goven, D. R. Wilson, O.C. Wells, W. R. Kelley, R. Jensen and S. C. Wiggans. 1970. Potato variety trials for 1969. Bulletin Me Agric. Experiment Station 683:68 pp.

Characteristics of a potato variety Peconic reported resistant to Heterodera rostochiensis are given.

103. Muse, Barbara D. 1969. Histopathology of susceptible and resistant reactions in Wando pea seedlings to two populations of Ditylenchus dipsaci. Annual Abstracts (8) Society of Nematology, Journal of Nematology 1(4):299.

The garden pea (Pisum satvum var. Wando) responds differentially to the Raleigh, NC (RNC) and Waynesville, NC (WNC) populations of Ditylenchus dipsaci. RNC causes conspicuous gall formation on pea seedling shoots whereas WNC produces necrotic reaction and eventual death of the apical meistem.

104. Muthukrishan, T. S., et. al. 1975. Varietal susceptibility of certain rootstocks to citrus nematode, Tylenchulus semipenetrans. South Indian Horticulture 23(3/4):91-93.

The hybrid Troyer citrange was most resistant to Tylenchulus semipenetrans of several citrus species tested.

1. Naik, S. M. and B. S. Yadav. 1973. Seedling and plant reaction of selected tomato varieties to root-knot nematode Meloidogyne incognita (Kofoid & White, 1919) Chitwood, 1949. Indian Phytopathology, 26:723-725.

   Although all 13 varieties tested were susceptible, some were less so than others.

2. Naqvi, S. Q. A. and K. Mahmood. 1974. Responses of certain varieties of sugar beet (Beta vulgaris saccharifera) to the attack of the root-knot nematode, Meloidogyne incognita (Kofoid & White) Chitwood. Labdev Journal of Science and Technology, 12B(2):85-86.

   Of the varieties tested, only Kws sacchapsly showed resistance.

3. Naumova, G. A. 1972. [Introduction and results of an investigation of foreign and new local strawberry varieties.] IN. Kul'tura zemlyaniki v SSSR. Doklady simpoziuma, (28 iyunya - 1 iyulya 1971). Moscow, USSR; "Kolos", 294-298. [Ru]

   Of 400 varieties tested, 11 were relatively resistant to Aphelenchoides fragariae and 12 showed some resistance to Ditylenchus dipsaci.

4. Nayar, M. and K. K. Nirula. 1969. Breeding for resistance to root-knot nematodes affecting Potatoes. All India Nematology Symposium, New Delhi, Aug. 21-22, 1969, pp. 57-58. (Abstract)

5. Nazarenko, B. P. and Y. P. Boiko. 1972. [Some results of investigations of nematode resistant species and hybrids of potato.] IN. Nematodnye bolezni sel'skokhozyaistvennykh kul'tur i mery bor'by s nimi. Tezisy soveshchaniya. Moskva, Dekabr' 1972. Moscow, USSR; VASHNIL. 79-80. [Ru](Abstract)

6. Nelson, R. R. 1956. Resistance to the stunt nematode in corn. Plant Disease Reporter, 40:635-639.

   Corn hybrids, inbreds and single crosses were tested for resistance to Tylenchorhynchus claytoni. Resistance was relative and appeared to be recessive.

7. Nelson R. R. 1967. Resistance in corn to Meloidogyne incognita. Phytopathology, 47:25-26. (Abstract)

   Resistance was relative and some lines, though heavily galled, showed no loss in root weights, indicating tolerance. Inheritance of resistance appeared to be recessive.

8. Nemazi, J. 1961. A preliminary study of the relationship of the sugarbeet nematode Heterodera schachtii to three varieties of red tomatoes. Journal American Society Sugar Beet Technologists, 11(6):482-484.

   All three varieties were infested with cysts, but variety T3 had fewer cysts than Moscow A and B.

9. Nesbitt, W. B. 1974. Breeding resistant grape rootstocks. Horticultural Science, 99(4):359-361.

10. Nesterov, P. I. and B. I. Bukhar. 1971. [Heterodera schachtii on cabbage.] IN: Parazity zhivotnykh i rastenii. Kishinev: RIO Akademii Nauk Moldavskoi SSR, 6:106-108. (Ru)

    Early variety 'Stava 1305' and late variety 'Zavadovskaya' were more resistant than the other two varieties tested.

11. Netscher, C. 1970. "Les nematodes parasites des cultures maraîchères au Sénégal." Cah. O.R.S.T.O.M., Série Biologie, 11:209-229. [English summary pp. 209-210.]

    In tests for resistance to isolates of Meloidogyne incognita and M. javanica, onion and red pepper were slightly susceptible but strawberry and groundnut were resistant. With one isolate of each of the nematodes, resistance of tomato variety Ronita was broken.

12. Netscher, C. 1975. Studies on the resistance of groundnut to Meloidogyne sp. in Senegal. Cahiers O.R.S.T.O.M., Serie Biologie, Nematologie, 10(3):227-232.

    One peanut (Arachis) variety was tested for resistance to 18 isolates of Meliodogyne spp. Five of the isolates had slight reproduction. The roots were hypersensitive to the isolates.

13. Netscher, C. 1976. Observations and preliminary studies of the occurrence of resistance breaking biotypes of Meloidogyne spp. on tomato. Cahiers O.R.S.T.O.M., Serie Biologie, Nematologie, 11(3):173-178.

14. Netto, K. A. and G. Alvarenga. 1973. [Test of the resistance of Piatin (F_2 from H387) to the nematode Meloidogyne exigua, Goeldi.] IN: 1' Congresso Brasileiro sobre Pragas e Doencas do Cafeeiro, 4-6 Julho 1973. Vitoria, Brazil. [Pt] (See Plant Breeding Abstracts 44:3335)

    Four of 100 coffee seedlings tested were immune and 33 were resistant.

15. Ngundo, B. W. 1977. Screening of bean cultivars for resistance to Meloidogyne spp. in Kenya. Plant Disease Reporter, 61(11):991-993.

    Of the 23 cultivars tested for resistance to M. incognita and M. javanica, 7 were found to be resistant and none was immune. PI 165426 (reported to be highly resistant to M. incognita) was susceptible to a mixed population of M. incognita and M. javanica.

16. Niegolewski, Z. 1964. Hodowla odpornosciowa przeciw matwikowi ziemniaczanemu (Komunikat). Biul. Inst. Hodowli Aklimat. Rosl., 4:85-88. [Pol]

    Hybrid potato crosses (S. tuberosum x S. andigenum) and two German varieties were tested for resistance to Heterodera rostochiensis.

17. Niegolewski, Z., M. M. Mosiek, J. Piorunski, and K. Roguski. 1975. [The new potato variety Tarpan] Informator o wynikach badan naukowych zakoncaonych w 1973 roku. Rolnictwo czesc 1. Warsaw, Poland; Wydzial Nauk Rolniczych i Lesnych PAN, pp. 310-311. [Pol] (Abstract) (Plant Breeding Abstracts 47:466)

    Development of the female is delayed and they do not reproduce in the variety.

18. Nielsen, C. H. 1966. [Investigations on the inheritance of resistance to cereal root eelworm (Heterodera avenae) in wheat.] Nematologica, 12:575-578.[Ger]

    Of four varieties that could have carried resistance, homozygous resistance was found only in lines of the spring variety 'Loros' (CI. 3779). In this variety resistance depends on one dominant gene.

19. Nielsen, C. H. 1972. The test assortment for cereal cyst nematode (Heterodera avenae) (on behalf of the Heterodera avenae group). IN: International Symposium of Nematology (11th), European Society of Nematologists, Reading, UK, 3-8 September, 1972, 50-51. (Abstract)

    Barley, oats and wheat varieties have complete resistance to 5 of 6 H. avenae pathotypes.

20. Nielsen, C. H. 1974. [International test collection for Heterodera avenae and possibly other Heterodera species.] Nordisk Jordbruksforskning, 56(4):410. [Dan] (Abstract)

    Test results indicate 13 pathotypes of H. avenae.

21. Nieto, P. 1976. [Chemical control trials of potato-cyst nematode Heterodera spp. in Narino, Colombia.] Noticias Fitopatologicas, 5(1):20-28. [Es] (Eng. Summary)

    Two Solanum tuberosum andigena varieties were tolerant of the nematode.

22. Nikula, N. I. 1970. [An evaluation of some potato varieties as initial breeding material.] Tr. NII Kartof. kh-va, 7:62-65. [Ru]

    Several varieties showed resistance to the stem nematode, Ditylenchus dipsaci.

23. Nilsson-Ehle, H. 1920. Uber resistenz gegen Heterodera schachtii bei gewissen Gerstensorten, ihre Vererbungsweise und Bedeutung fur die Praxis. Hereditas I:1-34.

    Cysts failed to develop on roots of three barley varieties (Primus, Svanhals and Chevalier). In all probability, barley resistance to Heterodera major is determined by one dominant gene.

24. Nirula, K. K., C. L. Khushu, and B. T. Raj. 1969. Resistance in tuber-bearing Solanum species to root knot nematode, Meloidogyne incognita. American Potato Journal, 46:251-253.

    Seven of 25 Solanum species showed resistance to the nematode.

25. Nirula, K. K., N. M. Nayar, K. K. Bassi and G. Singh. 1967. Reaction of tuber-bearing Solanum species to root-knot nematode, Meloidogyne incognita. American Potato Journal, 44(2):66-69.

    Results on the reactions of 88 accessions of 38 Solanum species to M. incognita are reported.

26. Nishizawa, T. 1953. [Studies on the varietal resistance of rice plants to the rice nematode disease.] Bulletin Kyushu Agricultural Exeriment Station, 1:339-349.

Rice variety "Asa-Hi" carries heritable resistance to Aphelencoides besseyi.

27. Nishizawa, T. and S. Yamamoto. 1951. [Studies on the varietal resistance of rice plants to the rice nematode disease 'Senohu-Singare Byo. II A test of the leading varieties and part of breeding lines of rice plants in Kyushu.] Kyushu Agricultural Research, 8:95-96. [Ja]

28. Noel, G. R. and M. A. McClure. 1978. Peroxidase and 6-phosphogluconate dehydrogenase in resistant and susceptible cotton infected by Meloidogyne incognita. Journal of Nematology, 10(1):34-39.

Metabolism of seedlings altered upon infection and there are differences in enzyme activity between resistant (Clevewilt 6-3-5) and susceptible (M8) cultivars. In un-infected cultivars 6-phospho-gluconate dehydrogenase activity was the same, but peroxidase activity was greater in resistant roots. Infection caused increase activity in both cultivars, more greatly in resistant roots.

29. Norse, D. 1972. Nematode populations in a maize-groundnut-tobacco rotation and the resistance of maize to Meloidogyne javanica. Tropical Agriculture (St. Augustine) 49(4):355-360.

30. Nuesch, B. 1971. [Stem-eelworm damage and breeding for resistance in red clover.] Grune, 37:1313-1324. [Ger]

31. Nyczepir, A. P. and S. A. Lewis. 1976. Population response of Hoplolaimus columbus to different soybean genotypes. Journal of Nematology, 8(4):299. (Abstract)

Some of the plants were tolerant of infection.

1. O'Bannon, J. H., V. Chew and A. T. Tomerlin. 1977. Comparison of five populations of Tylenchulus semipenetrans to Citrus, Poncirus, and their hybrids. Journal of Nematology, 9(2):162-165.

The plant varieties varied in their response to infection, but only one population of the hematode was different enough to be a separate biotype.

2. O'Bannon, J. H. and R. P. Esser. 1975. Evaluation of citrus, hybrids, and relatives as hosts of Pratylenchus coffeae, with comments on other hosts. Nematologia Mediterranea, 3(2):113-122.

All 125 selections were hosts, though some resistance was shown by a Microcitrus hybrid and by Rubidoux 70-A5, a Poncirus trifoliata selection.

3. O'Bannon, J. H. and H. W. Ford. 1976. An evaluation of several Radopholus similis-resistant or -tolerant citrus rootstocks. Plant Disease Reporter, 60(7):620-624.

Carrizo citrange proved to be resistant rather than tolerant and Estes rough lemon was re-classified as susceptible rather than tolerant.

4. O'Bannon, J. H., R. F. Meyers and W. A. Feder. 1967. A comparative histological study of citrus varieties tolerant to and susceptible to the burrowing nematode, (Radopholus similis). Nematologica 13(1):147-148.

5. O'Bannon, J. H. and H. W. Reynolds. 1962. Resistance of Alfalfa to two species of root-knot nematode. Plant Disease Reporter, 46(8):558-559.

Seedlings of one breeding line of Sirsa alfalfa and 13 breeding lines of African were tested for resistance to the Javanese root-knot nematode, Medoidogyne javanica , and the cotton root-knot nematode, M. incognita acrita. The 13 selections from Africa were highly resistant to both species as compared with the Lahontan check, and the one Sirsa selection had intermediate resistance.

6. O'Bannon, J. H. and A. T. Tomerlin. 1971. Susceptibility of Radopholus similis-resistant species to Pratylenchus coffeae and Tylenchulus semipenetrans. Annual Abstracts. Society of Nematologists. Journal of Nematology, 3(4):320-321.

10 citrus root stocks with differing resistance, tolerance, or susceptibility to Radopholus similis were separately infected with R. similis, Pratylenchus coffeae or Tylenchulus semipenetrans and grown for study of individual nematode response and behavior under comparable conditions. Most severe infections and greatest growth reductions were caused by P. coffeae. None of the R. similis-resistant or tolerant rootstocks could be classified resistant to either P. coffeae or T. semipenetrans.

7. O'Bannon, J. H. and A. T. Tomerlin. 1975. Host response to five biotypes of Tylenchulus semipenetrans. Nematropica, 5(2):26. (Abstract)

There was marked variation in the susceptibility of the 9 citrus rootstocks and Severinia buxifoli and between the biotypes.

8. O'Bannon, J. H., W. A. Yuhl and A. T. Tomerlin. 1971. Pathogenicity of two races of Radopholus similis to six peanut cultivars. Proceedings of the Soil and Crop Science Society of Florida (1971), 31:264-266.

   Spanish and valencia type peanuts were more severely infected than Virginia type. The 'citrus' race of the nematode was less pathogenic than the 'Banana' race.

9. O'Brien, P. C. 1976. Concepts of nematode resistance in plants. Australian Plant Pathology Society Newsletter, 5(1):Supplement. (Abstract)

   No evidence of Heterodera avenae biotypes was found in studies of 25 S. Australian populations. Observed variation of reaction in some cultivars tested indicated segregation.

10. O'Brien, P. E. and J. M. Fisher. 1974. Resistance within wheat, barley and oat cultivars to Heterodera avenae in South Australia. Australian Journal Experimental Agricultural Animal Husbandry, 14(68):399-404.

    Resistance of 800 wheat, 83 oat and 36 barley cultivars to the cereal cyst nematode, H. avenae, was tested. Good resistance was recorded in only two wheat cultivars; spring wheat (Aus No. 10894) and Loros (Aus No. 90248).

11. O;Brien, P. C. and J. M. Fisher. 1977. Development of Heterodera avenae on resistant wheat and barley cultivars. Nematologica, 23(3):390-397.

    Similar numbers of larvae invaded seedlings of resistant (Aus 10894) and susceptible (Halberd) cultivars of wheat. Numbers of nematodes in, and galls on, roots of Halberd increased during the growing season, but nematodes decreased in the resistant cultivar and the number of galls remained the same.

12. OEydvin, J. 1975. [Nematode resistant potato varieties.] Nordisk Jordbrugsforskning, 57(2):487-492. [No]

    There are 6 resistance-breaking populations of Heterodera rostochiensis in Norway. Resistance-breaking races can develop during continuous cultivation of resistant cultivars, therefore, controlled crop rotation is advised. H. rostochiensis race A accounts for 98% of potato cyst nematodes in Norway, but other races and H. pallida also are present.

13. Offutt, M. S. and R. D. Riggs. 1970. "Radiation-induced resistance to rootknot nematodes in Korean Lespedeza." Crop Science, 10:49-50.

    Approximately 50% of the 77 irradiated strains of L. stipulacea were equal or superior to the Rowan cultivar (moderately resistant) in resistance to forms A & B of Meloidogyne javanica.

14. Ogbuji, R. O. and H. J. Jensen. 1974. Effects of soil pH on resistance and susceptibility of alfalfa and tomato to Meloidogyne hapla. Plant Disease Reporter, 58(7):594-596.

Although gall and egg mass production was altered in some instances, plant resistance was not appreciably affected by soil pH.

15. Ohashi, Y., M. Sato and T. Murai. 1969. [The breeding of the nematode-resistant flue-cured varieties BN2 and HN2] Bulletin of the Iwata Tobacco Experiment Station (Iwata Tabako Shikenjo Hokoku), 2:1-10. [Ja En] (Plant Breeding Abstracts 42, 3207)

16. Ohekar, G. B. 1965. Nature of the root-knot resistance introduced into Lycopersicon esculentum by interspecific crosses wth Lycopersicon peruvianum. Dissertation Abstracts, 25(12):6870.

Resistance to Meloidogyne species was due to monofactoral dominant character. Development of the nematode was retarded.

17. Okamoto, K. and Y. Mitsui. 1974. [Occurrence of a resistance-breaking population of Meloidogyne incognita on tomato.] Japanese Journal of Nematology, 4:32-36. [Ja, En]

G-population of M. incognita which was isolated from a severely affected resistant tomato hybrid (Anahu), was able to break resistance of Anahu tomatoes, but not of other resistant tomatoes nor of the resistant varieties of tobacco or sweet potatoes that were tested.

18. Okamoto, K., Y. Mitsui, and M. Ichinohe. 1973. [An instance of infection of a tomato variety resistant to Meloidogyne incognita in a glass house.] IN: 17th Annual Meeting of the Japanese Society of Applied Entomology and Zoology, Nagano, Japan, 3-5 April 1973, 132. [Ja]

Reports resistance-breaking pathotype of M. incognita.

19. Okopnyi, N. S. and A. V. Sadykin. 1976. [The resistance of tomatoes to the gall nematodes.] Kishinev, USSR; Izadatel'stvo "Shtiintsa", 108-109. [Ru] (Abstract).

Levels of catalase, peroxidase and polyphenoloxidase were higher in resistant tomatoes, as compared with susceptible ones. There was a direct correlation between tomatin content of the roots and degree of resistance.

20. Olefir, V. V. 1969. [Resistance to Ditylenchus destructor of some potatoes from a collection from the Ustimov Research Station.] Problemy Parazit., Pt. II:320-322. [Ru]

Five wild species, 3 solanum andigenum varieties and several hybrids show resistance.

21. Olefir, V. V. 1972. [Breeding of potato for resistance to potato tuber nematode.] IN: Nematodyne bolezni sel'skokhozyaistvennykh kul'tur i mery bor'by s nimi. Tezisy soveshchaniya. Moskva, dekabr' 1972. Moscow, USSR, VASHNIL., 101-103. [Ru] (Abstract)

22. Olefir, V. V. 1974. [Forms of potato resistant to stem nematode.] Kartofel'i Ovoshchi, 10:34-36. [Ru] (Plant Breeding Abstracts 45, 2149).

The results are presented in a study of 487 forms of Solanum andigenum (2n=48) and 232 seedlings from several diploid solanum species. Lists are given of those forms which proved highly resistant to Ditylenchus dipsaci.

23. Olefir, V. V. 1974. Study of wild species of potatoes for resistance to stem nematodes. Kartopliarstvo, 5:13-17. [Ukr]

24. Olefir, V. V. 1975. [Resistance to stem nematode in wild potato species.] Kartofel' i Ovoshchi, 2:40-41.[Ru] (Plant Breeding Abstracts 45, 9122)

Solanum species showing a high degree of resistance to Ditylenchus dipsaci were: S. chacoense, S. catarthrum, S. semidemissum and S. sucrense.

25. Olefir, V. V. and L. M. Turuleva. 1976. [Tests on the resistance of Chilean potatoes, Solanum chilotanum to Ditylenchus.] All-Union Research Institute of Horticulture, Leningrad, USSR. Kishinev, USSR; Izdatel'stvo "Shtiintsa." pp. 83. [Ru] (Abstract)

26. Oostenbrink, M. 1972. Evaluation and integration of nematode control methods, IN: Webster, J. M. (Ed), Economic Nematology. London, UK:Academic Press, p. 511.

Sources of resistance to major crop damaging nematodes are listed.

27. Oostenbrink, M., K. Kuiper and J. J. s'Jacob. 1957. Tagetes als feindpflanzen von Pratylenchus-arten. Nematologica Supplement, 2:424-433 S.

Toxic secretions of marigolds prevent plants from being infected.

28. Orchard, W. R. and M. C. J. Van Adrichen. 1961. Relative susceptibility of Fragaria spp. to the root-knot nematode, Meloidogyne hapla Chitwood. Plant Disease Reporter, 45(4):308.

After 8 weeks' growth, no egg masses were found on F. virginiana subsp. platypetala; the slight swelling on some roots contained no nematodes.

29. Orion, D. and E. Conn. 1975. A resistant response of citrus roots to the root-knot nematode, Meloidogyne javanica. Marcellia, 38(4):327-328.

In citrus reticulata var. Wilking (Clementine) the nematodes did not develop beyond the 2nd stage. The heads of the nematodes in the galls formed were surrounded by necrotic cells which sometimes collapsed, leaving a small cavity.

30. Orr, C. C. and E. D. Morey. 1974. Resistance reactions of castor and guar to root-knot nematodes. Phytopathology, 64(12):1533-1536.

