

papago pea and barley residues, which have shown marked effects in reducing *Phymatotrichum* Root Rot following their incorporation in soil, have been identified chromatographically. Several phenyl fatty acids, 2 phenyl propionic, 3 phenyl propionic and 4 phenyl butyric, suppress production of sclerotia and reduce growth of mycelium on agar and soil media. These chemicals as well as 2, 4 dihydroxybenzoic acid at concentrations of 100-1000 ppm prevent germination of sclerotia.

In 1968 and 1969 a new cotton strain, a hexaploid, developed by Dr. H. Muramoto, was tested for its ability to escape the inoculum of *Phymatotrichum omnivorum* deep in the soil. The cotton strain has the genetic character of producing numerous, shallow, feeder roots which shows promise for escaping the strands and sclerotia of *Phymatotrichum omnivorum* which survive at depths of 3-5 feet in the soil.

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SOIL TREATMENT FOR NEMATODES

Where nematode infestation levels warrant treatment the use of nematocide may enhance plant growth and increase early cotton set. The yield of seed cotton on the untreated plot was reduced 35% in the first picking and 20% in the second. Total seed cotton reduction was 32.3%.

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| Treatment | Seed Cotton Yield-Lb/Plot | | | Total | Ave. Yield lb/A |
|-----------|---------------------------|----------|-----|-------|-----------------|
| | 1st Pick | 2nd Pick | | | |
| Nemazon | | | | | |
| 12.1 lb/A | 395 | 93 | 488 | 1096 | |
| Untreated | 255 | 75 | 330 | 736 | |

Crop History

Planted: 3/21
 Harvested: First Pick 10/20
 Second Pick 11/22
 Previous Crop: 1966 Barley and Maize
 1967 Cotton
 1968 Cotton
 Soil Type: Sandy loam
 Soil Treatment: 12.1 lb Nemazon per acre
 injected 12-15 inches deep in
 center of bed with single shank
 each row