

4TH INTERNATIONAL WORKSHOP ON GRAPEVINE TRUNK DISEASES

“ESCA AND GRAPEVINE DECLINES”

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ABSTRACTS

The fungus *Botryosphaeria dothidea* (Moug.:Fr.) Ces. & De Not. is the causal agent of black dead arm of grapevine and is associated with branch and trunk dieback, wood necrosis, brown wood streaking and incomplete grafts. An extensive study was carried out during 2002 and 2003 covering the entire grape-growing area of Greece in order to investigate the incidence of *B. dothidea* and other wood destroying fungi in the grape propagative material that was produced in Greece or other European countries. Four groups of vine material were examined: a) 12,000 unrooted rootstock cuttings from governmental or private mother nurseries, b) 3000 rooted rootstock cuttings from Greek nurseries or from other European countries, c) 5000 scion cuttings, d) 5000 bench-grafted rooted vines from Greek nurseries or from other European countries. The sampling strategy was carried out by 33 agronomists according to our instructions. In total, over 20,000 cuttings or grafted rooted vines were examined and over 80,000 isolations were made. *B. dothidea* was not isolated from any unrooted rootstock or scion cutting. The fungus was isolated in a low percentage (0.3%) from rooted rootstock cuttings and in a higher percentage from grafted rooted vines (3.5%). In some grafted rooted cultivars from other European countries the percentage was significantly higher (12.5%). It was concluded that planting material colonised by *Botryosphaeria dothidea* at the nursery was one reason for the decline of young grapevines. Pathogenicity studies with isolates from kiwifruit (*B. parva*), olive (*Botryosphaeria* sp.), walnut (*B. dothidea*), *Ilex aquifolium* (*B. parva*), grapevine (*B. dothidea*) and pistachio (*B. dothidea*) on grapevine (different cultivars and rootstocks) and other woody hosts (kiwifruit, olive, *Ilex aquifolium*, walnut, quince, pear, almond, plum, cherry), showed that all isolates from any host would infect other hosts although considerable variation in aggressiveness was noticed. No evidence for host specificity was observed. The growth rate of *Botryosphaeria* isolates from different hosts at different temperatures (5, 10, 15, 20, 25, 30, 33, 37°C) on PDA was also studied.

Relation of esca foliar symptoms to rainfall and rainfall-related parameters. P. BRACCINI¹, F. CALZARANO², A. DALLA MARTA³, S. DI MARCO⁴, G. MARCHI⁵, L. MUGNAI⁵, F. PEDUTO⁵, S. ORLANDINI³, F.

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Outbreaks of esca were monitored in Tuscany, Emilia Romagna and Marche, Italy. Data and analyses were consistent with previous observations. Random or near-random distribution of diseased vines was observed in vineyards with low disease incidence (<10%). In vineyards with a disease incidence over 10–15%, infected vines were nearly uniformly distributed or tended to aggregate in clusters. None of the analyses detected a preferential spread of the disease from plant to plant along columns or in any other direction. But though diseased vines did not often influence immediately adjacent plants, infected vines did appear to be aggregated within 10–12 plant-spacings of each other in all directions. A single-point source of outbreaks could not be identified: several foci were present in the vineyards surveyed. From the time the outbreaks started (in some vineyards two or three years after establishment) disease incidence increased in almost linear progression. Weather data were compared with esca incidence over 4-to-10-year periods in all vineyards. to look for a relation between annual esca incidence and the number of days with rain, total rainfall during the entire growth period, and rainfall in single months. The results seem to confirm what was previously reported, that cool, rainy growing seasons are more favourable to the emergence of foliar esca symptoms.

Enviro-spatial distribution of grapevine trunk pathogens in South Africa. J.M. VAN NIEKERK¹, W. BESTER¹, U. DAMM¹, F. HALLEEN², P.W. CROUS³ and P.H. FOURIE¹. ¹Department of Plant Pathology, University of Stellenbosch, Private Bag X1, Matieland 7602, South Africa. ²ARC Infruitec-Nietvoorbij, Private Bag X5026, Stellenbosch