Guar (Cyamopsis tetragonoloba) roots produced a hypersensitive reaction, giant cells were poorly formed, and females failed to mature. Castor (Ricinus communis) roots were readily invaded, but the larvae either migrated out of the root or failed to develop.

31. Orsenigo, M. 1955. Comportamento di varieta italiane alla mallattia 'white tip'. Riso, 4(5):15-17. [It]

    The rice varieties Rinaldo Bersani, Carmaroli and Pierrot showed some resistance to Aphelenchoides besseyi.

32. Orton, W. A. 1911. The development of disease resistant varieties of plants. Conference Internationale de Genetique, 4:247-265.

    The root-knot nematode resistant iron cowpea was crossed with susceptible varieties. The F_1 was uniformly resistant; the F_2 had great variation and no discernable ratios.

33. Oteifa, B. A. and A. Y. Elgindi. 1974. Host nutrition in relation to infection by the reniform nematode Rotylenchulus reniformis. Simposio Internacional (XII) de Nematologia, Sociedad Europea de Nematologos, 1-7 Septiembre, 1974, Granada, Spain, p. 78. (Abstract)

    In potassium deficient plants, eggs were not laid; reproduction rate increased with increased potassium. Nematode injury was greater in plants deficient in nitrogen and potassium. When plants grown in complete nutrient solution were infected, there was a significant reduction in nitrogen, potassium and manganese in the plants.

34. Oteifa, B. A. M. Rushdi and A. Salem. 1963. Influence of sugar-cane varieties on nematodes population density. Bulletin of Science and Technology, Assiut University, 6:271-279.

    Sugar cane varieties Co. 413, N. Co. 310 and 48D12 were poor hosts for Tylenchorhynchus martini.

35. Oteifa, B. A., A. M. Taha and G. M. Yousif. 1973. Relative susceptibility of bean varieties and their nodules to root knot infection. IN: International Congress of Plant Pathology (2nd), Minneapolis, Minnesota, Setp. 5-12, 1973. (Abstract No. 0863.)

    Bacterial nodules were invaded by the nematodes (Meloidogyne spp.) and the number of modules was reduced on most of the varieties tested.

36. Oyana, N. 1974. [Studies on nematode resistance of forest trees.] Ringyo Gijitsu Forest Technology, 5:16-20. [Ja]

37. Oydvin, J. 1977. [Resistance and tolerance to potato cyst nematode Heterodera rostochiensis Woll. pathogype A among thirteen potato cultivars.] Research Norway Agriculture, 28(3):255-266. [Nor] (English summary)

1. Padu, E. 1976. [Study of the activity and isoenzyme composition of dehydrogenases in potato in relation to infection with Heterodera rostochiensis.] Eesti NSV Teaduste Akadeemia Toimetised (Izvestiya Akademii Nauk Estonskoi SSR), Bioloogia, 25(3):229-236. (Plant Breeding Abstracts 47,3441) [Ru, Summary Ee, De]

A comparison of the dehydrogenases of healthy and infected susceptible (var. Suliev) and resistant (Spekula) potato.

2. Pak, C. S., S. C. Han and Y. P. Ri. 1969. [Studies on varietal resistance of soybean to Heterodera glycines and on the damage caused by it.] Journal of Plant Protection, Suwon (Chi-mul Po-ho) 7(1):21-25. (Ko)

3. Palacios, A. A., and C. Sosa Moss. 1972. Genetic resistance to Meloidogyne spp. in some tomato varieties. Agrociencia, 9:119-125. [Es, summary En]

Of six varieties tested, two showed resistance: Piernita (homozygous) and H-63-18 (heterozygous). The resistant varieties crossed with commercial varieties produced viable seed.

4. Pantyukhina, L. 1973. [Breeding nematode-resistant potato varieties for White Russia.] Egorova, G. (Ed.) The breeding and seed production of crop palnts. Zinatne, pp 120-123. (Plant Breeding Abstracts 45, 9651, 9670.) [Ru]

Crosses of forms of Solanum demissum produced resistant, quality plants.

5. Pardee, W. D. and V. E. Gracen. 1976. Crops fight back. Breeding resistance into crop plants. Crops and Soils. 28(8):15-16.

Resistance to Heterodera rostochiensis in "Hudson" potato derived from Solanum andigenum.

6. Park, J. S. and S. C. Han. 1968. [Studies on the resistant varieties to the soybean cyst nematode, Heterodera glycines Inchinohe.] Res. Rep. Off. rur. Dev., Korea, 11(3):67-73. [Ko, Summary En]

Several resistant soybean varieties are named. Early maturing varieties were not as resistant as late maturing ones.

7. Park, J. S. and J. O. Lee. Varietal resistance of rice to the white-tipped nematode Aphelenchoides besseyi. International Rice Research Newsletter. 1(1):15.

Tongil, early tongil, tongil-chal and Shirogane are listed as resistant and four others as moderately resistant.

8. Parrott, D. M. 1971. Altering the resistance of plants to infection and colonisation by nematodes. Pest Artic News Summ 17(2):249-251.

A general review and bibliography of the literature (1965-71).

9. Paschalaki-kourtzi, N. and A. C. Antaphyllou. 1964. Reaction of resistant potato lines to Heterodera rostochiensis in field tests in Greece. Annls. Inst. Phytopath. Benaki, 7(1):46-54.

A resistance-breaking biotype reported on varieties I-3015 and I-2749 which were derived from Solanum tuberosum and S. tuberosum andigena.

10. Pate, J. B., T. E. Summers and M. Y. Menzel. 1958. Resistance of Hibiscus eetveldianus to root-knot nematodes and the possibilities of its use as a source of resistance in kenaf, Hibiscus cannabinus L.Plant Dis. Reporter 42:796-797.

Sterile F_1 hybrids of H. eetveldianus x H. cannabinus, treated with colchicine, produced fertile amphiploids which were nearly as resistant as H. eetveldianus. The amphiploids lack some of the desirable characteristic of kenaf.

11. Pawelska, K. 1976. [Investigations on resistance to beet eelworm Heterodera schachtii Schmidt and breeding of sugar-beet for resistance to eelworm in Poland.] pp. 295-300. [Ru, Summary De, Cs]

Of the locally bred varieties and strains of sugar beet tested, there was no difference in degree of tolerance found.

12. Pawelska-Kozinska, K. and Z. Szota. 1970. [Studies on the degree of tolerance to the sugar-beet nematode (Heterodera schachtii Schm.) in some varieties and strains of sugar-beet.] Hodowla Roslin, Aklimatyzacja i Nasiennictwo 14(1):39-48 [Pl, En Ru]

In the 23 cultivars of sugar-beet tested, no differences in degree of tolerance was found.

13. Pawelska-Kozinska, K. and L. Zientek. 1968. Oceana stopnia tolerancji odmian i rodow burakow cukrowych na matwika burakowego (Heterodera schachtii Schmidt). II. Dynamika wzrostu roslin roznych odmian na polu zarazonym matwikiem. Biul. Inst. Hodowli Aklimat. Rosl., No. 5/6, pp. 37-42.

Of six sugar beet varieties tested, LWNO, CLR Poly KBS and Ploy Mono IHAR were the most tolerant (root yield reduced 38-40%).

14. Paxton, J. D. 1975. Phytoalexin, phenolics and other antibiotics in roots resistant to soil-borne fungi. Bruehl, G. W. (Ed.) Biology and control of soil-borne plant pathogens. American Phytopathological Society pp 185-192.

Mention is made of nematicidal root exudates of marigold, Asparagus and Eragrostis curvula.

15. Peacock, F. C. 1957. Studies on root-knot nematodes of the genus Meloidogyne in the Gold Coast. Part 1. Comparative development on susceptible and resistant host species. Nematologica 2(1), 76-84.

Using a population of Meloidogyne (tentatively identified as M. incognita var. acrita), a variety of cowpea, a hybrid maize and 2 species of Crotalaria were found to be resistant.

16. Peaden, R. N., et. al. 1976. Registration of a multiple-pest resistant alfalfa germplasm. Crop Science, 16(1):125-126.

    Nevada synthetic xx alfalfa is highly resistant to three M. hapla populations tested, and shows some resistance to Ditylenchus dipsaci.

17. Pedersen, M. W., et. al. 1976. Effects of low and high saponin selection in alfalfa on agronomic and pest resistance traits and the interrelationship of these traits. Crop Science 16(2):193-199.

    The high saponin content of the alfalfa varieties, du Puits, Ladak, Lahontan, Ranger, Uinata and Veinal did not affect resistance to Meloidogyne hapla or Ditylenchus dipsaci.

18. Perrotta, G. and A. Catara. 1968. Osservazioni sperimentali sulla suscettibilita di alcuni portinnesti degli agrumi alle infestioni da Tylenchulus semipenetrans Cobb, in Sicilia. Tec. agric. Catania 20:549-559. [En summary]

    Poncirus trifoliata and Troyer citrange were resistant to Tylenchus semipenetrans; susceptibility was low in Citrus volkameriana.

19. Perry, V. G., H. M. Darling and G. Thorne. 1959. Anatomy, taxonomy and control of certain spiral nematodes attacking blue-grass in Wisconsin. Univ. of Wisconsin, Agr. Exp. Sta. Res. Bull. 207.

    Bentgrass varieties shown to vary in susceptibility to Meloidogyne incognita acrita.

20. Persson, G. 1976. [Simba - a new medium-late mildew and nematode resistant spring barley variety.] Aktuellt fran Svalof 1 pp. 1-5. [Sv]

    The new Swedish barley variety Simba is resistant to two Heterodera avenae pathotypes.

21. Philis, J. 1970. Resistance of F_1 tomato hybrid rootstocks to the potato cyst nematode, Heterodera rostochiensis Woll. Hort. Res., Edinb., 10(1):78-80.

    Four F_1 tomato hybrid rootstocks developed from Lycopersicon hirsutum and L. esculentum and with known resistance to Meloidogyne spp. were tested for resistance to H. rostochiensis Woll. One of the 4 showed a higher ratio of males to females and fewer cysts, but since H. rostochiensis was able to successfully multiply on these hybrids they cannot be considered as sources of resistance to this nematode.

22. Phipps, P. M., R. J. Stipes and L. I. Miller. 1972. A race of Meloidogyne incognita from Albizzia julibrissin parasitizes Nicotiana tabacum NC 95. Journal of Nematology 4(4):232.

23. Pi, C. L. and R. A. Rohde. 1967. Phenolic compounds and host reaction in tomato to injury caused by root-knot and lesion nematodes. Phytopathology 57:344. (Abstract)

    The presence of chlorogenic acid is thought to be the cause of browning and the resistant reaction of Nemared tomato to Meloidogyne incognita.

24. Piegat, M., J. Giebel and A. Wilski. 1966. Buffer capacity and changes in root tissues of susceptible and resistant potatoes invaded by golden nematode (Heterodera rostochiensis Woll.) larvae. [Po, summary En] Pr. Nauk. Inst. Ochr. Rosl. Warszawa 8:197-204.

In necrotic cells where pH is low, beta-glucosidase is more active than in giant cells where pH is higher.

25. Piegat, M. and A. Wilski. 1965. Cytological differences in root cells of susceptible and resistant potato varieties invaded by potato root eelworm (Heterodera rostochiensis Woll.) larvae. Nematologica 11(1):109-115.

In the roots of resistant plants no changes in the cytoplasm could be found, starch grains were greater and chondriosomes decomposed less than in susceptible plants. The cytoplasm of the cells around the nematode larvae in susceptible plants was dense; the vacuoles tended to change shape and numbers, starch grains were smaller and the chondriosomes tended to decompose.

26. Pilowsky, M. 1976. Breeding of disease-resistant varieties of tomatoes. Phytoparasitica 4(3):209

Breeding objectives include resistance to Meloidogyne.

27. Plaisted, R. L., M. M. Scurrah, and M. L. Harrison. 1972. Resistance to the potato nematode Heterodera rostochiensis Woll. in clones derived from Solanum vernei. American Potato Journal 49(9):364.

None of the tetraploid clones derived from Solanum vernei had the range of resistance to Heterodera rostochiensis as the original diploid vernei.

28. Poli, V. 1971. [Prospects of improving tomato resistance to nematodes.] Institutului de Cercetar: Pentru Legumicultura si Floricultura, 1:17-20. [Rum]

The tomato variety Anahu has been used as a basis for a program of breeding resistance to Meloidogyne in Rumania.

29. Ponin, I. Y. 1967. [Evaluation of the resistance of wild species and hybrids of potato to Heterodera rostochiensis.] In: Sveshnikova, N. M. (ed.) [Nematode diseases of crops.] Moscow: Izdatelstvo "Kolos", pp. 120-123 [Ru, summary En]

30. Ponin, I. Y. 1971 [Best nematode-resistant varieties and hybrids of potato.] Puti povysh. urozhainosti polevykh kul'tur. Mezhved. temat. sb. 2:140-142. (Plant Breeding Abstracts 45, 2889.) [Ru]

Varieties Antinema, Amaryl, Intenso, Sagitta and Specula are resistant.

31. Ponin, I. Y. 1972. [Study of the self-pollinating lines of nematode-resistant wild potato species.] In Kratkie doklady po voprosam zashchity rastenii. Kaunas, USSR; Litovskii Nauchno-Issledovatel'skii Institu Zemledeliya. 90-92.[Ru]

Solanum chacoense f. gibberulosum K-2740 and S. microdontum K-4429 are recommended as sources for breeding resistance to Heterodera rostochiensis.

32. Ponin, I. Y. and R. M. Gladkaia. 1974. [The loss of resistance to nematodes by potatoes] Zashch Rast 10:53. [Ru]

33. Ponin, I. Y., L. A. Pantyukhina, and N. N. Timofeev. 1973. [The selection of Heterodera-resistant potato varieties in Byelorussia.] IN Materialy vsesoyuznogo simpoziuma po bor'be s kartofel'noi nematodoi, Tartu, 3-5 iyulya 1973. Tartu; Institut Zoologii i Botaniki Akademii Nauk Estonskoi SSR 33 [Ru]

Crosses of susceptible Byelorussian potato varieties with the resistant German varieties Antinema and Spekula have resulted in the development of clones 720-50, 720-25 and 604-203, which have resistance to Heterodera rostochiensis.

34. Ponin, I. Y., V. A. Voinilo, R. M. Gladkaya, N. N. Timofeev, and N. N. Timofeyev. 1977. [Nematode-resistant potato varieties and ways of using them] Sel'skokhozyaistvennaya Biologiya. 12(1):123-129. [Ru, Summary En]

Article includes a comparison of phenolic compound, flavonoid and chlorogenic acid contents as well as peroxidase and polyphenol oxidase activity in Heterodera rostochienses-resistant and susceptible potato varieties. The resistant variety Ariadne contained more phenolic compounds, more flavoids, and more cholorogenic acid than the susceptible variety Ogonek. Ariadne also showed increased peroxidase and polyphenol oxidase activity after infection.

35. Ponte, J. J. da. 1968. [Contributions to the knowledge of the host plants and control of root-knot nematodes, Meloidogyne spp., in the State of Ceara.] Subsidios ao conhecimento de plantas hospedeiras e ao controle dos nematoides das galhas, Meloidogyne spp., no estado Ceara. Boletim da Sociedade Cearense de Agronomia 9:1-26 [Pt, en]

Four varieties of cotton were resistant. Of the four Vigna varieties tested, 'Seredo' was the most resistant.

36. Ponte, J. J. da, L. Maria, and J. W. V. Lemos. 1976. Behaviour of tomato varieties in relation to root-knot nematodes. Summa Phytopathologica 2(2):137-139.

The tomato variety Rossol showed high resistance to Meloidogyne; another variety UFC-1 was moderately resistant.

37. Poos, J. A. 1956. The breeding of a winter rye variety with a good eelworm resistance. Euphytica. Wageningen. 5(1):33-40.

The winter rye variety Heertveld, a cross between Ottersum and Petkus is resistant to Dithylenchus dipsaci. In the laboratory susceptibility was up to 25%, but in the field resistance was good, due to good recovery.

38. Poos, J. A. 1956. Rogge met aaltjes-resistentie. Zaadbelangen. 's-Gravanhage 10(1):3-5.

Ditylenchus dipsaci, a cross between rye varieties '0 Hersumse' (resistant to but low yield and poor straw) and 'Petkuser' (non-resistant but good yield) shows promise. The new race, 'Heertveld' shows resistance in field tests and even when attacked, has a possible power of good recovery.

39. Popov, A. and I. Popova. 1976. [Induction by chemical mutagens of mutant maize lines resistant to some diseases.] Rastenievud Nauk 13(10):55-62. [Bul, Summary En].

40. Powell, N. T. 1962. Histological basis of resistance to root-knot nematodes in flue-cured tobacco. Phytopath. 52:25 Abstr.

Root-knot resistance is related to hypersensitive reaction which occurs after the parasitic relationship becomes established.

41. Powell, N. T. and C. J. Nusbaum. 1958. The effect of root-knot nematode resistance in the incidence of black shank in tobacco. Phytopathology 48(6):344.

By means of back-crosses, resistance to Meloidogyne incognita and M. incognita var. acrita was incorporated into black-shank-resistant flue-cured tobacco.

42. Powell, N. T. and C. J. Nussbaum. 1960. The black shank-root-knot complex in flue-cured tobacco. Phytopathology 50(9):650.

By means of back-crossing, resistance to root-knot nematodes (Meloidogyne incognita) was incorporated into the tobacco varieties Dixie Bright 101 and Coker 139 which are resistant to the black shank fungus.

43. Prasad, S. K. and D. R. Das Gupta. 1964. Varietal susceptibility of commercial tomatoes to the attack of root-knot nematodes, Meloidogyne spp. Indian Journal of Entomology, 26(2):235-238.

4 varieties of tomatoes were tested in field plots for their susceptibility to a mixture of Meloidogyne javanica (93%) and M. incognita (7%). The varieties Sioux and Best of All were heavily infested, Pusa Ruby had a moderate gall index and serial No. 120 was lightly galled. The numbers of female and egg masses followed the same trend as the galling

44. Price. C. 1965. Breeding sugar beets for resistance to the cyst nematode Heterodera schachtii. Journal of the American Society of Sugar Beet Technologists. 13(5):397-405.

Lines which showed promise of resistance were obtained from curly top resistant varieties US22, US56/2 and US 33, and from some of the Cercospara leaf spot resistant lines.

45. Price, M., R. D. Riggs and C. E. Caviness. 1976. Races of soybean-cyst nematodes compete. Arkansas Farm Research 25(2):16.

Soybean variety Pickett is susceptible to race 2 and 4 of Heterodera glycines but resistant to race 3; the variety Lee is susceptible to all three. Populations of race 2 and 4 were dramatically reduced on Pickett in the presence of race 3. Populations continued to decline and after 4 generations only 1.0 and 6.8% of the cysts were race 4 and 2, respectively.

46. Proudfoot, K. G. 1970. The present status of breeding varieties resistant to potato wart and golden nematode in Newfoundland. [Abstract] Conf. European Potato Research (4th).

47. Prummel, W. 1958. Solanum nigrum L. als waardplant voor het aardappelcystenaaltje, Heterodera rostochiensis Woll. Tijdschrift over Plantenziekten 64(2):142-143.

Varietal differences in Solanum nigum may explain the controversy in the literature concerning its susceptibility to the nematode.

48. Putsa, N. M. 1976. [Preliminary data on the susceptibility to infection by Ditylenchus dipsaci of some varieties of red clover.] Kishinev, USSR; Izdatel'stovo "Shtiintsa." pp. 85-86 [Ru].

1. Radewald, J. D. 1957. The nature of resistance and susceptibility to the root-knot nematode (Meloidogyne incognita var. acrita chitwood) in sweet potato. M. S. Thesis, Oklahoma State University, 51 p.

Nematode larvae tended to disappear in resistant roots of sweet potato; presumably they died and disintegrated.

2. Radewald, J. E. , W. H. Isom, R. A. Brendler and F. Shibuya. 1971. Results of a trial testing the tolerance of oat varieties to tulip root caused by the nematode Ditylenchus dipsaci. Plant Disease Reporter 55(5):433-437.

Eight oat varieties were tested in the field for tolerance to Ditylenchus dipsaci. The varieties Curt and Moregrain yielded well in both straw and grain, while Kanota and Sierra were severely injured. The variety Curt was extremely tolerant in the trial.

3. Radziwinowicz, J. 1963. Niektore zagadnienia nicieni rodziny Heteroderidae Skarbilowicz 1947. Biuletyn Instytutu Ochrony Roslin. Poznan, No. 21:209-228.

The author gives a general discussion of the family Heteroderidae and the more important species of Heterodera and reviews the positions as regards control, particularly by chemicals and breeding for crop resistance.

4. Ragozina, I. I., and Z. G. Shepshelev. 1972. [On infection of potato varieties by potato tuber nematode.] [Abstract] In Nematodyne bolezni sel'skokhozyaistvennykh kul'tur i mery bor'by s nimi. Tezisy soveshchaniya. Moskva, dekabr' 1972. Moscow, USSR, VASHNIL 103-104 [Ru].

5. Rajagopalan, P., A. R. Seshadri and T. S. Muthukrishnan. 1970. Preliminary observations on the varietal resistance of chillies to the root-knot nematode, M. arenaria. Madras agric. J. 57(9, supplement):25 (Abstract)

19 varieties of chilli were infested by Meloidogyne arenaria but Bombay 742 and G2 were tolerant.

6. Rajagopalan, P., A. R. Seshadri and T. S. Muthukrishnan. 1971. Preliminary observations on the varietal resistance of chillies to the root-knot nematode, Meloidogyne arenaria. Madras Agr. J. 58(7):604-608.

