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West Africa Regional Program

Mamourou Diourté
IER-Mali

Ababacar N'Doye
ITA-Senegal

Hamidou Traore
INERA-Burkina Faso

Bruce Hamaker
Purdue University

Bonnie Pendleton
West Texas A&M University

See next page for additional authors

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Authors

Mamourou Diourté, Ababacar N'Doye, Hamidou Traore, Bruce Hamaker, Bonnie Pendleton, and Niamoye Yaro

WEST AFRICA REGIONAL PROGRAM

Regional Coordinators:

Mamourou Diourte, IER-Mali

Ababacar N'Doye, ITA-Senegal

Hamidou Traore, INERA-Burkina Faso

U.S. Coordinators:

Bruce Hamaker, Purdue

Bonnie Pendleton, WTAMU



Survey of Storage Facilities & Ways to Reduce Insects

320 Farmers in 2 Regions of Niger



Grain in barrels, burlap or plastic bags, & storage houses

Storage facilities used by farmers:

1. Cylindrical granary with *Andropogon gayanus* &/or stalks & covered with grass - Maradi
2. Conical granary with bricks, covered with grass - Tahoua

Insects of sorghum & millet: *Ephestia kuehniella*
Tribolium castaneum, *T. confusum*,
Trogoderma granarium,
Rhyzopertha dominica, &
Sitotroga cereallella

13 botanicals for control

Sand, ash, salt, mixture of
salt & ash reduce damage





LES INSECTES NUISIBLES DU STOCK

Niamoye Yaro (IER) et Bonnie Pendleton (West Texas A&M University)

Les insectes peuvent occasionner 35-100 % de dégâts aux grains stockés.

Ces dégâts sont dûs soit aux attaques directes ou aux excréments et débris d'insectes, à l'odeur, les fils de tissage, la chaleur, ou la moisissure.

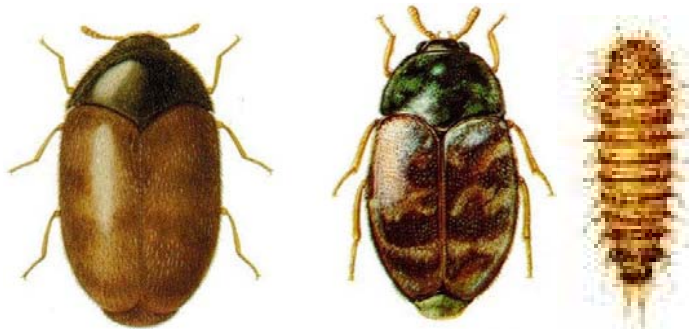


Les Insectes Nuisibles Primaires qui S'attaquent aux Grains Entiers de Sorgho Stock

Le capucin des grains – *Rhyzopertha dominica*



Dermeste des grains – *Trogoderma granarium*



Les charançons du riz et du maïs – *Sitophilus granarius* et *Sitophilus zeamais*



Alucite des céréales – *Sitotroga cerealella*



Les Arthropodes Nuisibles Secondaires qui Attaquent les Grains Perforés ou la Farine du Sorgho Stock

Ver de la farine – *Tribolium* spp.



Pyrale de la farine – *Corcyra cephalonica*



La teigne du blé – *Plodia interpunctella*



L'acarien de la farine – *Acarus siro*



Fungi from Stored Sorghum Grain in Mali

Aspergillus sp.

Colletotrichum sp.

Curvularia sp.

Fusarium sp.

All species of fungi isolated from Grinkan sorghum

Only *Colletotrichum* & *Aspergillus* isolated from
Niatchichama

Badly stored grain subject to contamination by
fungi leading to poor grain germination

W. AFRICA TECHNOLOGY TRANSFER PROJECTS

Identified technologies to transfer with impact

1. Dynamic farmers to grow improved varieties & sell to local & regional food & feed processors

Farmer entrepreneurs trained for seed & grain production & linked to end-users (farmers & markets). Storage buildings by farmers & project. Farmers identify & manage storage pests.

Mali, Niger, Nigeria, Burkina Faso

2. New processing technologies that include pre-gelatinized, instant flours, composite flour breads, & couscous from grits

Train and incubate entrepreneurs.

Senegal, Niger (Mali from Mali/USAID)

3. Farm adoption of *Striga*-resistant varieties for dolo

Burkina Faso, E. Mali