Variety G2 was most resistant of 19 varieties tested. Bombay 742 plants appeared healthy despite heavy galling on the roots.

7. Rajendran, G., T. S. Muthukrishnan and M. Balasubramanian. 1977. Rice varieties and the white-tip nematode. International Rice Reseach Newsletter 2(2):3.

22 of 101 rice cultivars tested showed less than 5% damage from Aphelenchoides besseyi.

8. Rajendran, G., P. Vemswamy, T. S. Muthukrishnan, and R. Siragami. 1975. Susceptibility of Crossandra and related genera to the root-knot nematode, Meloidogyne incognita (Kofoid, 1889) Chitwood 1949. South Indian Horticulture 23(3/4):147-148.

In India, commonly-grown red and orange cultivars of Crossandra and Justica betonica were susceptible to Meloidogyne incognita, Asystasia gangetica was less susceptible and Barlaria prionites was completely resistant.

9. Rao, B. S. 1964. Root-knot nematodes of leguminous covers in rubber plantations. Journal of the Rubber Research Inst. of Malaya, 18(3):146-150.

Meloidogyne inocula from 6 localities were tested on 22 species of legumes and susceptibility and resistance were reported.

10. Rao, V. R. and S. K. Tikoo. 1975. Resistance of tomato cultivars to the root-knot nematode, Meloidogyne incognita. Current Science 44(8):282-283.

Tomato varieties Pelican, Hawaii-7746 and Hawaii-7747 were found to be resistant to Meloidogyne incognita.

11. Rao, Y. S. 1970. Study of plant parasitic nematodes affecting rice production in the vicinity of Cuttack (Orissa)India. Cuttack: Indian Council of Agricultural Research, 115 pp.

Includes discussion of reaction of rice varieties to nematodes.

12. Rasinya, B. P. 1972. [Effect of degree of soil infestation by the potato cyst eelworm on the intensity of infection of nematode-resistant potato varieties.] In Nematodnye bolezni sel'skokhozyaistvennykh kul'tur i mery bor'by s nimi. Tezisy soveshchaniya. Moskva, dekabr' 1972. Moscow, USSR, VASHNIL. 86-87. [Ru]

13. Rasmussen, F. 1955. Forsogmed stammer af tidlig og halvsildig rodklover, 1945-1950. Tidsskrift for Planteavl. 59(1):17-35. (Sv)

The early red clover variety 'Tidlig resistent Otofte III'shows some resistance to the stem eelworm and 2 local varieties 'Lofa' and 'Hjelm' have also shown good resistance.

14. Rebois, R. V. 1971. Investigations into the parasitology of soybeans by the reniform nematode Rotylenchulus reniformis. Dissertation Abstracts International 32B(5):2474.

15. Rebois, R. V. 1971. The effect of Rotylenchus reniformis inoculum levels on yield nitrogen, potassium, phosphorus and amino acids of seeds of resistant and susceptible soybean (Glycine max). Annual Abstracts Society of Nematologists, J. Nematol. 3(4):326-327.

In the infected varieties (as compared with uninfected plants of the same varieties: nitrogen content was not changed, dry-seed yield varied (increased in some decreased in other varieties). Phosphorus content varied, potassium increased and leucine decreased.

16. Rebois, R. V. 1973. Effect of soil temperature on infectivity and development of Rotylenchulus reniformis on resistant and susceptible soybeans, Glycine max. Journal of Nematology 5(1):10-13.

Temperature has a significant effect on the rate of infectivity and development of R. reniformis on soybean cultivars.

17. Rebois, R. V., et. al. 1973. Tomato resistance and susceptibility to the reniform nematode. Plant Disease Reporter 57(2):169-172.

Lycopersicon esculentum cultivar PI 375937 had a consistently high degree of resistance.

18. Rebois, R. V., J. M. Epps, and E. E. Hartwig. 1970. Correlation of resistance in soybeans to Heterodera glycines and Rotylenchulus reniformis. Phytopathology 60:695-700.

R. reniformis produces a hypersensitive necrotic response and poorly developed giant cells on resistant hosts. Soybean varieties react similarly to both R. reniformis and H. glycines and resistance to them may be controlled by the same gene or by linked genes.

19. Rebois, R. V., W. C. Johnson and E. J. Cairns. 1968. Resistance in soybeans, Glycine max L. Merr., to the reniform nematode. Crop Science 8:394-395.

Cultivars Pickett and Dyer are resistant to both soybean cyst nematode and the reniform nematode.

20. Rebois, R. V., P.A. Madden and B. J. Eldridge. 1975. Some ultrastructural changes induced in resistant and susceptible soybean roots following infection by Rotylenchulus. Journal of Nematology 7(2):122-139.

A developmental electron microscopic study of the parasitism of Rotylenchulus reniformis in resistant 'Peking' and susceptible 'Lee' soybeans was made. Susceptible tissues exhibited two basic phases of development: (i) an intial phase represented by partial cell wall lysis and separation (ii) and an anabolic phase, with organelle proliferation and secondary cell wall deposits which provide nutrition for sessile female development. The resistant, hypersensitive (HR) reaction lacked the anabolic phase and was characterized by an extension and usually accelerated type of lysis found in the first phase of the syncytial development.

21. Reddy, P. P. , K. G. H. Setty and H. C. Govindu. 1972. Susceptibility of flue-cured tobacco variety N.C. 95 to southern root-knot nematode. Mysore Journal of Agricultural Sciences 6(2):192-193.

Infestation of the root-knot nematode-resistant tobacco variety NC-95 by Meloidogyne incognita is reported in the Research Station Farm nursery at Bangalore, India. This confirms the presence of pathogtypes in this nematode species.

22. Rehak, V. 1972. [Use of resistant potatoes on soils infested with Heterodera rostochiensis.] Uroda 20(10):375-376. [Cze]

23. Reynolds, H. W. 1949. Relative degree of infection of American-Egyptian and Upland cotton by three populations of the root-knot nematode. Plant Disease Reporter 33:306-309.

No egg masses were observed on Santan cotton (Gossypium hirsutum) inoculated with a root-knot population from alfalfa.

24. Reynolds, H. W. 1955. Varietal susceptibility to two species of root-knot nematodes. Phytopath. 45:70-72.

10 varieties of alfalfa were tested for their reactions to Meloidogyne javanica and M. incognita acrita. 2 African selections were very resistant to both species.

25. Reynolds, H. W. and W. W. Carter. 1969. The response of Meloidogyne incognita acrita in resistant and susceptible alfalfa (Abstr.) Journal of Nematology 1(4):302-303.

Three varieties of alfalfa, 'African,' 'Moapa' and 'Sonora', which are resistant to M. incognita acrita and one susceptible variety 'Lahontan' were used in these studies. The most commonly reported reaction of resistant plants to nematode invasion is hypersensitivity which results in the death of the nematode. Since the larvae fail to establsh a nutritive relationship with the plant and are not entombed by necrotic tissue, they soon leave the root.

26. Reynolds, H. W. , W. W. Carter and J. H. O'Bannon. 1970. Symptomless resistance in alfalfa to Meloidogyne incognita acrita. Journal of Nematology 2(2):131-134.

Penetration, development and migration of the cotton root-knot nematode, Meloidogyne incognita acrita in resistant and susceptible alfalfa varieties was compared. There was a lack of visible response to the invasion of M. incognita acrita larvae and they migrated, in 3-4 days, out of the root of resistant plants.

27. Reynolds, H. W. and J. H. O'Bannon. 1960. Reaction of sixteen varieties of alfalfa to two species of root-knot nematodes. Plant Disease Reporter 44(6):441-443.

16 Medicago varieties were grown in soil infested with either Meloidogyne incognita acrita or M. javanica. The varieties African, Moapa and India were highly resistant to both species; Hairy Peruvian and Sirsa No. 9 was resistant to M. incognita acrita.

28. Reynolds, H. W. and J. H. O'Bannon. 1963. Susceptibility of safflower to two species of root-knot nematodes. Plant Disease Reporter 47:864-866.

Safflower is not damaged when grown at temperatures below that optimum for nematode development.

29. Rich, R. J. and N. I. Keen. 1975. Association of coumestanes with the hypersensitive resistance of lima bean to Pratylenchus scribneri. Journal of Nematology 7(4):328-329.

Coumestrol, one of 4 blue flourescent compounds extracted and purified from hypersensitive lesions of resistant Phaseolus vulgaris roots, did not appear to be toxic to Pratylenchus scribneri, but at 10 to 50 mu g/ml it affected mobility.

30. Riggs, R. D. 1959. Studies on resistance in tomato to root-knot nematodes. Dissertation Abst. 19(II), 2710.

31. Riggs, R. D. 1966. Chemical nature of soybean resistance to the soybean-cyst nematode. Arkansas Farm Res. 15(6):7.

No consistent difference was found in the amino acids present in the roots of the two varieties Peking (resistant) and Lee (susceptible). However, the relative amounts of certain amino acids were found to be different. Alanine was present in considerably higher quantities in Lee than in Peking.

32. Riggs, R. D., J. L.Dale and M. L. Hamblen. 1962. Reaction of Bermuda grass varieties and lines to root-knot nematodes. Phytopathology 52:587-588.

Bermuda grass varieties were teted for resistance to Meloidogyne arenaria arenaria, M. hapla, M. incognita incognita, M. incognita acrita, and M. javanica. Pasture types tested were more susceptible than were the lawn types. Of the pasture types tested, coastal was the least susceptible and Midland was immune to all except the M. incognita group. Of the lawn types, only Uganda was resistant or immune to all species and subspecies.

33. Riggs, R. D. and N. N. Winstead. 1958. Attempts to transfer root-knot resistance in tomato by grafting. (Abstract) Phytopathology 48:344.

Data from tests with resistant (line Hawaii 5229) and susceptible (line STEP 174) tomato plants indicate that the resistance or susceptibility factors are inherent in individual cells and was not translocated across the graft union.

34. Riggs, R. D. and N. N. Winstead. 1959. Studies on resistance in tomato to root-knot nematodes and on the occurrence of pathogenic biotypes. Phytopathology 49:716-724.

Factors for resistance or suceptibility to Meloidogyne incognita in tomato were found to be located in both tops and roots of plants and the factors were not translocuted across a graft union. Transfer of larva, generation after generation, that developed on resistant Hawaii 5229, resulted in three subspecies that were virulent on Hawaii 5229. The populations were concluded to be new pathogenic strains of Meloidogyne incognita acrita, M. incognita incognita and M. arenaria arenaria.

35. Riispere, U., A. Riispere, and M. Jaagus. [On resistance of clover to the cyst eelworm.] Ristikute kiduussi-resistentsusest. Sotsialistlik Pollumajandus (1971) 26(12)545-547 [Ee].

    Of 10 varieties of clover tested only alsike was resistant to Heterodera trifolii. White clover varieties N.Z. and Huia were reltively more resistant than the others tested.

36. Ritter, M. 1956. Espoirs donnes par la selection de varieties resistantes dans la lutte contre l'anguillule des racines de la pomme de terre. Phytriatrie - Phytopharmacie. Paris 5(1):41-51. (Fr)

    A review of the American, British, Dutch and German literature on resistance in Solanum spp. to Heterodera rostochiensis and on the breeding of eelworm-resistant potato varieties.

37. Ritter, M. and R. Ritter. 1958. Influence de l'age de la plantehote sur le developpement de Meloidogyne incognita, nematode phytoparasite. Compt. Rend. 246:2054-2056.

    Some plants become less resistant to root-knot as they mature.

38. Rivoal, R. 1975. [The cyst nematode of cereals, Heterodera avenae, in France: biological characteristics and possibilities of control through the use of resistant varieties.] Defense de Vegetaux, 172:53-64 [Fr].

    4 biotypes of Heterodera avenae have been identified from 22 populations in France. The 4 varieties of maize tested were attacked but reproduction was inhibited. Winter-sown oats and barley resisted infestation by one type, Fr 4. Barley varieties Zita and Vogue were resistant to Fr 3; Siri and Sabarlis were resistant to Fr 2, Fr 3, Fr 4. Wheat lines derived from Loros, Avena Sterilis, A. abyssinica and A. stringosa were resistant to all 4 types.

    Resistance in Sabarlis was related to the inability of the larvae to develop past the third stage and of those that reached maturity most were males.

39. Robinson, R. A. and L. Chiarappa. 1975. The proposed FAO internatinal programme on horizontal resistance to crop pests and diseases. FAO Plant Protection Bulletin. 23(3/4):125-129.

    Vertical and horizontal resistance to crop plants pests and pathogens are covered in this report. FAO objectives and recommendations are included.

40. Roccia, A. O. and L. G. E. Lordello. 1974. [Resistance of sugar-cane varieties to Meloidogyne javanica.] Sociedade Brasileira de Nematologia, publicacao No. 1, pp.37-53. [Pt, Summary En]

    Tolerance to Meloidogyne javanica is reported for sugarcane varieties CB 56-20, CB47-355, CB40-69, IAC 50-134, IAC 52-150, IAC 52-326.

41. Roer, L. 1973. [Nematode resistant potato varieties] Aktuelt Landbruksdep Opplysningstjeneste, Norw. 2:89-94. [Nor]

42. Roer, L., W. Umaerus and K. Lindhardt. 1975. [Plant resistance - potato. Survey of the situation in the Scandinavian countries.] Nordisk Jordbrugsforskning, 57(5):1065-1068.

Recent work in breeding potatoes for resistance to nematodes is included.

43. Rogers, C. H. 1975. Registration of 16 tobacco cultivars. Crop Science 15(1):101-103.

Tobacco cultivars Coker 254, Coker 258, Coker 347 and Coker 354 have high resistance to Meloidogyne incognita. Coker 139, Golden Cure and Golden Harvest show some tolerance to root-knot nematodes.

44. Rohde, R. A. 1960. Mechanisms of resistance to plant parasitic nematodes. Nematology, ed: Sasser, J. N. and W. R. Jenkins. Chapel Hill University, North Carolina Press, 447-453.

45. Rohde, R. A. 1965. The nature of resistance in plants to nematodes. Phytopathology 55:1159-1162.

Noted that resistance is variable, ranging from slight to incomplete, is measured in terms of ability of the parasite to survive, and is not always directly related to plant growth.

46. Rohde, R. A. 1972. Expression of resistance in plants to nematodes. Annual Review of Phytopathology 10:233-252.

Review of literature dealing with unfavorable host-parasite relationships that lead to resistance. Resistance mechanisms that occur both before and after parasitism are discussed. Most of the review deals with three genera: Ditylenchus, Meloidogyne and Heterodera. Extensive references.

47. Rohde, R. A. and W. R. Jenkins. 1958. The chemical basis of resistance of asparagus to the nematode, Trichodorus christiei. Phytopathology 48(8):463 (Abstr.)

A toxic carbohydrate-like product (M. W. 148, proposed empirical formula C_6H12O_4) extracted from root and root leachates of Asparagus officinalis, causes irreversible paralysis of Trichodorus christiei in water solutions of 100 ppm or less.

48. Rohde, R. A. and W. R. Jenkins. 1958. Basis for resistance of Asparagus officinalis var. altilis L. to the stubby-root nematode Trichodorus christiei Allen 1957. Md. AGr. Expt. Sta. Bull. A-97, 19 pp.

Glycoside produced by Asparagus is highly toxic to stubby-root nematode.

49. Roivainen, O. and A. Tinnila. 1963. The resistance of certain Finnish red clover varieties to the stem nematode Ditylenchus dipsaci (Kuhn) Filipjev. Annales Agriculturae Fenniae, 2(1):1-6.

Lucerne, alsike clover and white clover were very resistant to the populations of D. dipsaci used. Local Finnish varieties of red clover, Kangasala and Taipalsaari showed some resistance.

50. Roman, J. 1964. Immunity of sugar cane to the reniform nematode. J. Agric. Univ. P. Rico. 48(2):162-163.

Sugar cane, Crotalaria, and Para grasses cause gradual reduction in population size of Rotylenchulus reniformis.

51. Romascu, E. and V. Lemeni. 1972. [The nematode Ditylenchus dipsaci Kuhn - a dangerous pest of garlic and onion crops.] Revista de Horticultura si Viticultura 21(5):73-78. [Rum]

In trials of 6 garlic varieties, 4 were weakly affected, one badly affected and one moderately affected by Ditylenchus dipsaci.

52. Ross, H. 1962. Uber die Vererbung der Resistenz gegen den Kartoffelnematoden (Heterodera rostochiensis Woll.) in Kreuzungen von Solanum famatinae Bitt. et Wittm. mit Solanum tuberosum L. und mit S. chacoense Bitt. Zuchter, 32(2):74-80.

Resistance to Heterodera rostochiensis in Solanum famatinae is carried by 2 independent dominant genes; one is probably identical with the H_1 gene for resistance in S. andigena, the other appears to carry resistance to both common and resistance-breaking races of H. rostochiensis.

53. Ross, H. 1972. [Improvement of the potato in Germany for resistance to the two species of cyst nematode.] Mejoramiento de la papa en Alemania para resistencia a las dos especies de nematode del quiste. International Symposium on key problems and potentials for greater use of the potato in the developing world, Lima, Peru, 17-19 July 1972. Lima, Peru; Centro Internacional de la Papa 181-190 [Es]

A detailed account of work in Germany on breeding resistance in potato to Heterodera rostochiensis and H. pallida.

54. Ross, H., L. A. Bouwman and P. Behringer. 1974. The action of the resistance genes H1, in potato cultivars ex S. andigena C.P.C. 1673 and Fb in breeding clones ex s. spegazzinii EBS 510 on cyst formation in various populations of the potato eelworm Heterodera rostochiensis Woll. s. str. Zeitschrift fur Pflanzenzuchtung 71(2):179-184.

55. Ross, H. 1976. [Research and potato breeding.] Kartoffelbau. 27(7):213, 216-217. [De]

Genes have been identified for resistance to Heterodera rostochiensis and H. pallida.

56. Ross, H. and C. A. Huijsman. 1969. Uber die Resistanz von Solanum(Tuberarium) Arten gegen europaische Rassen des Kartoffelnematoden (Heterodera rostochiensis Woll.) Theor. appl. Genet. 39:113-123.

Tests of race A and 11B and mixed B races of Heterodera rostochiensis of different origin revealed that each race had a distinct host range and a distinct aggressivity number (related to the number of cysts formed). It is suggested that one major gene may control resistance to more than one race. The reactions of the 63 Solanum species tested are given.

57. Ross, J. P. 1958. Host-parasite relationship of the soybean cyst nematode in resistant soybean roots. Phytopathology 48(10):578-579.

In cytological studies of host-parasite interactions of Heterodera glycines in the roots of susceptible and resistant (Peking) soybean, differences in plant reaction were only apparent after the larvae had become sedentary. The changes which are seen in resistant plants, including necrosis in the nematode feeding regions, are considered to be a hypersensitive reaction.

58. Ross, J. P. 1959. Influence of resistance to Heterodera glycines on soybean yield and nematode populations. Phytopathology 49(5):319.

The respective yields of the susceptible and resistant plants in untreated plots were 37 and 60% of the yields of plants grown in nematicide treated plots. A correlation existed between nematode population density and soya bean yield in the susceptiuble variety. After maturity the average population in the untreated plots was 3 larvae/pint soil for the resistant variety and 320 larvae/pint soil for the susceptible plants.

59. Ross, J. P. 1962. Physiological strains of Heterodera glycines. Plant Disease Reporter 46(11)766-769.

Populations of Heterodera glycine from Tennessee and North Carolina were tested on a soybean line rated as resistant in Tennessee and susceptible in North Carolina. In 2 experiments, females rarely developed on the resistant line from the Tennessee population, whereas development of the North Carolina population was not inhibited. Ross suggests that these 2 populations represent 2 physiologically distinct strains of H. glycines.

60. Ross, J. P. and C. A. Brim. 1957. Resistance of soybeans to the soybean cyst nematode as determined by a double-row method. Plant Disease Reporter 41:923-924.

6 of 2,800 entries showed resistance to Heterodera glycines.

61. Rothacker, D. 1957. Beitrage zur Resistenzzuchtung gegen den Kartoffelnematoden. I. Prufung von Primitiv - und Wild kartoffeln auf Verhalten gegenuber dem Kartoffelnematoden. Zuchter 27(3):124-132.

The collection of wild and primitive potatoes of the Institut fur Pflanzenzuchtung Gross-Lusewitz were tested for resistance to Heterodera rostochiensis. Solanum vernei was the only resistant form.

62. Rothacker, D. 1958. Beitrage zur Resistenzzuchtung gegen den Kartoffelnematoden Heterodera rostochiensis Woll. III Untersuchungen uber den Einfluss unterschiedlicher Kreuzungspartner auf die Ausloildung verschiedener Knolleigenschaften bei Kartoffelkrenzungen, zugleich ein Beitrag zur zuchtungmethodik. Zuchter 28(3):133-143.

In emphasizing the need to broaden the source of resistance from which resistance to Heterodera rostochiensis is drawn in the resistant lines of Solanum andigena, Rothacker gives data on seed productivity and nematode resistance of various crosses of the nematode-resistant, diploid species, S. vernei with tetraploid S. tuberosum.

63. Rothacker, D. 1960. Arbeiten und Ergebnisse uber die zuchterische Losung phytopathologischer Fragen bei der Kartoffel. Mededelingen Landbouwhogeschool en de Opzoekingsstations van de Staat te Gent, 25(3/4):1076-1086.

Crosses of the Solanum subsp. andigena with S. tuberosum have produced clones which gave good yield in infested soil. Nematode population reduction in the soil was greater than that found under oats and fallow.

64. Rothacker, D. 1970. Erfolge, Aussichten und Probleme der Resistenzzuchtung gegen den Kartoffelnematoden Heterodera rostochiensis. Nachr Bl. dt. PflSchutzdienst, Berl., 24(1):18.

65. Rothacker, D. 1971. [Development and tendencies in resistance-breeding against the potato nematode Heterodera rostochiensis Woll.] In Probleme der Phytonematologie. Vortrage anlasslich der 10 Tagung uber Probleme der Phytonematologie im Institut fur Pflanzenzuchtung Gross-Lusewitz der Deutschen Akadenie der Landwirtschaftswissenschaften zu Berlin am 11 Juni 1971. 69-93 [De] .

The work in breeding potatoes for resistance to H. rostochierois is reviewed at length. Tables of wild species and cultivars with resistance to H. rostochiensis are given.

66. Rothacker, D. and H. Stelter. 1957. Beitrage zur Resistenzzuchtung gegen den Kartoffelnematoden Heterodera rostochiensis Woll. II Untersuchungen uber die Vererbung der Nematodenresistenz bei den Arten S. vernei Britt. und S. tuberosum L. subsp. andigena. Zuchter 27(7):341-350.

The nature of Solanum tuberosum subsp. andigena may be due to a single dominant gene. The resistance found in S. vernei appears to be different and is probably polygenic. Direct crossing of S. vernei with cultivated varieties is due to the difference in chromosome number, but artifically induced polyploids of S. vernei may be crossed readily.

67. Rothacker, D. and H. Stelter. 1959. Beitrage zur Resistenzzuchtung gegen den Kartoffelnematoden (Heterodera rostochiensis Wollenweber). IV. Das Verhalten von resistenten Bastardklonen aus der Kreuzung zwischen S. tuberosum subsp. tuberosum mit S. tuberosum subsp. andigenum auf nematodenverseuchten und nematodenfreien Flachen. 29(5):241-251.

Resistant crosses of Solanum tuberosum subsp. tuberosum x S. tuberosum subsp andigenum suffered a temporary growth check, due to invasion by Heterodera rostochiensis larvae. There was some reduction in yield, but the new crosses fared better on nematode-infested soils than cultivated susceptible varieties.

68. Rothacker, D. and H. Stelter. 1971. [Solanum tuberosum ssp. andigenum as a source of resistance in breeding for resistance to nematodes.] In Probleme der Phytonematologie. Vortrage anlasslich der 10 Tagung uber Probleme der Phytonematologie im Institut fur Pflanzenzuchtung Gross-Lusewitz der Deutschen Akademie der Landwirtschaftswissenschaften zu Berlin am 11 Juni 1971. 52-68. [De]

The results of testing central and South American strains of Solanum tuberosum subsp. andigenum for resistance to pathotypes A and E of Heterodera rostochiensis are given and the use of the strains in breeding for resistance is reviewed.

69. Roy, A. K. 1974. Reaction of some rice cultivars to the attack of Meloidogyne graminicola. Indian Journal of Nematology (1973, publ. 1974) 3(1):72-73.

Indian rice varieties Garem and Dumai were found to be resistant to attack byMeloidogyne graminicola.

70. Roy, A. K. 1975. Studies on resistance of rice to the attack of Meloidogyne graminicola. Zeitschrift fur Pflanzenkrankheiten und Pflanzenschutz, 82(6/7):384-387.

Meloidogyne graminicola larvae penetrated the roots of both resistant and susceptible rice cultivars, however, further development in the resistant plants was inhibited. Root diffusates of either susceptible or resistant plants had no effect on the rate of hatching of the nematode, nor on the larval orientation.

71. Rumpenhorst, H. J. 1973. [Studies on the occurrence of pathotypes of the potato cyst nematodes Heterodera rostochiensis and H. pallida in the Federal Republic of Germany.] Mitteilungen aus der Biologischen Bundesanstalt fur Land- und Forstwirtschaft, Berlin-Dahlem 151:294-295. [De]

Only one pathotype apart from pathotype A has been identified. (The potato varieties used for differentiation are listed.) The discovery of H. pallida has complicated the pathotype studies.

1. Sabanov, D., N. Tomov and V. Pophristov. 1967. [Testing tobacco varieties and crosses for resistance to root nematode.] Balg. Tjut., 12(6):25-31.

Tobacco variety NC95 transmitted resistance to root nematode [Meloidogyne] more effectively as maternal parent in crosses with Bulgarian varieties.

2. Saichuk, J. K., C. Williams and W. Birchfield. 1976. A technique for screening soybeans for resistance to root-knot nematode. Plant Disease Reporter 60(10):868-870.

A root gall index was used to screen seedlings of 3 soybean cultivars. Maximum gall development occurred earlier in the susceptible cultivar and differences between the moderately resistant and resistant cultivars could be increased at higher inoculum levels.

3. Saito, M. 1972. Breeding of soybean in Japan. Tropical Agriculture Research Series No. 6, 43-54. Plant Breeding Abstracts 45, 2418.

Soybean varieties Toyosuzu, Raiden and Okushirome have resistance to Heterodera glycines.

4. Saito, M., K. Sunada, S. Sakai. 1973. [Breeding of soybean varieties resistant to Heterodera glycines in Hokkaido.] Agriculture Horticulture 48(10):69-74. [Ja].

5. Salem, A. A., E. M. Sedky, M. S. Embabi and A. B. Botros. 1974. Reaction of eleven tomato cultivars to infection by Meloidogyne javanica. Agricultural Research Review. 52(2):123-125.

All were susceptible to M. javanica.

6. Sampath, S., Y. S. Rao and J. K. Roy. 1970. The nature of pest resistance in an indica rice variety TKM 6 (Correspondence). Curr. Sci. 39:162-163.

Indica rice variety TKM 6 and five other varieties were shown to be highly resistant to Meloidogyne graminicola in India.

7. Santoso, I. 1975. The effect of various factors on the expression of genetic resistance to root-knot nematode (Meloidogyne incognita (Kofoid and White) Chitwood) in snap-bean (Phaseolus vulgaris L.), tomato (Lycopersicon esculentum Mill.), soybean (Glycine max Merr.), and lima bean (Phaseolus lunatus L.). Dissertation Abstracts International 35B.2, 610B. (Plant Breeding Absracts 46, 10603.)

Meloidogyne incognita (P2) was aggressive on Manva Wonder snap bean as seen by considerably increased galling. The tomato and soybean cultivar maintained their resistance and the lima bean cultivar white Ventura N was partially resistant.

8. Sasser, J. N. 1954. Identification and host-parasite relationships of certain root-knot nematodes. (Meloidogyne spp.) Maryland Agricultural Experiment Station Bulletin A-77, 31 pp.

M. hapla larvae do not penetrate non-hosts oat and rye.

9. Sasser, J. N. 1957. Heterodera glycines, the present situation. Proceedings of the S-19 Workshop in Phytonematology. University of Tennessee, July 1957, 8 pp.

Resistance of soyabean varieties and the distribution of the nematode, Heterodera glycines, are mentioned.

10. Sasser, J. N. 1966. Behavior of Meloidogyne spp. from various geographical locations of 10 host differentials. Nematologica 12:97 (Abstract).

11. Sasser, J. N. and A. L. Taylor. 1952. Studies on the entry of larvae of root-knot nematodes into roots of susceptible and resistant plants. (Abstract) Phytopathology 42(9):474.

Resistance to root-knot nematodes include: inability of the larvae to enter, entry of the larvae but little or no development, or entry of high numbers of larvae but with variable development.

12. Sauer, M. R. 1974. Yields of sultanas on rootstocks. Journal of the Australian Institute of Agricultural Science 40(1):84-85.

Grape virus grafted onto Salt Creek or Dog Ridge vinestocks show better yields than ungrafted vines.

13. Sauer, M. R. 1977. Nematode resistant grape rootstocks. Aust Dried Fruit News 5(1):10-13.

14. Sauer, M. R. and J. E. Giles. 1959. A field trial with a root-knot resistant tomato variety. Irrigation Rsearch Station Technician Paper No. 3, Melbourne, Australia, 10 pp.

15. Savitsky, H. 1973. Meiosis in hybrids between Beta vulgaris L. and Beta procumbens chr. sm. and transmission of sugarbeet nematode resistance. Proceedings of the 13th International Congress of Genetics 74(2,II):241.

Some highly resistant 3N hybrids were obtained from tetraploid Beta vulgaris x diploid B. procumbens (resistant). The hybrids contained 19 chromosomes, one of them from B. procumbens. The resistance carrying chromosome was sometimes lost during meiosis in the triploid. It was transmitted to the B 7 generation at a rate of 12%.

16. Savitsky, H. 1975. Hybridization between Beta vulgaris and B. procumbens and transmission of nematode (Heterodera schachtii) resistance to sugar beet. Canadian Journal of Genetics and Cytology 17(2):197-209.

From 8,834 backcross plants (progenies of trisomics), two resistant diploid plants were crossed and resistance was transferred from both plants to the F_1 hybrid. The resistance segment of the B. procumbens chromosome has been transferred to a sugarbeet chromosome.

17. Savitsky, H. 1976. Transmission of nematode resistance and meiosis in diploid Beta vulgaris-procumbens hybrids. 1976. Genetics 83(3):67.

18. Sawhney, R. and J. M. Webster. 1975. The role of plant growth hormones in determining the resistance of tomato plants to the root-knot nematode, Meloidogyne incognita. Nematologica 21(1):95-103.

    The role of an auxin (NAA) and a cytokinin (kinetin) in the response of a susceptible (Bonnie Best) and a resistant (Nematex) cultivar of tomato was examined. A comination of NAA + kinetin increased susceptibility inboth cultivars, but resistance was not completely broken in Nematex.

19. Schaal, W. 1951. New table pea variety rates high in yield, nematode resistance. Crops and Soils. Madison, Wisconsin. 3(8):28.

    A new southern table pea variety called Dixielee is apparently resistant or at least tolerant, to nematodes.

20. Schafer, J. F. 1971. Tolerance to plant disease. Annual Review of Phytopathology 9:235-252.

21. Scheetz, R. W. and H. W. Crittenden. 1971. Histochemistry of resistant and susceptible soybean roots infected with the root-knot nematode Meloidogyne incognita acrita. Delaware Agricultural Experiement Station Bulletin 384, 11 p.

22. Scheffer, F., R. Kickuth and J. H. Visser. 1962. [The root-exudates of Eragrotis curvula and its influence on root-knot nematode spp.] fur Pflanzenernahrung Dungung Bodenkunde 98:114-120.

    The resistance of Eragrostis curvula to Meloidogyne spp. due to high concentration of pyrocatechol in root exudates.

23. Schieber, E. and O. N. Sosa. 1960. Nematodes on coffee in Guatemala. Plant Disease Reporter 44:722-723.

    Coffea robusta in field studies showed high degree of resistance to Meloidogyne exigua and to Pratylenchus coffeae.

24. Schmitt, D. P. 1976. Relative suitability of soybean cultivars to Pratylenchus brachyurus. Journal of Nematology 8(4):302.

    Results are given of tests to determine soybean susceptibility to Pratylenchus brachyurus.

25. Schweppenhauser, M. A. 1974. Interspecific bridge transfer in Nicotiana of resistance to Meloidogyne javanica. South African Journal of Science 70(10):312-314.

Resistance of Nicotiana lines to Meloidogyne javanica is of a dominant type with 2 or more genes contributing in an additive manner.

26. Schweppenhauser, M. A. 1975. Rootknot resistance from Nicotiana longiflora. Tobacco Science 19:26-29.

27. Schweppenhauser, M. A. 1975. Source of Nicotiana tabacum resistant to Meloidogyne javanica. Tobacco Science 19:43-47. (Plant Breeding Abstracts 46, 9301.)

28. Scheweepenhauser, M. A. 1975. Rootknot resistance from Nicotiana longiflora. Tobacco International 177(6):68-71.

    Resistance appeared to be inherited as a monogenic dominant. Some introgression lines had varying degrees of resistance, possibility due to linked modifying genes on the introgressed segment. It is also possible that there were modifying genes on the other chromosomes of N. longiflora.

29. Schwepenhauser, M. A. 1975. Source of Nicotiana tabacum resistant to Meloidogyne javanica. Tobacco International 177(9):40-42. (Plant Breeding Abstracts 46, 9300.)

    The alloploid N. sylvestris x N. tomentosiformis was most effective back-cross parent in producing good quality, resistant lines from N. tabacum selfed and hybrid progenies. Resistance was monogenic dominant with enhancing modifer genes.

30. Scognamiglio, A. 1964. Nematodi dannosi alle colture orticole. Notiz. Mal. Piante, No. 70/71 pp. 41-73 [English summary pp. 71-72.]

    The life-cycle, pathogenesis and pathology of species of Meloidogyne, Ditylenchus and Aphelenchoides are described and illustrated. The different methods of control are discussed (biological, chemical, rotation of crops, resistant plants.)

31. Scotto La Massese, C. 1965. Sensibilite de quelques porte-greffes de citrus a l'egard de Tylenchulus semipenetrans Cobb, 1913. C. r. leres Journees Phytiat. Phytopharm. circummediterraneennes, Marseille, pp. 59-68.

    All of the 5 root stocks studied were susceptible to Tylenchulus semipenetrans, but one of the Citrange Troyer rootstocks allowed only slight multiplication.

32. Scotto la Massese, C. 1975. [Tests of some fruit rootstocks and varieties as hosts for Pratylenchus vulnus Allen & Jensen.] Comptes Rendus des Seances de l'Academie d'Agriculture de France 61(17):1088-1095 [Fr].

    Prunus tomentosa, P. fremontii, peach-almond hybrid GF 557 and hybrids with P. myrobolan were poor hosts for Pratylenchus vulnus.

33. Scotto la Massese, C. 1976. [Seminar on the resistance of plants to diseases, nematodes and insects, Antibes, May 1975.] Annales de Phytopathologie 8.2:251-287. [Fr].

Resistance to Meloidogyne spp. and Heterodera rostochiensis are briefly reported.

34. Scotto la Massese, C., R. Vassy and H. Zaouchi. 1975. [Influence of three rootstocks on the yield of two citrus varieties in Algeria and on infestation by Tylenchulus semipenetrans.] Nematologia Mediterranea 3(1):29-34.

Yields of fruit were greater from trees on the P. trifoliata rootstocks (resistant to T. semipenetrans). Infestation of the susceptible rootstocks was enhanced when they were grafted wih Clementine (C. sinensis x C. reticulata) than with sweet orange.

35. Scurrah, M. M. de. 1972. The inheritance of resistance to Heterodera rostochiensis Woll. from Long Island and Peru in S. tuberosum clones with resistance from S. vernei and other species. Dissertation Abstracts International 33B(3):979.

Resistance in clones derived from Solanum vernei was conferred by one dominant gene. Clones from S. vernei and S. andigena were susceptible to Peruvian populations of the nematode, though resistance to one or more of the populations was shown by diploids of S. vernei, S. spegazzinii and S. sanctae rosae. Andean populations of the nematode seem to have much greater genetic variability than do European populations.

36. Scurrah, M. M. de. 1972. Variability in Heterodera attacking the potato in Peru. Lima, Peru; Centro Internacional de la Papa 172-180.

Resistance was broken in all 13 tetraploid clones from USA & Europe that were tested with nematode populations from Huancayo and Otuzco. The population from Cuzco overcame resistance in all but 5 of the clones. Of 47 diploid clones, only one was resistant to all 3 populations, but there were even fewer cases of resistance in tetraploid lines.

37. Scurrah, M. M. de. 1974. Resistance to potato cyst nematode for the Andean region. American Potato Journal 51(8):280.

Of 10 tetraploid clones tested, none showed resistance to more than one of the four nematode populations (3 Heterodera pallida, 1 H. rostochiensis). The triploid S. juzepczukii clones had good resistance to as many as 3 of the nematode populations.

38. Scurrah, M. M. de, W. F. Mai and R. L. Plaisted. 1973. More about potato nematode, Heterodera rostochiensis Woll., in Peru. American Potato Journal 50(2):58-61.

(See number 36). Plant reactions and morphometric measurements indicate a similarity to pathotype E from England.

39. Sczcygiel, A. and J. Giebel. 1970. Phenols in the leaf buds of two strawberry varieties resistant and susceptible to Aphelenchoides fragariae. Proceedings of the IX International Nematology Symposium, Warsaw, 1967. 247-253.

In the resistant variety, IAA was destroyed, whereas extracts from susceptible leaves prevented destruction of IAA (indole acetic acid). The distortion of leaves of the susceptible variety is attributed to accumulation of IAA in the injured areas.

40. Sein, T. 1977. Varietal resistance to ufra disease in Burma. International Rice Research Newsletter 2(2):3.

Investigations were carried out on rice plants infested with Ditylenchus angustus. One variety B-69-1 was found to be tolerant to nematode infection.

41. Seinhorst, J. W. 1957. Ditylenchus; races, pathogenicity, and ecology. p. 1-7. In E. J. Cairnes (ed.) Proceedings S-19 Workshop in Phytonematology, Nashville.

Gall formation appears necessary for development of the stem nematode, and failure to form galls results in resistance.

42. Seinhorst, J. W. 1973. The relationship between yield and square root or nematode density. Nematologica 18(4):585-590.

Host tolerance limits can be calculated from data on plant yield and nematode densities.

43. Seinhorst, J. W. and H. den Ouden. 1971. The relation between density of Heterodera rostochiensis and growth and yield of two potato varieties. Nematologica 17:347-369.

Tolerance limits were 1.5 eggs for Libertas and 6 eggs for Multa--per g of soil, grown at low nitrogen fertilizer levels.

44. Sembdner, G. 1963. Anatomische Unterschungen uber Reaction von Solanum demissum,Solanum vernei und Solanum andigenum auf Befall durch den Kartoffel nematoden, Heterodera rostochiensis Woll. Zuchter, 33(3):97-109.

Physiological reactions of the roots of S. demissum, S. vernei and S. andigenum hybrids inoculated with biotypes A and B of H. rostochiensis were studied. Resistance in these wild potato species include: resistance to entry of larvae, encystment of larvae in the periderm, and interuption of larval development.

45. Shagalina, L. M. 1968. [Resistance of some cotton varieties to Meloidogyne javanica.] Biol. ylyml. ser. No. 4:82-83 [Ru]. From Plant Breeding Abstracts 42, 5595.

Field observations showed that Gossypium barbadense 54761, 87631, and 90781 and G. hirsutum 138F are not infected by M. javanica. The

varieties 87631 and 90781 were also resistant when infected artificially in the greenhouse.

46. Shagalina, K. M. 1973. [Resistance of lucerne to some pathogenic nematodes.] Biologicheskie Nauki, 1:48-51.

The varieties of lucerne (Medicago pollia) used at present in the Turkmen SSR were found to be resistant to Meloidogyne spp., i.e., variety Tashkentskaya 3192 to M. javanica and variety I 1763 to M. javanica and M. incognita acrita.

47. Sharpe, R. H. 1957. Okinawa peach shows promising resistance to root-knot nematodes. Proceedings of the Florida Stae Horticultural Society 70:320-322.

Rooted cuttings from 37 Okinawa peach seedlings were inoculated with Meloidogyne incognita, M. incognita acrita and M. javanica. M. incognita and M. incognita acrita did not produce any galls. 8 plants inoculated with M. javanica did not have any galls while 16 only had a few. Resistance to the burrowing nematode, Radopholus similis was also very high.

48. Sharpe, R. H. 1974. Breeding peach rotstocks for the southern United States. Horticultural Science 9(4):8-9.

Rootstocks that are resistant to Meloidogyne javanica and M. incognita include Nemaguard Nonpareil and crosses between peach and P. davidiana. Information on chromosome number and origin is given.

49. Sharpe, R. H. et. al. 1969. Breeding peaches for root-knot nematode resistance. Journal of American Society, Horticultural Science, 94:209-212.

5 peach rootstocks derived from a cross of Prunus davidiana with a Chinese peach showed immunity to Meloidogyne incognita and M. javanica. A third root-knot nematode which reproduces on lines which have been selected for resistance to M. incognita and M. javanica has been discovered.

50. Shcherbak, K. I. 1975. [Susceptibility of agricultural crops to Ditylenchus dipsaci (Kuhn, 1857) Filipjev, 1936] Byulleten' Vsesoyuznogo Instituta Gel'mintologii im. 15:137-141. [Ru].

11 agricultural crops showed resistance to Ditylenchus dipsaci in field trials in the Ukraine.

51. Shcherbakov, V. K. 1975. [Problems of immunity in plants.] Vestnik Sel'skokhozyaistvennoi, Nauki, Moscow. 3(231):76-89 [Ru, Summary En, Fr, De].

The resistance of potato to Heterodera is mentioned. Two hybrids (Sagitta x Contessa) and (Sagitta x Ora) are given as resistance lines.

52. Shehata, M. A., S. H. Nassar and M. S. Attia. 1972. Gawaher (Gizal) a tomato variety with resistance to the root knot nematode. Agricultural Research Review 50(4):39-45.

53. Shepherd, A. M. 1958. Experimental methods in testing for resistance to beet eelworm, Heterodera schachtii. Nematologica 3(2):127-135.

    Sugar beet resistance to H. schachtii is diffcult to assess due to variability arising in techniques. Variation in the number of cysts on plants under the same conditions is very high for all methods of inoculation. Seasonal conditions also affect cyst production.

54. Shepherd, A. M. 1959. Testing populations of beet eelworm, Heterodera schachtii, for resistence-breaking biotypes, using the wild beet (Beta patellaris Moq.) as indicator. Nature. London 183(4668) 1147:1142.

    Single cysts were recovered from 3 of 8 populations of H. schachtii, on the resistant plant Beta patellaris, indicating the presence of potential resistance-breaking individuals.

55. Shepherd, R. L. 1970. Breeding for resistance to root-knot Fusarium wilt complex in cotton. Cotton Imp. Conference Proceedings 1970:68 (Abstract).

56. Shepherd, R.L. 1974. Breeding root-knot-resistant Gossypium hirsutum L. using a resistant wild G. barbadense L. Crop Science 14(5):687-691.

    The lines produced represent significant progress in increasing resistance to Meloidogyne incognita acrita in cotton.

57. Shepherd, R. L. 1974. Registration of Auburn 623 RNR cotton germplasm. (Reg. No. GP 201.) Crop Science 14(6):911.

    Auburn 623 RNR (cross between Clevewilt 6-35 and Mexican Wild) has resistance to Meloidogyne incognita acrita.

58. Shepherd, R. L. 1974. Transgressive segregation for root-knot nematode resistance in cotton. Crop Science 14(6):872-875.

    Two F_{10} lines, designated as A623 and A61, having the highest known resistance to root-knot in G. hirsutum (due to Meloidogyne incognita acrita), were developed. These lines were transgressive segregates for resistance. Root-knot resistance in the F_1 generation from A623 x susceptible Stonebille 213, Coker 201 and Dixie King 11 was incompetely dominant.

59. Shepshelev, Z. G. and N. F. Chernikova. 1971. [Varietal differences in the resistance of the potato to stem eelworm.] Tr. NII kartof. Kh-va 9:128-134 [Ru]. Plant Breeding Abstracts 45, 2150.

    Complete resistance to Ditylenchus dipsaci was not found in any of the 79 varieties and 100 + hybrids of potatoes tested. Earliness and resistance were negatively correlated.

60. Shepshelev, Z. G. and M. F. Chernikova. 1975. [The resistance of breeding material to Ditylenchus dipsaci.] Nauch. tr. NII kartof. kn-va, 21:151-153. [Ru] (Plant Breeding Abstracts 47, 8602.)

Resistant breeding material was derived from S. chacoense and S. rybinni. Fewer resistant forms were found among those derived from S. andigenum. Resistant varieties included Ali, USA 41956, Sperber (Sparrow hawk), Berezka (Little Birch), Breza, Kapella, Kobra, Lyaronikha and Tsvetnik (Flower bed).

61. Sherwood, R. T., J. W. Dudley, T. H. Busbice and C. H. Hanson. 1967. Breeding alfalfa for resistance to the stem nematode, Ditylenchus dipsaci. Crop Science 7(4):382-384.

Good agromic qualities and stem nematode resistance were combined in an experimental synthetic largely by back-crossing. A 2nd resistant synthetic was obtained by recurrent selection in the susceptible variety Cherokee. Recurrent selection appeared to be more efficient for developing resistance.

62. Shesterperov, A. A. 1975. [The susceptibility of red clover varieties and some leguminous species to the ectoparasitic nematodes, Paratylenchus projectus and Tylenchorhynchus dubius.] Byulleten' Vsesoyuznogo Instituta Gel'mintologii im. K. I. Skryabina 15:125-130 [Ru].

Susceptibility to Pratylenchus projectus and Tylenchorhynchus dubius was variable in Trifolium pratense, T. repens Onobrychis arenaria, Medicago falcata, and M. sativa. Least susceptible to both nematodes were M. sativa, M. falcota and O. arenaria. Some resistance to P. projectus was found in Trifolium pratense "Late hybrid' and T. repens.

63. Shesterperov, A. A. 1976. [The susceptibility of certain varieties of white and red clover to Heterodera trifolii. Abstract] Kishinev, USSR, Izdatel'stovo "Shtiintsa" 66-67. [Ru].

64. Shiabova, T. N. 1972. [Resistance of cereal crops to cereal root nematode in Western Siberia.] Byulleten Sib. NII Khimiz. s. Kh., 1/2:9-12. (Plant Breeding Abstracts 46, 3118.0 [Ru].

A Siberian population of Heterodera avenae was tested on 34 resistant varieties of wheat, oats and barley and 40 barley varities from the world collection of the USSR Institute of Plant Industry. Resistant barley varieties were Drost, Pajbjerg, Kron, Rika, Brage and Proctor. Oat variety Avena byzantina 11527 was resistant and all of the wheat varieties tested were susceptible.

65. Shiabova, T. N. 1976. [The resistance of cereal varieties to Heterodera avenae in western Siberia (USSR).] (Abstract). Kishinev, USSR; Izdatel'stovo "Shtiintsa". p67-68. [Ru]

66. Shibuya, M. 1952. Studies on the varietal resistance of sweet potato to the root-knot nematode injury. Memoirs of the Faculty of Agr., Kagoshima University 1:1-22.

A table is given of the resistance shown by certain sweet-potato varieties and their hybrids from which it is deduced that resistance is heritable and dominant.

67. Shivashankar, G., D. D. R. Reddy, K. G. H. Setty and B. R. Rajendra. 1975. Strains of tomato resistant to rootknot nematodes (Meloidogyne spp.) Current Science 44(7):241-242.

68. Shpileva, I. V. 1972. [Testing of strawberry varieties in the Novosibirsk region.] In Kul'tura zemlyaniki v SSSR. Doklady simpoziuma, (28 iyunya - 1 ijulya 1971). Moscow, USSR, "Kolos" 326-329 [Ru].

None of the 11 varieties tested were resistant to Ditylenchus dipsaci or Aphelenchoides ritzemabosi.

69. Shubina, L. V. 1975. The effect of mineral fertilizers on the essential oil content of healthy and nematode-infected garlic. VIII Nauch. Konf. Parazitologov Ukrainy, Donetsk. Kiev, UKSSR pp. 194-195. (Horticultural Abstracts 46, 9254) [Ru].

Increased mineral fertilizers (NPK) increased resistance and essential oil content of garlic resistant to Ditylenchus dipsaci.

70. Shubina, L. V. 1976. [The effect of mineral fertilizers on the resistance of garlic to Ditylenchus dipsaci and on its volatile oils.] Kishinev, USSR; Izdatel'stvo "Shtiintsa." PP. 92-93. [Ru].

71. Siddiqi, Z. A., A. M. Khan and S. K. Saxena. 1972. Host range and varietal resistance of certain crucifers against Tylenchorhynchus brassicae. Indian Phytopathology 25(2):275-281.

22 vegetables and 10 ornamentals were tested for susceptibility to Tylenchorhynchus brassicae.

72. Siddiqui, I. A. and D. P. Taylor. 1970. Symptoms and varietal reaction of oats to the Illinois isolate of the barley root-knot nematode, Meloidogyne naasi. Plant Disease Reporter 54:972-975.

Of 47 Avena species and varieties tested, 31 were susceptible and the others ranged from slightly to resistant.

73. Sidhu, G. and J. M. Webster. 1973. Identification of a resistance gene in tomato (Lycopersicon esculentum) against root-knot nematode (Meloidogyne incognita). Canadian Journal of Genetics and Cytology 15(3):663.

Resistance to Meloidogyne incognita in the tomato variety Small Fry was conferred by a single dominant gene.

74. Sidhu, G. and J. M. Webster. 1973. Genetics of resistance in tomato against a fungus-nematode complex. Genetics 74(2,II):s225.

A single dominant gene, designated LMiR2, is considered to confer resistance to Meloidogyne incognita in Small Fry tomato variety.

75. Sidhu, G. and J. M. Webster. 1973. Genetic control of resistance in tomato. I. Identification of genes for host resistance to Meloidogyne incognita. Nematologica 19(4):546-550.

Seven tomato cultivars were tested against a single culture of M. incognita. Segregations obtained from the F_2 and backcross progenies from several crosses show that cultivars Nematex, Small Fry and Cold Set each possess a single gene for resistance. The gene was recessive in coldset and dominant in the other two.

76. Sidhu, G. and J. M. Webster. 1973. Genetic Control of resistance in tomato (Lycopersicon esculentum) to root-knot nematode (Meloidogyne incognita). In International Congress of Plant Pathology (2nd), Minneapolis, Minnesota, September 5-12, 1973. Abstract No. 0862.

Tomato cultivar Coldset possesses a single recessive gene for resistance to M. incognita (culture Mi-1).

77. Sidhu, G. and J. M. Webster. 1974. Genetics of resistance in the tomato to root-knot nematode - wilt-fungus complex. Journal of Heredity 65(3):153-156.

F_2 plants from Small Fry (resistant) x Wonder Boy (susceptible) were tested for resistance to Meloidogyne incognita and Fusarium oxysporum lycopersici. Results indicate two dominant genes for resistance (one effective against the nematode, one against the fungus).

78. Sidhu, G. S. and J. M. Webster. 1975. Linkage and allelic relationships among genes for resistance in tomato (Lycopersicon esculentum) against Meloidogyne incognita. Canadian Journal of Genetics and Cytology 17(3):323-328.

Gene LMiR1 (in Nesmatex) and gene LMiR2 (in Small Fry-1) are closely linked (5.65 morgan units apart). The LMiR1 and Mi genes are either identical or allelic.

79. Sikka, L. C., K. K. Nirula and H. S. Chauhan. 1969. Nature of resistance to Meloidogyne incognita in potato seedling H. C. 294 (Abstract). All India Nematology Symposium, New Delhi, August 21-22, 1969, p. 48.

80. Sikora, R. A., P. K. Koshy and R. B. Malek. 1972. Evaluation of wheat selections for resistance to the cereal cyst nematode. Indian Journal of Nematology 2(1):81-82.

The 3 resistant selections were PI 183868 from Turkey and PI 185205 and PI 185207 from Portugal.

81. Sikora, R. A., K. Sitaramiah and R. S. Singh. 1973. Rection of root-knot nematode-resistant tomato cultivars to Meloidogyne javanica in India. Plant Disease Reporter 57(2):141-143.

Tomato cultivars bearing the Mi gene for resistance to root-knot nematodes (Meloidogyne spp.) were field-tested in India for their reaction to Meloidogyne javanica. Cultivars Healani, Kalohi, Anahu,

Hawaii 7526, Atkinson, Nematex, Y-207, and Y-240 lacked visible root galling. Two cultivars, VFN-8 and VFN-368, were heavily galled. The results suggest that one or more genes other than the Mi may directly or indirectly affect root-knot nematode resistance in tomato.

82. Sinah, B. and B. Chaudhury. 1973. Yield and quality of fruits of tomato cultivars resistant and susceptible to root-knot nematodes. Haryana Journal of Horticultural Sciences 2(3/4):88-93.

Resistant and tolerant tomato cultivars and one susceptible commerical cultivar were planted in a field infested with 20 Meloidogyne spp. larvae /250g soil. Differences in vegetative and yield characteristics were studied. Varieties VFN-8, 65N 215-1, and 65N 255-1, have been recommended as sources of resistance for commercial cultivars.

83. Singh, B., M. K. Banerjee, and K. Singh. 1974. Inheritance of resistance to root-knot nematodes in tomato. SABRAO Journal 6(1):75-78.

Resistance to Meloidogyne javanica is controlled by a dominant gene. The study included 10 crosses involving 3 resistant varieties of tomatoes and 2 susceptible.

84. Singh, B., D. S. Bhatti, and K. Singh. 1974. Resistance to root-knot nematodes (Meloidogyne spp.) in vegetable crops. Pest Article and News Summaries 20(1):58-67.

A review of the literature on breeding for resistance to Melodogyne spp. in 14 important vegetable crops. Successful commercial varieties resistant to root-knot have only been developed with tomatoes. 110 references.

85. Singh, B. and B. Choudhury. 1972. Resistance in tomatoes to root-knot nematode. Haryana Journal of Horticultural Science 1(1/4):63-68.

Resistance to Meloidogyne javanica, M. incognita and M. arenaria was found in the tomato cultivars 66N1, 569N-10, Manahicie and Atkinson. Lycopersicon peruvianum strains (LP1, LP2 and LP3) also were resistant.

86. Singh, B. and B. Choudhury. 1973. The chemical characteristics of tomato cultivars resistant to root-knot nematodes (Meloidogyne spp.) Nematologica 19(4):443-448.

Phenolic content was found to be directly related to root-knot nematode resistance in the cultivars, being highest in immune cultivars and species, followed by resistant, tolerant and susceptible cultivars.

87. Singh, B and B. Choudhury. 1974. Screening tomato cultivars for resistance to Meloidogyne species. Pest Articles and News Summaries 20(3):319-322.

162 tomato cultivars were screened for resistance to M. incognita, M. javanica and M. arenaria. Nematex, VFN-8 65N215-1, 65N255-1 and S1-120 showed high resistance.

88. Singh, D. V. and B. M. Khanna. 1974. Resistance of wheat varieties to ear-cockle disease. Indian Journal of Farm Science 2:102.

89. Singh, S. R., R. J. Williams, K. O. Rachie, K. Rawal, D. Nangju, H. C. Wien and R. A. Luse. 1975. VITA-3 cowpea (GP-3). Tropical Grain Legume Bulletin 1(1):18-19. Plant Breeding Abstracts 46,8536.

Resistance to Meloidogyne incognita is shown in a tropcial strain of Vigna uncuiculata.

90. Siniscalco, A., F. Lamberti and R. Inserra. 1976. [Reaction of peach rootstocks to Italian populations of root-knot nematodes (Meloidogyne spp.).] Nematologia Mediterranea 4(1):79-84.

Nemaguard, S-31 and Okinawa peach rootstocks were immune to Meloidogyne arenaria (population from Verona, Italy) and to M. incognita (Puglia, Italy).

91. Sivapalan, P. and V. Shivanandarajah. 1974. Polyphenol content in the feeder roots of nematode-tolerant and susceptible tea clones in relations to infestation by Pratylenchus loosi Loof. Tea Quarterly 44(4):173-176.

The total free polyphenol content of feeder roots in nematode-tolerant tea clones after inoculation with Pratylenchus loosi, was significantly higher than in susceptible clones in which there was a decrease in total free polyphenol content following inoculation.

92. Skarhilovich, T. S. 1963. [Study of the susceptibility of various varieties of legumes and of maize to Tylenchorhynchus dubius (Butschli, 1873).] In: [Helminths of man. animals and plants and their control: Papers on helminthology presented to Academician K. I. Skryabin on his 85th birthday.] Moscow, Izdatelstvo Akad. Nauk SSSR, 511-514. [Ru].

93. Skarbilovich, T. S. 1973. [Susceptibility of varius flax varieties to parasitic nematodes]. In Gagarin, V.G. (Ed). Problemy obshchei i prikladnoi gel'mintologii, Moscow, USSR; Izdatel'stvo "Nauka" 373-376 [Ru].

Of 11 flax varieties, all were found to be resistant to Heterodera schachtii, 4 were resistant to Ditylenchus destructor, 4 to D. dipsaci and 6 resistant to Aphelenchoides Fragariae.

94. Slabaugh, W. B. 1974. The nature of resistance in tomatoes to three nematodes. Dissertation Abstracts International 34B(11):5280.

Serine, at different concentrations in susceptible and resistant tomato roots, is thought to be involved in the resistance mechanism because of its role in tryptophan and N10 formyltetrahydrofolate biosynthesis and thus involved in biochemistry of IAA and cytokinins.

95. Slana, L. J. 1975. Studies on the source of resistance to Meloidogyne incognita acrita and M. incognita incognita in tobacco. Proceedings of the American Phytopathologicl Society 2:128.

96. Slana, L. J., J. R. Stavely, J. J. Grosso and A. M. Golden. 1977. Probable source of Meloidogyne incognita resistance in tobacco as indicated by reactions to five Meloidogyne isolates. Phytopathology 67(4):537-543.

Contrary to previous reports the source of resistance in the tobacco lines studied was either Nicotiana tomentosa or perhaps N. tomentosiformis. Although highly variable in its response, N. otophora showed some resistance to M. incognita acrita and M. javanica.

97. Slootmker, L. A. J. 1974. Aims and objectives in breeding cereal varieties. Outlook on Agriculture 8(3):133-140.

Heterodera avenae and Meloidogyne naasi are briefly mentioned in connection with breeding cereals for resistance to pests.

98. Slootmaker, L. A. J. 1974. Monosomic analysis in bread wheat of resistance to cereal root eelworm. Euphytica 23(3):497-503.

The genetics of the resistance of the variety Loros to Heterodera avenae was studied by use of Redman monosomic lines. The resistance is monogenie, dominant and the locus is on chromosome 2B.

99. Smart, G. C., Jr., and B. B. Brodie. 1977. Reaction of Hudson potato to Heterodera rostochiensis. (Abstract). Nematropica 7(1):7.

100. Smart, G. C., Jr., and B. B. Brodie. 1977. Reaction of Katahdin and breeding line M-905-1-1 potato to Meloidogyne incognita. (Abstract.) Nematropica 7(1):7.

101. Smart, G. C., Jr., Dickerson and Smith. 1970. Pakmor and Calmart--two new disease-resistant tomatoes. California Agriculture 24(6):3.

102. Smedgard, G. 1958. Havrenematoden maste bekampas Lantmannen 69:977-979.

Field trials with 10 varieties each of spring wheat, barley and oats were carried out. Susceptibility among the oat varieties varied with Sun II showing the least susceptibility.

103. Smith, A. L. 1941. The rection of cotton varieties to Fusarium wilt and root-knot nematode (Heterodera marioni). Phytopathology 31:1099-1107.

Preliminary observations of field studies. Resistance to root-knot was confined to wilt-resistant varieties that were originated in lighter Coastal Plain (Georgia) soils.

104. Smith, A. L. 1954. Resistance to Fusarium wilt and root-knot nematode in upland cotton varieties. Phytopathology 44(6):333 (Abstract)

Auburn 56 and H87-16 (derived from Cook 307) showed the best combined resistance to root-knot nematode and fusarium wilt.

105. Smith, A. L. 1954. Problems on breeding cotton for resistance to nematodes. Plant Disease Reporter Supplement 227:90-91.

Levels of root-knot resistance in 23 commerical cotton varieties, grouped according to parental source of resistance, are indicated.

106. Smith, A. L. 1957. [Cotton Section, U. S. Dept. of Agric, Auburn, Alabama.] Breeding resistance to Meloidogyne spp. Proceedings of the S-19 Workshop in Phytonematology, University of Tennessee, July 1-6, 1957, 5 pp.

The techniques, goals and problems of breeding plants for nematode-resistance, particularly resistance to Meloidogyne spp. is discussed. Included is a table of 10 crops with information relating to the factors determining resistance, whether dominant or recessive and the number of chromosomes basic to the genus and the crop under study.

107. Smith, O. F. 1955. Breeding alfalfa for resistance to bacterial wilt and the stem nematode. Nevada University Agricultural Experiment Station Bulletin 188:15 p.

Variety Lahotan reported highly resistant to stem nematode.

108. Smith, O. F. 1958. Reactions of some alfalfa varieties to the stem nematode. Phytopathology 48(2):107.

3 of 16 varieties of alfalfa,Lahotan, Nemastan and Nevada Synthetic E were resistant to Ditylenchus dipsaci, less than 10% infestation was seen in field trials.

109. Smith, G. C., Jr., O. J. Dickerson and R. L. Smith. 1969. Reproduction of the soybean cyst nematode on Pickett, Dyer and Hampton soybeans. Proceedings of the Soil Crop Science Society of Florida, Year 1968 28:306-309.

Soybean varieties Pickett and Dyer were highly resistant to Heterodera glycines whereas Hampton was heavily infested.

110. Sofrygina, M. T. 1968. [The northern root-knot nematode, a harmful pest of carrots in Kazakhstan.] Biologiya i Geografiya (Sbornik State) 5:82-84 [Ru].

Carrot variety Letnajaya lyubimitsa is resistant to M. hapla.

111. Soost, R. K. and J. W. Cameron. 1975. Citrus. Janick, J. and J. N. Moore (Eds.) Advances in fruit breeding. Subtropical fruits. Purdue University Press 507-540.

Citrus resistance to Radopholus similis and Tylenchulus semipenetrans is reviewed.

112. Sosa Moss, C. 1974. [Genetic resistance of vegetables to nematode attack.] Avances en la ensenanza y la investigacion en el Colegio de Postgraduados, 1973. Chapingo, Mexico [Es].

113. Sosa Moss, C. and E. Rodriguez Ch. 1974. [Evaluation of the behaviour of 14 Dutch potato varieties in relation to the biotype A of the golden nematode (Heterodera rostochiensis).] Avances en la ensenanza y la investigacion en el Colegio de Postgraduados, 1973. Chapingo, Mexico p. 167. [Es].

114. Southards, C. J. 1966. Host-parasite relations of the lesion nematodes Pratylenchus brachyurus, P. zeae, and P. schribneri and flue-cured tobacco. Diss. Abstract 26:4164-4165.

The results supported the view that variations in response to P. brachyurus are genetically controlled. Indexing and selection procedures herein described could be employed in developing tolerant or resistant lines of flue-cured tobacco.

115. Southards, C. J. 1973. A field evaluation of nematode-resistant tomato varieties for vine-ripe tomato production. Tennessee Farm and Home Science 85:18-20.

Resistance to Meloidogyne incognita was found in all the varieties and lines of tomato tested.

116. Southards, C. J. and M. F. Priest. 1973. Variation in pathogenicity of seventeen isolates of Meloidogyne incognita. Journal of Nematology 5(1):63-67.

6 physiological races of M. incognita were found to be present in populations collected from 17 sites in Tennessee, based on root-knot indices on cotton, cowpea, watermelon and pepper. None of the isolates infected tobacco var. NC 95.

117. Spanakakis, A. 1973. [Investigations on yield damage of red clover by the stem eelworm, Ditylenchus dipsaci (Kuhn 1857) Fil.] Bayerisches Landwirtschaftliches Jahrbuch 50(1):167-183. [De]

Trifolium hybridum was susceptible to Ditylenchus dipsaci; alfalfa, T. alexandrinum and T. resupinatum were resistant.

118. Spanakakis, A. 1973. [Infection experiments with the red clover race of the stem eelworm, Ditylenchus dipsaci (Kuhn 1857) Fil.] Bayerisches Landwirtschaftliches Jahrbuch 50(7):880-896 [De].

Resistance to Ditylenchus dipsaci was found in alfalfa, T. alexandrium, T. resupinatum, Medicago lupulina, Lotus corniculatus and T. incarnatum. Significant differences were seen in the pathogenicity of this strain of D. dipsaci from different sources, but pathotypes have not been distinguished.

119. Spasoff, L., J. A. Fox and L. I. Miller. 1971. Multigenic inheritance of resistance to Osborne's cyst nematode in tobacco. Annual Abstracts. Society of Nematologists. Journal of Nematology 3(4):329-330.

Data are given of resistance tests of a resistant (BVA 523) and a susceptible (NC 2326) line and the F_1, F_2, F_3 progeny resulting

from a cross between the two lines. It was concluded that inheritance of nematode resistance was multigenetic (unknown number) and conditioned by at least one other gene. There was evidence of linkage breakage in the F_3.

120. Spiegel-roy, P. and Y. Garmi. 1970. [Evaluation of nematode-resistant grapevine rootstocks in sandy soils.] Hassadeh 51:263-268. [He].

121. Spiers, J. G. C. 1976. Control of the potato cyst nematode by breeding resistant cultivars. Crop Res. News, New Zealand Department of Science Ind Res.Crop Res Division 18:5-9.

122. Srivastava, A. S., R. S. Verma and S. Ram. 1974. Susceptibility of jute varieties to root-knot nematode, Meloidogyne javanica (Treub, 1885) Chitwood, 1949. Indian Journal of Nematology 2(2):198-199.

8 varieties of jute (Corchorus capsularis and C. olitorius) were tested against M. javanica. All of the varieties were attacked by the nematode but the C. olitorius group supported fewer nematodes.

123. Stanford, E. H., B. P. Goplen and M. W. Allen. 1958. Sources of resistance in alfalfa to the northern root-knot nematode, Meloidogyne hapla. Phytopathology 48:347-349.

124. Startseva, L. I. 1972. [Problems in potato breeding and seed production.] Selektsiya i semenovodstvo kartofelya, ovoshch., plod. kul'tur i vinograda. Moscow, USSR, Kolos. pp. 3-7. [Ru].

Includes a brief review on the work in breeding potatoes for nematode-resistance.

125. Stavely, J. R., S. D. Kung and L. J. Slana. 1977. Comparison of polypeptide compositions of fraction 1 protein of certain Nicotinan species and hybrids related to root-knot resistant tobacco. Tobacco International 179.5:40-41.

The polypeptide compositions were determined by isoelectric focusing and staining. From the results it is suggested that N. tomentosa might have been the souce of resistance in some lines. Kostoff's hybrid and Burk's hybrid could have resulted from N. sylvestris (female) x N. tomentosa or N. tomentosiformsi (male).

126. Stavely, J. R., G. W. Pittarelli and L. G. Burk. 1962. Resistance to Meloidogyne javanica and Cercospora nicotianae transferred from Nicotiana repanda to N. tabacum breeding selections. Phytopathology 62(6):672.

127. Steele, A. E. and H. Savitsky. 1962. Susceptibility of several Beta species to the sugar-beet nematode (Heterodera schachtii). Nematologica 8(3):242-243.

7 species of Beta were tested for resistance to Heterodera schachtii. Many females developed on B. corolliflora, B. intermedia, B. lomatogona, B. macronhiza, B. trigyna and B. vulgaris. On B.

patellaris 2 females were found, one of which contained fertilized eggs. All were susceptible and supported development of many females, except for B. patellans on which only 2 females were found.

128. Stefan, K. 1968. Wyniki wstepnych badan nad odpornoscia odmian ziemuiakow na porazenie przez wegorka ziemniaczaka Ditylenchus destructor Thorne. Biul. Inst. Ziem, 1:65-71.

Of 92 potato varieties tested for resistance to D. destructor only Drossel, Pimpernel and Rode Star were resistant and had good agricultural qualities.

129. Steinhorst, J. W. 1956. Biologische rassen van het stengelaaltje Ditylenchus dipsaci (Kuhn) Filipjev en hun waardplanten. Tijdschr. Plziekt. 62:179-188.

Red clover seedlings inoculated with stem eelworms from rye exhibited brown spots and sometimes inhibited growth. The eelworms were unable to multiply indicating that red clover is resistant to eelworms from other hosts.

130. Stelter, H. 1959. Einige Beobachtungen an nicht-knollentragenden Solanaceen in bezug auf den Kartoffelnematoden (Heterodera rostochiensis Wr.). Nachrichtenblatt fur den Deutschen Pflanzenschutzdienst. Berlin 13(7):135.

Of 23 lines of non-tuberforming Solanum species tested against Heterodera rostochiensis, Stelter found 8 without cysts.

131. Stelter, H. 1963. Weitere Beobactungen uber den Befallder Bastarde von CPC 1673 und CPC 1685 durch eine Herkunft vom Typ. B. des Kartoffelnematoden Heterodera rostochiensis Woll. Nematologica 9(1):97-100 [En summary].

Hybrids from CPC 1685 (type A resistant) possess a slight relative resistance to H. rostochiensis type B.

132. Stelter, H. and K. H. Engle. 1975. [Host plants of Heterodera rostochiensis Woll. (race A) and Heterodera pallida (race E) from the family Solanaceae.] Archiv fur Phytopathologie und Pflanzenschutz 11(3):233-244. [De].

100 species of Solanaceae were tested for susceptibility to Heterodera rostochiensis race A and H. pallida race E. Of over 200 plants tested 136 were shown to be hosts of H. rostochiensis race A. and 167 were hosts for H. pallida race E. The reactions of all the plants tested are listed.

133. Stelter, H. and K. H. Engel. 1976. [Resistance to Heterodera rostochiensis race A,and Heterodera pallida race E in a Lycopersicon collection.] Archiv fur Zuchtungsforschung 6(1):73-76. [De, Summary En, Ru].

Of 55 species and varieties of tomato tested for resistance to H. rostochiensis and H. pallida, Lycopersicon esculentum var flammatum (2 lines), L. peruvianum (1 line) and L. pimpinellifolium (2 lines) had fewer than 25 cysts/7 cm diameter pot.

134. Stelter, H. and A. Raeuber. 1966. Untersuchungen uber den Kartoffelnematoden (Heterodera rostochiensis Woll.) V. Die Veranderung ciner Nematodenpopulation unter dem Einfluss widerstandstahiger und anfalliger Kartoffel-Varietaten in einjahrigen Topfversuchen. Zeitschrift fur Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz 66(9):572-582.

The susceptible potato variety Aquila and one susceptible and 3 resistant crosses of cultivated varieties with Solanum tuberosum andigena were planted in soil infested with H. rostochiensis. Changes in cyst numbers were monitored for 3 1/2 months. No changes were found with the resistant crosses but increases were found with the susceptible plants.

135. Stelter, H. and A. Raeuber. 1971. [The methodology of the resistance-test to Heterodera rostochiensis and the significancy of the results.] Biol Zentralbl 90(3):357-363. [Ger, Summary En].

136. Stendel, W. 1970. [Further investigations on the susceptibility of sugar-beet to Heterodera schachtii (Schmidt).] Savremena Poljoprivreda 18(11/12):13-18 [De, en sh].

Susceptibility to H. schachtii is found to be much greater in the first part of the growing period.

137. Stirling, G. R. 1976. Nematode-resistant rootstocks for South Australian vineyards. Special Bulletin of the Department of Agriculture and Fisheries South Australia. 1:22.

138. Stoen, M. 1971. [Investigation on Heterodera avenae races and resistance.] Nordisk Jordbruksforskning 53(3):308-309 [No].

Heterodera avenae populations in Norway differed from races 1 and 2 in Denmark and Sweden.

139. Stoen, M. 1971. Heterodera avenae, rase-og resistensundesokelser. pp 101-102 in Section IV, Nordiske Jordbrugsforskeres Forening Kongressen, Uppsala, Sweden.

Resistance to Heterodera avenae in barley varieties.

140. Stokes, D. E. 1973. parasitism of Pratylenchus spp. to Lovell, Nemaguard, and Okinawa peach. Dissertation Abstracts International 34B(1):6.

Pratylenchus brachyurus, P. coffeae and P. penetrans increased on 3 varieties of Prunus persica, Loren, Nemaguard and Okinawa.

141. Storey, W. B. 1975. Figs. J. Janick and J. N. Moore (Eds.) Advances in fruit breeding. Subtropical fruits. Purdue University Press, pp. 568-588.

Resistance of figs to Meloidogyne spp. is included.

142. Sturhan, D. 1975. [Investigation of Vicia faba varieties for resistance to stem eelworm (Ditylenchus dipsaci).] Mededelingen van de Faculteit Landbouwwetenschappen Rijksuniversitei Gent. 40(2):443-450. [De, Summary En].

23 varieties of field and broad beans were teted with seven races and populations of D. dipsaci. Although no great resistance was found, there was variation in susceptibility. Most bean varieties were non-hosts for some of the nematode populations, which varied in aggressiveness.

143. Sudakova, I. M. and T. K. Oleinikova. 1965. [Resistance of certain varieties of rice to Aphelenchoides besseyi.] Trudy gel'mint. Lab., 16:140-142 [Ru].

144. Sugiyama, S. and K. Hiroma. 1965. [Studies on the resistance of soya-bean varieties to Heterodera glycines. I. Intervarietal differences in resistance.] Japanese Journal of Breeding 18(2):80-87. [Ja, Summary En].

The varieties of the Peking type of soybean were more resistant to attack by H. glycines than that of the variety Gedenshirazu.

145. Suit, R. F. 1954. Resistant rootstock studies using the temperature tank for screening. Proceedings of Florida State Horticultural Society. 67:90-91.

A method of screening for citrus rootstocks resistant or tolerant to Radopholus similis is presented.

146. Summers, T. E., J. B. Pate and F. D. Wilson. 1958. Extent of susceptibility within kenaf, Hibiscus cannibus L., to root-knot nematodes. Plant Disease Reporter 42(5):591-593.

Resistance to Meloidogyne incognita and M. incognita acrita was tested in 89 varieties, lines and selections of Hibiscus cannabinus. Selected lines showed reduced susceptibility as compared with the parents.

147. Summers, T. E., F. D. Wilson and J. F. Joyner. 1963. Effects of Meloidogyne incognita acrita on Kenaf and use of photoperiodism in selecting for resistance. Phytopathology 53(5):613-614.

The degree of root galling of seedlings of the Salvadore variety was not a good indication of the resistance of the progeny of a plant; a more reliable method was to grow the plants under short day conditions, thereby inducing flower formation and shortening the life history of the plant.

148. Swarup, G. and J. S. Gill. 1969. Varietal response of wheat and barley to infestation by Heterodera avenae (Abstract). All India Nematology Symposium, New Delhi, August 21-22, 1969, pp. 64-65.

149. Swink, J. F. 1954. Breeding for resistance to the sugar beet nematode. Proceedings of the American Society of Sugar Beet Technologists. 8th General Meeting, Part 2, pp. 109-111.

Swink presents his work with sugar beet plants having tolerance to nematode attack.

150. Sylvain, P. G. 1959. El problema de los nematodos en la produccion del cafe. Coffea 1:2-13. [Sp].

151. Szczygiel, A. 1967. Wstepna ocena szkodliwosci nicieni z rodzaju Aphelenchoides dlatruskawek w poludniowej Polsce. Pr. Inst. Sadow. Skierniew 11:211-224. [Summary En,Ru].

Strawberry varieties George Soltwedel and Regina were round to be relatively resistant to Aphelenchoides fragariae and A. ritzembosi.

152. Szczygiel, A. and J. Danek. 1975. Susceptibility of strawberry cultivars to leaf and bud nematodes (Aphelenchoides spp.). Fruit Science Reports, Poland 2(2):47-57.

In field trials of 33 strawberry cultivars inoculated with Aphelenchoides fragariae of A. ritzemabosi, none of the cultivars were found to be entirely resistant. Low susceptibility to A. fragariae was seen in the varieties George Soltwedel and Sophia. Low susceptibility to A. ritzemabosi was seen in Sophia, Senga gigana, Chinese strawberry, Regina and Wadenswill.

153. Szczygiel, A. and J. Giebel. 1970. Phenols in the leaf buds of two strawberry varieties resistant and susceptible to Aphelenchoides fragariae Ritzema Bos Christie. Proceedings of the IXth International Nematology Symposi, European Society of Nematology, Warsaw 1967. Zeszyty problem. Post. Nauk Rol. 92:247-253.

Resistant varieties had IAA-oxidase systems that were more active than those in susceptible varieties.

1. Tanaka, I. 1957. [Resistance of tobacco seedlings to root-knot nematodes.] Kyushu Agricultural Research, 19:67-68. [Ja]

   Resistant tobacco variety RK70 was invaded by 10 larvae whereas the susceptible variety was invaded by 85. The number of galls per plant in the resistant variety ranged from 1.2 to 4.0; on the susceptible plants they ranged from 47.0 to 89.0.

2. Tante, R. and R. Rodriguez. 1977. [Relative susceptibility of potato cultivars "Alpha" and "Red Pontiac" to attack by Heterodera rostochiensis.] Nematropica, 7(1):10-11. [Es]

3. Tanveer, M. and A. T. Saad. 1971. Reaction of some cultivated crops to two species of root-knot nematodes. Plant Disease Reporter, 55:1082-1084.

   Corn varieties 'Carmel Cross' and 'Span Cross' were resistant to both Meloidogyne incognita and M. javanica. Of 35 crops tested six were resistant to M. javanica and seven to M. incognita.

4. Tappan, W. B.,R. R. Kincaid and G. C. Smart. 1967. Fungicide-nematocide tests, 23:142-143.

   Apparently tobacco variety Florida 15 has some tolerance to attack by Pratylenchus spp. which could prove of value in breeding for resistance.

5. Taylor, D. P. 1975. Observations on a resistant and a susceptible variety of tomato in a field heavily infested with Meloidogyne in Senegal. Cahiers O.R.S.T.O.M., Serie Biologie, nematologie., 10(3):239-245.

   Tomato varieties Rossol (resistant)and Roma (susceptible) were planted in a field heavily infested with Meloidogyne javanica, M. incognita, M. avenaria and other forms. Giant cells and galling were rare in Rossol and the infection sites were necrotic. Fewer larvae penetrated Rossol, and only a few females developed. However, when the eggs of the females on the resistant variety were re-inoculated on to Rossol, a resistance-breaking population was evident.

6. Taylor, D. P., R. B. Malek, and D. I. Edwards. 1971. The barley root-knot nematode it's not a problem--yet. Crops Soils, 23(6):14-16.

   11 of 47 varieties of oats tested were not galled by Meloidogyne naasi.

7. Temiz, K., K. Akar, M. Yurekturk, and E. Pehlivan. 1969. [Trials to determine the resistance of some tomato varieties to root knot nematodes.] Yalova Bahce Kulturleri Arastirma ve Egitim Merkezi Dergisi, 2(3):17-28. [Tr, En]

   115 varieties of tomato were tested for resistance to root-knot nematodes. One, (11D219) was immune to Meloidogyne incognita acrita and M. arenaria. Three others (VF14, 11D210 and 11D214) were only slightly susceptible.

8. Ten'kovtseva, E. 1972. [Crop resistance to the oat nematode.] Zemiedelie, 11:25-26. [Ru]

9. Terlidou, M. C. 1974. Effect of root-knot nematode Meloidogyne javanica (Treub) Chitwood in vine nurseries. Vitis, 12:316-319.

   The vine hybrid 413 MG (Chasselas x Vitis berlandieri) was more susceptible than the relatively resistant hybrid R110 (V. berlandieri Resseguier No. 2 x V. rupestris Martin) to Meloidogyne javanica.

10. Terrill, T. R., J. L. LaPrade, R. G. Henderson and M. J. Rogers. Registration of VA 080 tobacco (Reg. No. 59). Crop Science, 14(4):606.

    Resistance to Meloidogyne incognita is one of the characteristics of tobacco variety VA 080.

11. Thames, Jr., W. H., et. al.?? 1952. Preliminary reports of some of the disease and pest problems of Kenaf, Hibiscus cannabinus L. in South Florida. Plant Disease Reporter, 36(4):125-126.

    Moderate to severe infection of Meloidogyne incognita was seen in Hibiscus cannabinus grown in South Florida. A strain of H. sabdariffa from French Equatorial Africa was highly resistant to nematode attack.

12. Thomas, J. D., C.E. Caviness, R. D. Riggs, and E. E. Hartwig. 1975. Inheritance of reaction to race 4 of soybean-cyst nematode. Crop Science, 15(2):208-210.

    Breeding experiments with soybeans and tests for resistance to Heterodera glycines indicate that 3 alleles at a single locus condition the recessive resistance reaction. 2 additional loci with 2 alleles at each, are necessary for resistance to race 4 of H. glycines.

13. Thomason, I. J. 1962. Reaction of the cereals and sudan grass to Meloidogyne spp. and the reaction of soil temperature to M. javanica. Phytopathology, 52(8):787-791.

    Light reproduction of M. incognita occurred on all the barley varieties tested, on 2 oat varieties and on 3 of the rye varieties. M. javanica reproduced on all the barley tested, on 4 wheat varieties and on one of the rye. Reproduction of M. hapla was not found on any of the varieties tested. (6 varieties each of barley and wheat, 4 of oats and 2 each of rye and sorghum wre tested.)

14. Thomason, I. J. 1973. Concepts: nematode resistance in plants. IN: International Congress of Plant Pathology (2nd), Minneapolis, Minnesota, Sept. 5-12, 1973. Abstract No. 0611 (a review).

15. Thomason, I. J. and H. E. McKinney. 1959. Reaction of some cucurbitaceae to root-knot nematodes (Meloidogyne spp.). Plant Disease Reporter, 43:448-450.

    Many cucurbitaceae were found to be susceptible to M. incognita acrita and to M. javanica. All but 2 species were susceptible to M. hapla:

watermelon and squash. Cantaloupe and winter melon had mixed reaction to the different populations of M. hapla.

16. Thomason, I. J. and H. E. McKinney. 1960. Reactions of cowpeas, Vigna sinesis, to root-knot nematodes, Meloidogyne spp. Plant Disease Reporter, 44(1):51-53.

    Cowpeas were moderately to severely infected with Meloidogyne javanica but resistant to M. incognita acrita within a similar range. The asparagus bean was resistant to M. hapla.

17. Thomason, I. J. and P. G. Smith. 1957. Resistance in tomato to Meloidogyne javanica and M. incognita acrita. Plant Disease Reporter, 41(3):180-181.

    A tomato line (HES 4857) derived from a cross of Lycopersicon esculentum x L. peruvianum was found to be highly resistant to the root-knot nematode, Meloidogyne incognita acrita. Resistance is governed by a single dominant gene. An F_3 line (54N6) from a backcross of HES 4857 x commercial tomato was resistant to M. javanica and M. incognita acrita.

18. Thuesen, A., U. Haegermark, and C. Stenseth. 1975. [Plant resistance - strawberry. A survey of the situation in the Scandinavian countries.] Nordisk Jordbrugsforskining, 57(5):1055-1059. [Da, Sv, No] (Plant Breeding Abstracts 46 (6), 5699.)

    The breeding of strawberries for resistance to nematodes and sources of varietal resistance to Aphelenchoides are covered.

19. Titkin, N. V. 1958. [The resistance of potato to the potato nematode (Heterodera rostochiensis Wall.)] Dokladi Vsesoyuzoni Ordena lenina Akademii Selskokhozyaistvennikh Nauk Imeni V. I. Lenina, 9:24-28.

    Solanum ballsii was fully resistant to Heterodera rostochiensis, as were hybrids obtained on cross-pollination with mixed pollen of S. phureja and S. schreiteri. S. catarthum and one of its hybrids was also highly resistant.

20. Tiktin, N. V. 1958. Control of the potato root eelworm by the development of resistant varieties. Papers on Helminthology presented to Academician K. I. Skryabin on his 80th Birthday. Moscow: Izdatelstvo Akademii. Nauk SSSR, pp. 371-375. [Ru]

    136 varieties of wild and cultivated potato species were tested for resistance to Heterodera rostochiensis. Resistance was found in Solanum ballsii, S. catarthum and hybrids of both with cultivated species. S. andigenum resistance varied over a wide range.

21. Tiktin, N. V. 1959. [Resistance to the potato nematode.] Kartofel, 4(1):47-49. [Ru]

    Tests showed that Solanum ballsii and S. catarthum possessed high resistance which was transferred to hybrid progeny. Individual plants of S. andigenum showed some resistance.

22. Tiktin, N. V. 1960. [Resistance of potatoes to Heterodera rostochiensis] Tezisi Dokl. Nauchnoi Konf. Vses. Obshch. gelm. Dec. 15-20, 1960, pp. 142-143. [Ru]

Study of resistence involves the hybridization of Solanum andigenum, S. vernei and S. catarthrum.

23. Tiktin, N. V. 1961. [Study of the resistance of potatoes to Heterodera rostochiensis.] Trudi Vsesoyuznogo Instituta Zashchiti Rasteni, 16:153-162. [Ru, En summry pp. 161-162.]

Resistance to H. rostochiensis was highest in Solanum ballsii. Some clones and seedlings of S. tuberosum andigena and interspecific hybrid crosses between S. catarthum with selected varieties were resistant.

24. Time, E. K. 1972. [Resistant potato varieties in the fight against eelworm.] Bonde Vennen, 20(3):64-65. [Nor]

The potato varieties Satuma, Prevalent and Amva are mentioned as being resistant to Heterodera rostochiensis pathotype A.

25. Todd, F. A. 1976. Tobacco disease control practices for 1977. 1977 Tobacco Information. North Carolina Extension Service, N. C. State University, Raleigh, N. C. pp. 45-59.

26. Townshend, J. L. 1963. The pathogenicity of Pratylenchus penetrans to celery. Canadian Journal of Plant Science, 43:70-74.

27. Townshend, J. L. and H. Baenziger. 1976. Evidence of resistance to root-knot and root-lesion nematodes in alfalfa clones. Canadian Journal of Plant Science, 56(4):977-979.

33 clones of alfalfa were tested for resistance to Meloidogyne hapla. 3 had a gall rating of 0 and six others had only a few galls. Of 23 clones tested for resistance to Pratylenchus penetrans, 5 had fewer than 100 nematodes/g root and 10 others had 100-500 nematodes/g root. Resistance is not carried by a common gene, only 2 of the clones were resistant to both nematodes.

28. Toxopeus, H. J. 1953. On the significance of multiplex parental material in breeding for resistance to some diseases in the potato. Enphytica. Wageningen, 2(2):139-146.

Resistance genes appear to be dominant, but the situation is complex in the tetraploid potato.

29. Toxopeus, H. J. 1954. De huidige stand van het kweken op resistentie tegen aardappelmoeheid. Landbouwkundig Tijdschrift, 66(8):537.

Solanum andigenum races crossed with potato races produced progeny which had 50% resistance, on the average. In some cases 80% of the plants were resistant.

30. Toxopeus, H.J. 1958. Over de aard van de resistentie tegen het aardappelcystenaaltje en over het nieuw opgetreden ras van deze parasiet. Zaadbelangen. 's-Gravenhage, 12(5):68-71.

In this lecture Toxopeus discusses the influence of a resistant potato grown in infested soil on the size of the nematode population present. He also includes a discussion of resistance-breaking types found in Scotland, Holland and Peru and suggests possible ways of overcoming the problems resulting from their occurrence.

31. Toxopeus, H. J. and C. A. Huijsman. 1952. Genotypical background of resistance to Heterodera rostochiensis in Solanum tuberosum, var. andigenum. (correspondence) Nature, 170:1016.

In crosses between S. tuberosum and S. tuberosum var andigenum, the resistance in some progenies was determined by one dominant gene with tetrasomic inheritance. In other progenies it was assumed that resistance was caused by occurrence of two genes.

32. Toxopeus, H. J. and C. A. Huijsman. 1953. Breeding for resistance to potato root eelworm. I. Preliminary data concerning the inheritance and the nature of resistance. Euphytica, 2:180-186.

Intercrossing of Solanum andigenum gave a progeny segregating for resistance in accordance with a simple dominant factor and tetraploid inheritance. From S. andigenum x commercial potato varieties, resistant progeny were slightly in excess of expectation. A seedling from one clone gave evidence of two dominant factors, both necessary for resistance to be expessed.

33. Trentini, L. 1975. [Preliminary studies of the behaviour of a Heterodera rostochiensis population in the Forli' area toward resistant lines of Solanum.] Informatone Fitopatologico, 25(11):13-19. [It, En summary]

Varieties derived from S. tuberosum andigena and from S. vernei proved to be the most resistant. No pathotypes were found in the local population that were capable of overcoming this resistance.

34. Triantaphyllou, A. C. 1960. Sex determination in Meloidogyne incognita Chitwood, 1949 and intersexuality in M. javanica (Treub, 1885) Chitwood, 1949. Annual Institute Phytopathology, Benaki, N.S., 3:12-31.

In root-knot and cyst nematode resistant plants there is a high proportion of males, an indication of stress.

35. Triantaphyllou, A. C. 1973. Nematode genetics in relation to breeding for plant resistance. IN: International Congress of Plant Pathology (2nd), Minneapolis, Minnesota, Sept. 5-12, 1963, Abstract No. 0614. (a review)

36. Trofimovskaya, A. Y. and V. F. Dorofeev. 1975. Barley breeding in England. Trudy po Prikladnoi Botanike, Genetike i Selektsii, 35(3):196-211. [Ru] (Plant Breeding Abstracts 47, 6381.)

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Breeding for resistance to Heterodera avenae is included.

37. Troll, J. and R. A. Rohde. 1966. Pathogenicity of Pratylenchus penetrans and Tylenchorhynchus claytoni on turfgrasses. Phytopathology, 56:995-998.

38. Trottmann, M. 1952. L'oeillet et l'anguillule des racines. Phytoma. Paris, 5(43):25-26.

The following carnation varieties are listed as being resistant to root-knot disease: Anita and related varieties, Reine Astrid, Irma, Sempreviva, Merville 47, Merville 48, Torero, Dramont and Aline.

39. Trudgill, D. L., K. Evans and D. M. Parrott. 1975. Effects of potato cyst-nematodes on potato plants. I. Effects in a trial with irrigation and fumigation on the growth and nitrogen and potassium contents of a resistant and a susceptible variety. Nematologica, 21(2):169-182.

Nematode infested plants (Maris pepper, resistant, and Pentland Dell, susceptible) contained less potassium in their foliage but the percentage of nitrogen in the haulm dry matter was little affected. Final yields were less in infested plants; they were smaller and senesced earlier.

40. Trudgill, D. L., K. Evans, and D. M. Parrott. 1975. Effects of potato cyst-nematodes (Heterodera rostochiensis - Heterodera pallida) on potato plants. II. Effects on haulm size, concentration of nutrients in haulm tissue and tuber yield of a nematode resistant and a nematode susceptible potato variety. Nematologica, 21(2):183-191.

Roots of infected plants, on a dry weight basis, had decreased concentrations of N, K, P and Mg, but on a fresh weight basis only K and P were markedly decreased with a corresponding increase in Ca and Na concentrations.

41. Trudgill, D. L. and D. M. Parrott. 1973. Effects of growing resistant potatoes with gene H_1 from Solanum tuberosum ssp. Andigena on popultions of Heterodera rostochiensis British pathotype A. Annals of Applied Biology, 73(1):67-75.

Pure pathotype A populations of Heterodera rostochiensis produce a few females on ex andigena hybrids with the H_1 gene for resistance. As the proportion of larvae able to become female on ex andigena hybrids was not increased by reproducing the nematodes on such hybrids for 3 years, these females seem not to be genetically different from the rest of the population. The proportion increased rapidly when the initial populations contained a few pathotype (species) E nematodes but again no increase in the proportion of pathotype (species)A larvae able to become female on ex andigena was detected and pathotype E replaced pathogype A.

42. Turcotte, E. L., H. W. Reynolds, J. H. O'Bannon and C. V. Feaster. 1963. Cotton Improvement Conference Proceedings, 15:36-44.

Gosypium barbadense (susceptible variety) x G. barbadense var. darwinii produced susceptible progeny. Backcross data indicative resistance is homozygous recessive. Root-knot classes of 0-2 were considered resistant.

43. Turpo, B. S. and F. A. Alcocer. 1975. [Sources of resistance to the potato golden nematode, Heterodera sp.] Fitopatologia, 10(2):81. [Es]

44. Tyler, J. 1941. Plants reported resistant to root-knot nematode infestation. USDA Miscellaneous Publication No. 406, pp. 91.

1. Uhlenbroek, J. H. and J. D. Bijloo. 1959. Isolation and structure of a nematicidal principle occurring in Tagetes roots. IN: Proceedings of the IVth Internatinal Congress, Crop Protection., Hamburg, 1957, pp. 579-581.

   T. patula and T. erecta contain alpha-terthienyl and derivatives of bithienyl.

2. Umaerus, M. and V. Umaerus. 1976. [The potato breeding program at the Swedish Seed Association.] Sveriges Utsadesforenings Tidskrift,86(1/2):9-26. [Sv]

   Attempts are being made in potato breeding programs to combine resistance to Heterodera rostochiensis pathotype A with resistance to potato virus Y.

3. Umaerus, M. and V.Umaerus. 1976. [Svalof's Rosamunda potato.] Sveriges Utsadesforenings Tidskrift, 86(1/2):27-39. [Sv]

   The new Swedish potato variety Rosamundo, which is fairly resistant to Spraing, is not resistant to potato cyst nematode.

4. Unny, K. L. and M. L. Jerath. 1965. Susceptibility of jute strains to 4 root-knot nematodes (Melodogyne spp.) in Eastern Nigera. Plant Disease Reporter, 49(8):729-730.

   10 varieties of jute and one local strain were tested for susceptibility to M. arenaria, M. javanica, M. incognita and M. incognita acrita. Some resistance was seen in all but two of the varieties.

5. Upchurch, W. 1976. New leaf suited for export market. Research and Farming, 34:8.

   Resistance to Meloidogyne has been found in tobacco varieties NC79 and NC98.

6. Usynina, N. N. 1974. [Susceptibility of vegetable crops to the onion stem nematode, Dithylenchus dipsaci.] Byulleten' Vsesoyuznogo Instituta Gel'mintologii im. K. I. Skryabina, 14:92. [Ru]

7. Utrena, A., B. S. Crandall and T. E. Summers. 1962. Reactions of Guatemalan light-insensitive kenaf selections to root-knot nematodes. Proceedings Soil and Crop Science Society of Florida. 21st Annual Meeting, 1961, pp. 36-38.

   Grown in Meloidogyne incognita acrita infested soil, 19 of the 39 lines of kenaf flowered and 10 of them produced seed.

8. Uys, D. C. and E. W. Mostert. 1976. Salt Creek - a rootstock for sandy soils. Deciduous Fruit Grower, 26(10):396-401.

   The vine rootstock Salt Creek has very high resistance to root-knot nematodes and does very well in irrigated sandy soils.

1. Valleau, W. D. 1952. Breeding tobacco for disease resistance. Economic Botany. Lancaster, PA 6(1):69-102.

The progress in breeding tobacco plants resistant to nematode infections is reviewed, with emphasis on Meloidogyne incognita, Pratylenchus pratensis and Trichodorus spp.

2. Vallotton, R. 1976. [Ditylenchus dipsaci (Kuhn) Filipjev, the cause of stem break or lodging in tobacco in the Swiss Romande.] Revue Suisse d'Agriculture, 8(3):66-75.

4 varieties and 7 lines of tobacco were tested for susceptibility to Ditylenchus dipsaci. Infection ranged from 70% in 7351/A to 90% in 7354/H and 7375/A. The least severe necrosis was found in Paesana.

3. Van Gundy, S. D. and J. D. Kirkpatrick. 1963. The histological relationship of resistance to the citrus nematode in certain citrus rootstocks. Phytopathology 53(8):892.

In the infected resistant and immune rootstocks a wound periderm was formed. Adult females were observed on susceptible roots at 4 weeks, but no females were found on the resistant and immune seedlings.

4. Van Gundy, S. D. and J. D. Kirkpatrick. 1964. Nature of resistance in certain citrus rootstocks to citrus nematode. Phytopathology 54:419-427.

Resistance involves hypersensitive cell reactions, formation of wound periderm, and a toxic factor in root juice.

5. Van Gundy, S. D. and J. D. Kirkpatrick. 1965. Factors explaining citrus nematode resistance. California Citrograph 50:235-241.

6. Van Gundy, S. D., I. J. Thomason and R. L. Rackham. 1959. The reaction of 3 citrus spp. to 3 Meloidogyne spp. Plant. Disease Reporter. 43(9):970-971.

The infestation of Troyer citrange (citrus sinesis x Poncirus trifoliata) C. aurantium and C. sinesis by M. javanica, M. incognita acrita and M. hapla was recorded. Root galling, but not mature nematodes or egg masses, was found on the Troyer citrange (due to all 3 Meloidogyne spp.). M. incognita also caused small galls without nematode development on C. aurantium. C. sinesis did not show any symptoms of attack by any of the 3 Meloidogyne spp.

7. Van Zyl, H. J. and D. K. Strydom. 1974. [A new rootstock of the peach: the Nemaguard.] Nematode resistance, Meliodogyne. Frutticoltura 36(6):37-39. [It]

8. Vargas, F. O. and C. Pajuelo. 1973. [Effect of Meloidogyne spp. (Nematoda: Heteroderidae) on some species of forage grass.] Anales Cientificos, Lima Peru. 11(3/4):205-218. [Es, En summary]

Chloris gayana, Sorghum vulgare, Pennesitum purpureum, Panicum maximum, Digitaria decumbens, Brachiaria ruziziensis and Festuca arundinacea showed resistance to M. hapla and M. incognita. Tables are included of nematode numbers and degree of root galling for the 9 forage crops and tobacco tested.

9. Vavilova, M. A. and N. A. Zhitlova. 1976. [Wild potato species in breeding for resistance to Heterodera rostochiensis.] Kartofel' i Ovoshchi, No. 7:35-36. (Plant Breeding Abstracts 47,475.) [Ru]

   Best resistance was obtained from hybrids of Solanum famatinae or of S. canasense. Highest yields were obtained from hybrids of S. famatinae or S. vernei.

10. Vavilova, M. A. and N. A. Zhitlova. 1976. [Search of wild potato species for selection for resistance to nematode infection.] VIII. Vsesoyuznoe soveshchanie no nematodnym boleznyam sel'skokhozyaistvennykh kul'tur. Tezisy dokladov i soobshchenii. Kishinev, USSR; Izdatel'stvo "Shtiintsa". [Ru] p. 46.

    Wild solanum spp. were tested for resistance to H. rostochiensis and some were selected for further work in hybridization studies.

11. Veech, J. A. and M. A. McClure. 1976. Terpenoid aldehydes in root-knot nematode susceptible and resistant cotton seedlings. (Abstract) Journal of Nematology 8(4):304.

    Susceptible (Auburn 623) and resistant (Deltapine 16) seedlings were inoculated at 3 days, with Meloidogyne incognita. Terpenoid aldehydes were assayed in roots of the inoculated and non-inoculated (control) seedling up to 13 days old. In the control seedlings, the susceptible type contained more terpenoid aldehydes than did the resistant cultivar; the levels increased with age in both types. In inoculated seedlings, terpenoid content in susceptible seedlings was less than the comparable control, and content in resistant seedlings was slightly higher than the comparable control.

12. Veech, J. A. and M. A. McClure. 1977. Terpenoid aldehydes in cotton roots susceptible and resistant to the root-knot nematode, Meloidogyne incognita. Journal of Nematology 9(3):225-229.

    The changes in concentration of terpenoid aldehydes that occured in response to infection correlated with host resistance: there was a net loss of total, and of each specific, terpenoid aldehyde in the susceptible cultivar (Deltapine 16), and a net gain in the resistant (Auburn 623).

13. Vega, J. 1952. Proteccion viticola contra la anguilulosis Idia. Buenos Aires. 5(53):35-37.

    The author tested a number of vine stocks, susceptible to attack by Meloidogyne incognita; Numbers 261/50 and 16/16 showed no lesions: 8 stocks were classified as somewhat resistant, 8 as susceptible and 11 as very susceptible.

14. Verma, T. S. and B. Choudhury. 1974. Screening of brinjal (Solanum melongena L.) against root-knot nematodes (Meloidogyne spp.). Vegetable Science 1:55-61.

Resistance to Meloidogyne spp. was found in Solanum sisymbriifolium, S. elaeagnifolium, in the S96-2, S419 and Pol Baigan cultivars.

15. Veselovskii, I. and M. Bokhonova. 1975. [The evaluation of nematode-resistant potato varieties.] Kartofel' i Ovoschi, No. 1 pp 38-39. (Plant Breeding Abstracts 45, 10105) [Ru]

Of 12 varieties of potatoes resistant to Heterodera rostochiensis, the Dutch variety Ehud was considered the best, judged on such characteristics as yield, tuber size, starch content and earliness.

16. Vestad, R. 1973. [Variety trials with alsike clover.] Forsok med alsike-kloversorter. Forskning og Forsok i Landbruket 24(6):601-614 [No, En]

Alsike clover varieties were found to be much more resistant than red clover varieties to Ditylenchus dipsaci, with only weak symptoms of attack seen.

17. Videgard, G. 1967. Havrecyst nematoden angriper all varsad Vaxtskyddsnotiser 31(5/6):88-90. [Sv]

Heterodera avenae is mainly a parasite on spring sown wheat in Sweden. Resistant varieties combined with suitable crop rotation are the best means of control.

18. Videgard, G. 1969. "Inventering av havrecystnematod 1965-68." Vaxtskyddanotiser, 33(2/3):23-29. [Sv]

Investigations in Sweden show that all the common cereals are attacked by Heterodera avenae, with the highest nematode populations found on oats, spring wheat and wild oats. The tolerance of different crops against nematode attacks is being investigated.

19. Videgard, G. 1969. "Nematodresistenta sorter--saneringseffekt och faran for resistensbrytare." Potatis, Year 1969, pp. 26-28. [Sv]

Potatoes resistant to Heterodera rostochiensis are mentioned. One resistance-breaking population of H. rostochiensis has been found.

20. Videgard, G. 1974. [Against which pathotypes of Heterodera avenae should we breed for resistance?] Nordisk Jordbruksforskning. 56(4):410-411. [Sv]

A new cyst-forming race or species of Heterodera avenae has been found in Sweden. Oats have shown high tolerance and moderate resistance derived from barley 191, are seen supporting large populations.

21. Vidner, J. 1968. [The genetic constitution and the cleavage ratio of certain varieties of potatoes resistant to the potato root eelworm.] Genetika a Slechteni, Brno 4(2):125-132 [Cs, En, De, Ru].

The genetic mechanisms of resistance to biotype A of Heterodera rostochiensis study were studied.

22. Vidner, J. 1970. "Vysledky informacnich zkousek vzdornosti planych brambor proti hadatku bramborovemu (Heterodera rostochiensis Woll.)" Ved. Pr. vyzk. Ust. brambor. Havlick. Brode, No. 4 pp. 37-44. (Cs) [En, Ger, Ru summaries].

    In tests for resistance to Heterodera rostochiensis biotype A, the following were not invaded: 21 lines of Solarnum andigenum, 3 of S. acaule, 2 lines of S. demissum and S. stoloniferum, and 1 line each of S. acroscopium, S. antipoviczii, S. araccpapa, S. brachycarpum, S. schreiteri and S. tanijense.

23. Viglierchio, D. R. 1960. Resistance in Beta species to the sugar-beet nematode Heterodera schachtii. Experimental Parasitology. New York 10(3):389-395.

    H. schachtii does not develop on B. patellaris, B. webbiana, and B. procumbens between temperatures of 10 and 30°C. A transfer of resistance from sugar-beet scions to B. maritima is suggested by the fact that fewer females developed on sugar-beet stocks with resistant scions than on normal sugar beets. It is also possible that the reduced incidence is related to the reduced root system on the grafted sugar beet stocks.

24. Viglierchо, D. R. 1975. Susceptibiity of western forest conifers to common agricultural plant-parasitic nematodes. Plant Disease Reporter. 59(4):326-328

    Seedlings of Abies magnifica, Pinus radiata, P. ponderosa, P. jeffreyi, Pseudotsuga menziesii and Picea sitchensis were inoculated with Xiphenema bakeri, Pratylenchus vulnus, Meloidogyne javanica, M. incognita, M. hapla and Heterodera schachtii. Nematodes were not recovered from seedlings inoculated with M. hapla and H. schachtii.

25. Viglierchio, DR. and S. G. Mjuge. 1975. Auxin inactivation systems of Nemic origin. Nematologica 21:471-475.

    Anguina agrostis, Criconemoides xenoplax, Pratylenchus brachyurus and P. vulnus released heat labile auxin inactivating systems. None released detectable quantities of auxin.

26. Vijayalashmi, J. and J. T. Rao. 1961. Screening sugar-cane varieties for resistance to root-knot nematode, Meloidogyne javanica. Current Science, Bangalore 30(9):349-350.

    The percentage of roots showing terminal galls, caused by M. javanica infection, were found to agree closely with visual estimate of the extent of infection. Single eye pieces rooted for one week can be used to determine varietal susceptibilities and for rapid screening of seedlings.

27. Vijayalakshmi, U. and J. T. Rao. 1966. A note on varietal reaction of sugarcane to root knot nematode and screening for resistance. All India Conference Sugarcane Res. Dev. Work (5th), Coimbatore, 1964. Proceedings, pp. 441-445.

28. Villalobos, E. 1975. [The transference of resistance to several tomato diseases.] Fitopatologia, 10(2):70. [Es]

    Meloidogyne-resistant tomato varieties Atkinson are being crossed with Pseudomonas-resistant varieties Venus and Saturn.

29. Vito, M. di and F. Lamberti. 1976. [Reaction of tomato varieties to populations of Meloidogyne spp. in the glass-house.] Nematologia Mediterranea, 4(2):211-215. [It, summary in En, Fr]

    12 Italian populations of Meloidogyne (11 M. incognita and one M. arenaria) showed different degrees of pathogenicity to susceptible tomato variety Roma VF and some reduced growth on resistant-varieties Rossol and VFN8. Galls were not formed on these 2 resistant varieties.

30. Vladimirova, L. A. 1975. [Susceptibility of plants to infection with stem nematode.] Vestnik Sel'skokhozyaistvennoi Nauki Kazakhstana (Kazakstan Auyl Sharuashylyk Gylymynyn Habarshysy) 18(4):46-50 [Ru, kazakh].

    Nearly complete resistance to Ditylenchus dipsaci was found in barley, maize, vetch, oats, carrots and beets in Kazakhstan, USSR. 8 varieties of strawberry were found to be susceptible, although "Lastochka" was slightly less susceptible.

31. Voinilo, V. A. 1975. [Phenol compounds in leaves of potatoes and changes in their contents as affected by nematode infection.] Vestsi Akademii Navuk BSSR, Biyalagichnykh Navuk, No. 6 pp. 49-52. (Field Crop Abstracts 29,4975) [Be, Ru summary]

    It is concluded that immunity to Heterodera rostochiensis is related to the metabolism of phenol compounds in the roots and leaves. Higher concentrations of phenol compounds, flavonoids and water- and alkali-soluble phenols were found in the leaves of resistant plants than in the leaves of susceptible plants.

32. Voinilo, V. A. and I. Ya. Ponin. 1976. [Link between the resistance of potato to Heterodera infection and phenol metabolism.] VIII Vsesoyuznoe soveshchanie no nematodynm boleznyuam sel'skokhozyaistvennykh kul'tur. Tezisy dokladov i soobshchenii. Kishinev. USSR; Izdatel'stvo "Shtiintsa" p. 47. [Ru]

33. Vochchinskaya, M. V. 1972. [Results of competitive testing of strawberry varieties.] In Kul'tura zemlyaniki v SSR. Doklady simpoziuma, (28 iyunya - 1 iyulya 1971) Moscow, USSR; "Kolos" 306-312 [Ru]

    Of the strawberry varieties tested, only one, Mitse Shindler, showed resistance. Other relatively resistant varieties listed are: Yasna, Ketskill, Korallovaya 100 and Vishnivka.

1. Wallace, A. T. 1954. An association between narrow leaves and root knot nematode resistance in flue-cured tobacco. Agronomy Journal. 46(10): 468-469.

Correlation between leaf length and width of resistant tobacco was studied. Wide leafed root-knot resistant tobacco is desirable.

2. Wallace, H. R. 1961. The nature of resistance in Chrysanthemum varieties to Aphelenchoides ritzemabosi. Nematologica 6:49-58.

Resistant Chrysanthemum varieties have rapid, extensive browning in response to attact by Aphelenchoides ritzemabosi, but Wallace attributes the resistance to an absence of some nutritional factor.

3. Wallace, H.R. 1963. The biology of plant parasitic nematodes. Edward Arnold Ltd., London. 280 p.

4. Walstedt, I. 1969. Fortsatta undersokningar av havrecystnematod i Ostergotland. Sver. Utsadesforen. Tidskr. 79:75-79.

5. Wark, D. C. 1972. Breeding for resistance to root-knot nematodes. Australian Tobacco Growers Bulletin (1972) No. 20, 11-13. (CSIRO Abstracts 21, 29).

6. Waseem, M. 1957. Pathogenicity of root-knot nematodes to selections of Lespedeza cuneata (Dum de Cours) G. Don. Journal of the Alabama Academy of Science, 29:85-86.

Meloidogyne (M. incognita, M. incognita acrita, M. javenica, M. avenaria, M. hapla) were tested against six selections of Chinese lespedeza (Lespedeza caneata). Plant response varied in their reactions to various species.

7. Watts, V. W. 1947. The use of Lycopersicon peruvianum as a source of nematode resistance in tomatoes. Proc. Am. Soc. Hort. Sci. 49:233-234.

F_1 of L. peruvianum x Mich. State Forcing (produced by embryo culture) was completely resistant to root-knot nematodes. Of the 3 seedling from F_1 x commercial tomato, one was moderately resistant and two highly. Selfing of one of the resistant plants produced progeny in the ratio of 1 resistant: 1 susceptible.

8. Webber, H. J. and W. A. Orton. 1902. A cowpea resistant to root knot (Heterodera radicicola), p. 23-26. U.S. Dep. Agr.Bur. Plant Ind. Bull. 17.

9. Webster, J. M. 1967. The influence of plant-growth substances and their inhibitors on the host-parasite relationships of Aphelenchoides ritzemabosi in culture. Nematologica 13:256-262.

Multiplication of the nematode, grown on aseptic lucerne seedlings on nutrient agar, was increased significantly by addition of kinetin, gibberellic acid, IAA and tryptophane (IAA precursor), both singly and in various combinations. Use of growth hormone inhibitors decreased

multiplication, significantly so in the presence of gibberellic acid. The nematodes multiplied fastest when plant growth or cell activity was greatest.

10. Webster, J. M. (Ed.) 1972. Economic Nematology, Academic Press, London-New York, 1972.

Covers major crop plants with some discussion of resistant varieties.

11. Webster, J. M. and R. E. Paulson. 1972. An interpretation of the ultrastructural response of tomato roots susceptible and resistant to Meloidogyne incognita (Kofoid et White) Chitwood. European Mediterranean Plant Protection Organization Bulletin O.E.P.P. 6:33-39.

12. Weinberger, J. H., P. C. Marth, and D. H. Scott. 1943. Inheritance study of root knot nematode resistance in certain peach varieties. American Society of Horticultural Science Proceedings, 42:321-325.

F_1 progeny of susceptible commercial varieties x resistant variety shalil or yunnan were resistant.

13. Wells, J. C., C. H. Hanson and J. L. Allison. 1953. The reaction of Rowan, Korean, and Kobe lespedeza to root-knot nematode species. Plant Disease Reporter. 37(2):97.

Rowan lespedeza though not immune was highly resistant to Meloidogyne incognita and M. incognita acrita and was susceptible to M. avenaria, M. hapla and M. javanica. Korean and Kobe varieties were susceptible to all of these Meloidogyne spp.

14. Wells, J. C., C. H. Hanson and J. L. Allison. 1954. The reaction of sericea (Lespedeza) to root-knot nematode species. Phytopathology, 44(6):333. (Abstract)

Resistance of Lespedeza cuneata (Chinese lespedeza) to Meloidogyne arenaria, M. hapla, M. javanica, M. incognita, M. incognita acrita varied from high resistance to moderately susceptible. No selections were immune.

15. Werner, E. 1970. [Haploids of potato and their use in breeding.] In Ziemniak, Poznan, Poland, pp. 9-47.

Hybrids of haploids with Solanum phureja were all susceptible to Heterodera rostochiensis pathotype A, but those from S. vernei contained individuals in the ratio 1:2.

16. Wester, R. E. 1950. A comparison of greenhouse and field methods for evaluating lilma beans for resistance to root-knot nematodes. Proceedings of American Society for Horticultural Science. 56:395-400.

Greenhouse testing of lima beans for root knot resistance was more efficient than field testing. A California selection L76 indicated high resistance.

17. Wester, R. E., H. B. Cordner and P. H. Massey, Jr. 1958. Nemagreen-a new lima. American Vegetable Grower, 6(5):31-32.

These authors have developed a new lima bush bean which is very resistant to root-knot nematodes.

18. Whitehead, A. G., D. J. Tite, J. E. Fraser, and E. M. French. 1972. Control of potato cyst-nematode, Heterodera rostochiensis, in peaty loam soil by D-D, aldicarb and a resistant variety of potato. Annals Applied Biology, 72(3):307-312.

10.3 Kg aldicarb/ha permitted King Edward potatoes (susceptible) to grow well in soil infested with potato cyst nematode, H. rostochiensis Woll. and prevent multiplication of pathotypes of H. rostochiensis on Maris Piper potatoes (resistant to H. rostochiensis pathotype A.).

19. Wiles A. B. 1957. Resistance to root-knot nematode in cotton. Phytopathology, 47(1):37. (Abstract)

Cotton variety Auburn 56 has some resistance to Meloidogyne incognita and to M. incognita acrita. Coke 100 Wilt, Alabama hybrid 81-14, Empire, and Fox showed some resistance to M. incognita but were severely infected by M. incognita acrita.

20. Williams, C., W. Birchfield, J. K. Vidrine and W.Hall. 1973. Soybean resistance studies with root-knot nematode on the Wartelle Farm. Rep Project of Dept. Agronomy Louisiana State University Agric Mech Coll Agric Exp Stn, p 170-171.

21. Williams, C. and W. Birchfield. 1972. Soybean resistance studies with a new race of root-knot nematode (Meloidogyne incognita) on the Wartelle Farm 1972. Rep Project of Dept. Agronomy Louisiana State University Agric Mech Coll Agric Exp Stn p. 174-175.

22. Williams, C., W. Birchfield, and E. E. Hartwig. 1973. Resistance in soybeans in a new race of root-knot nematode. Crop Science (1973), 13(3):299-301.

Soybean selections D-69-9833, D 69-9843, F63-4000 and F 66-1080 were more resistant to Meloidogyne incognita than 'Bragg' and 'Hill.' Better breeding lines should be obtained from recombination of genes for resistance from several sources.

23. Williams, M. 1968. Peaches bred for nematode resistance. Research Report Florida Agric Exper Stn, 13 (5/6):7-8

24. Williams, T.D. 1956. The resistance of potatoes to root eelworm. Nematologica, 1:88-93.

Solanum andigenum, a resistant species, produced active "hatching" factor in root diffusate, but diffusate of S. vernei, also resistant, produced a much less active diffusate.

25. Williams, T. D. 1958. Potatoes resistant to root eelworm. Proceedings Linngean Society 169:93-104.

In Solanum andigenum very few female nematodes developed. S. Vernei was more resistant to invasion and female development than S. andigenum. Increase in initial nematode density resulted in decreased yield.

26. Williams, T. D. 1970. Barley segregates resistant and susceptible to the cereal cyst-nematode (Heterodera avenae Woll.). Annals of Applied Biology 66(2):339-346.

Resistant and susceptible segregates of spring barley were equally invaded by Heterodera avenae larvae the first year but few females developed on the resistant plants (Hordeum pallidum var 191). In the second season yield of a susceptible variety increased significantly in the site of the previous year's resistant strain.

27. Williams, W. M. 1972. Laboratory screening of white clover for resistance to stem nematode. New Zealand Journal of Agricultural Research, 15(2):363-370.

A screening technique to discover the resistance of white clover to Ditylenchus dipsaci is described. Unfortunately laboratory and field trials did not correlate.

28. Williams, W. M. and P.C. Barclay. 1972. The effect of clover stem eelworm on the establishment of pure swards of white clover. New Zealand Journal of Agricultural Research, 15(2):356-362.

Fine white clover lines were test for resistance in Ditylenchus dipsaci infested soil. Two lines (Morcco x Grasstands 4700) and (Ladimo x Grasslands 4700) were resistant.

29. Willis, C. B. 1976. Susceptibility of sainfoin cultivars to the northern root knot nematode. Canadian Journal of Plant Science. 56(4):981-983.

A population of Meloidogyne hapla from Prince Edward Island, Canada parasitized 7 cultivars of Onobrychis viceaefolia tested.

30. Willis, R. J. and R. D. Winslow. 1964. The effects of cropping with eelworm-resistant and eelworm-susceptible potatoes on the level of potato root eelworm in a Northern Ireland garden soil. Record of Agricultural Research Ministry of Agriculture, Northern Ireland, 13(1):67-74.

Repeated plantings of resistant potatoes (Solanum taberosum subsp. andigenum) reduced the nematode population (Heterodera rostochiensis) more rapidly than fallow.

31. Wilski, A. 1959. [Attempt to breed potato varieties to Heterodera rostochiensis Woll] Postepy Nauk Rolniczych, No. 6, pp. 40-45.

32. Wilski, A. 1967. Obecny stan badan nad nicieniami szkodliwymi w rolnictwie i ich zwalczaniem w Polsce. Biul. Inst. Ochron. Rosl., No. 37, pp. 145-158. [En, Ru sum pp. 157-158]

A review of major nematode problems in Poland with a discussion on various plants resistant to Heterodera rostochiensis, H. schachtii, Ditylenchus dipsaci, Aphelenchoides fragariae and A. ritzemabosi.

33. Wilski, A. 1975. [The susceptibility of different varieties of oats, spring barley and spring wheat to infection by cereal root eelworms.] Informator o wynikach badan naukowych zakonczonych w 1973 roku. Rolnictwo, czesc 1. Warsaw, Poland; Wydzial Nauk Roiniczych i Lesnych PAN, pp. 462. [Pl] (Plant Breeding ABstracts 47, 111.)

34. Wilski, A., and J. Giebel. 1966. Beta-glucosidase in Heterodera rostochiensis and its significance in resistance of potato to this nematode. Nematologica 12:219-224.

Potato varieties resistant to biotype B are susceptible to biotype A, which does not secrete a -glucosidase and the phenols in the cells are not released allowing Biotype A larvae to penetrate without causing necrosis.

35. Wilski, A., and J. Giebel. 1971. The destruction of indoleacetic acid in roots of potatoes susceptible and resistant to Heterodera rostochiensis. Bull. Acad. Pol. Sci., Ser. Sci. Biol. 19:815-819.

When plant tissues are damaged by nematodes, a system which favors IAA accumultion is stimulated in susceptible plants, but in resistant plants a system which destroys IAA is formed.

36. Wilski, A., and J. Giebel. 1971. Searches for biochemical reasons of plant resistance to nematodes: Final technical report. Poznan, Institute of Plant Protection, 74 pp.

37. Wilski, A., and J. Giebel. 1972. Phenolics in potato roots and their influence on susceptible-resistant reactions to Heterodera rostochiensis. Academy Polon Science Bulletin Ser Sci Biol, 20(1):55-62.

Resistant roots contained more phenolics than did susceptible roots. After invasion by the nematode, the difference increased.

38. Wilski, A., J. Giebel and A. Glowinkowska. 1971. [Phenolic compounds in roots of tomatoes susceptible and resistant to Meloidogyne ssp.] Poznan Inst Ochrony Roslin Prace Nauk, 13(1):155-162. [Po, Eng sum]

39. Winfield, A.L. 1974. Observations on the occurrence, pathogenicity and control of Pratylenchus vulnus P. thornei and Xiphenema diversicaudatum associated with glasshouse roses. Annals of Applied Biology, 77(3):297-307.

Pratylenchus thornei, P. vulnus and Xiphinema diversicaudatum are problems on greenhouse roses. P. vulnus increases rapidly on Rosa

canina rootstocks. X. diversicaudatum also prefers R.canina, P. thornei showed a different host status.

40. Winoto, S. R. 1969. Studies on the effect of Tagetes species on plant parasitic nematodes. Sticht. Fonds. Landbouw. Export Bur. Publ. 47, Weenman and Zonen, N. V., Wageningen, The Netherlands, 132 p.

Populations of Meloidogyne sp. were limited by root exudates.

41. Winstead, N. N. 1959. Reaction of cabbage varieties and clubroot resistant lines to root-knot nematodes. Plant Disease Reporter, 43(12):1280-1281.

No correlation of resistance was found to two root enlarging parasites-clubroot and root-knot nematodes in several cabbage varieties.

42. Winstead, N. N. and W. S. Barham. 1957. Inheritance of resistance in tomato to root-knot nematodes. Phytopathology, 47:37-38. (Abstract)

In tomato line, Hawaii 5229, resistance is incompletely dominant and conditioned by one gene. Data indicates that same gene controls resistance to all four Meloidogyne species.

43. Winstead, N. N. and R. D. Riggs. 1959. Reaction of watermelon varieties to root-knot nematodes. Plant Disease Reporter, 43(8):909-912.

Eighty-three varieties and lines of watermelon were tested for resistance to Meloidogyne incognita, M. incognita acrita, M. arenaria, M. javanica and M. hapla. Only M. hapla was affected as reproduction was restricted to a few females of this species.

44. Winstead, N. N. and J. N. Sasser. 1956. Reaction of some cucumber varieties to five root-knot nematodes (Meloidogyne spp.), Plant Disease Reporter, 40:272-275.

No resistance was foundin Cucumis sativus. The West Indian gherkin was resistant to Meloidogyne incognita and M. arenaria, but susceptible to M. incognita acrita.

45. Wu, T. K. 1973. [Determination of nematode resistance in tobacco]. Annual Rep Tobacco Res Inst Taiwan Tobacco and Wine Monop Bur, p. 209-213. [Chi]

46. Wyatt, J. E. 1976. Breeding beans for root-knot nematode (Meloidogyne incognita) resistance. Annual Report Bean Improvement Cooperative, 19:90-91.

1. Yadav, B. S., R. P. Nandwana, A. Lal, and M. K. Verma. 1975. Evaluation of certain brinjal varieties to the root-knot nematode Meloidogyne incognita. Indian Journal of Mycology and Plant Pathology, 5(1):17.

2. Yamakawa, K. 1976. Breeding for disease resistance of vegetable crops in Japan - Solanaceae. JARQ, 10(4):187-192.

Mention is made of tomato varieties (Lycopersicon esculentum) resistant to Meloidogyne incognita var. acrita.

3. Yarkova, K. T. 1968. [The resistance of varieties of strawberry to stem eelworm.] IN: Materialy Nauchnoi. konferentsii po problemam Genetikii, Selektsii i Semenovodstva rastenii. Gorkiy, USSR, pp. 96-103. [Ru] (Plant Breeding Abstracts 42, 3547)

Resistance to Ditylenchus dipsaci in strawberry is transmitted to progeny.

4. Yarkova, K. T. 1970. [Resistance of strawberry varieties to the stem nematode.] Sel'skokhozyaistvennaya Biologiya, 5(1):53-57.

Thirteen varieties of strawberry are tested for resistance to Ditylenchus dipsaci.

5. Yeates, G. W., W. B. Healy, and J. P. Widdowson. 1973. Screening of legume varieties for resistance to the root nematodes Heterodera trifolii and Meloidogyne hapla. New Zealand Journal of Agricultural Research, 16(1):81-86.

General legumes (7 lines of Trifolium repers, 2 lines each of T. Pratense, T. subterraneum, Lotus pedunculatus and Medicago sativa were tested in soil infected with Heterodera trifolii and Meloidogyne hapla. All T. repens lines were susceptible to both nematodes. The T. pratense, Lotus and Medicago lines were susceptible to M. hapla. The same lines were also tolerant to H. trifolii.

6. Yllo, T. L. 1968. [Nematode-resistant potato varieties.] Koetoiminta Kaytanto, 25:7.

7. Yuhara, I. and K. Sakurai. 1971. [Studies on the resistance of soybean to cyst nematode. Heterodera glycines. 3. Local variations in the resistance of soybean varieties to the soybean cyst nematode, with special reference to the possible existence of physiological races of nematodes.] Hokkaido National Agricultural Experiment Station Research Bulletin, 99:89-96. [Ja]

Local Japanese varieties varied inresistance to Heterodera glycines possibly because physiological races of the nematode exist.

1. Zaginailo, N. N. 1970. [Breeding greenhouse tomato cultivars with high yield and resistance to a complex of diseases under the conditions of Moldavia.] Trudy prikl. Bot. Genet. Selek., 42(3):85-90. [Ru, En sum p. 90]

   Tomato cultivars were evaluated for resistance to M. hapla. The varieties (Allround, Eurocross and F_1 hybrids) were more tolerant than other varieties. Lycopersicon peruvianum and L. hirsutum are resistant.

2. Zeven, A. C. 1976. Black pepper. Piper nigrum. Simmonds, N. W. (Ed) IN: Evolution of crop plants. London, UK, pp. 234-235.

   Breeding programs have been established to improve resistance to Phytophthora and Meloidogyne.

3. Zhitlova, N. A. 1976. [Forms resistant to nematode and Phytophthora.] Selektsija i Semenovodstvo, 1:38-30. [Ru] (Plant Breeding Abstracts 46, 7250.)

   The interspecific hybrids (Solanum canasense x S. famatinae) showed highest resistance to Heterodera rostochiensis.

4. Zhuchenko, A. A., V. K. Andryushchenko, N. N. Balashova, G. A. Anyukhovskaya, and A. K. Mashtakova. 1975. [Method of evaluating nematode resistance in tomato varieties.] USSR Patent (1974) No. 404452. [Ru] (Plant Breeding Abstracts 46, 11615.)

5. Zhuchenko, A. A., N. N. Balashova and V. K. Andryushchenko. 1975. [The role of the glycoalkaloid alpha -tomatine in the resistance of tomatoes to disease and pests.] Sel'skokhozyaistvennaya Biologiya, 10(3):451-453. [Ru].

   Lycopersicon species with high alpha-tomatine in the roots were more resistant to heavy M. incognita infection than wild tomato in which the alpha-tomatine is concentrated in the aerial portions of the plant.

6. Zingstra, H. 1970. [Potato breeding work in 1969.] Zaadbelangen, 24(17):400-402. [Nl]

   In resistance tests of numerous samples of potato varieties in the Netherlands, plant breeders found 44.9% free from Heteroderae rostochiensis.

7. Zinov'ev, V. G. 1975. [Causes of plant resistance to nematodes.] IN: Immunitet sel'skokhoziaistvennykh rastenii k bolezniam i vrediteliam. IU. N. Fadeev et. al. (Eds), pp. 343-349. [Ru]

8. Zyl, H. J. Van; and D. K. Strydom. Nemaguard - a peach rootstock resistant to root-knot nematode. Deciduous Fruit Grower, 21(7):165-167.

   The rootstock 'Nemaguard' is described as having heterozygous resistance to Meloidogyne javanica and M. incognita.