Neth. J. Pl. Path. 81(1975) 84–85 SHORT COMMUNICATION

The occurrence of Phytophthora spp. in relation to gummosis of citrus trees in Cuba

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Accepted 28 November 1974

During a four month stay of the first author in Cuba an investigation was carried out about the possible presence of *Phytophthora* spp. on citrus trees suffering from gummosis. Although gummosis of citrus was known, its cause has not been determined earlier in Cuba.

In the present investigation no proof was obtained about the causal organism of gummosis but the presence of *Phytophthora* spp. in citrus bark was shown.

Samples of diseased bark showing outflow of gum were collected from the following citrus growing areas: Plan Citricos Jaguey, Isla de Pinos, Pinar del Rio, Guane.

For the isolation of *Phytophthora* the method described by Granada and Sanchez (1969) was followed.

From almost all samples a *Diplodia sp.* was isolated. *Phytophthora nicotianae* v. Breda de Haan was isolated only from samples from Isla de Pinos, but this does not indicate that *Phytophthora* spp. do not occur in the other areas.

Acknowledgment

The identification of the species isolated, carried out by Centraal Bureau voor Schimmelcultures (Baarn), is kindly acknowledged.

Samenvatting

Phytophthora-aantasting op citrusbomen in Cuba

In de vier voornaamste citrusteelt gebieden op Cuba werden symptomen van gomvorming geconstateerd ten teken van de aantasting van de bast door *Phytophthora* spp.

Er werd volgens de methode van Granada en Sanchez (1969) een *Phytophthora* geïsoleerd. Deze isolatie werd door het CBS (Baarn) gedetermineerd als *Phytophthora nicotianae* v. Breda de Haan.

References

Granada Ch., G. A. & Alberto Sanchez P., 1969. Etiologia y prueba de resistencia de patrones a la pudricion del pie de los citricos en el valle del canca, Colombia. Acta agronomica 19: 107–133.

Addresses

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Book review

F. J. Gommers: Nematicidal principles in Compositae. Diss., Rijksuniversiteit Groningen 1973. Also published as: Mededelingen van de Landbouwhogeschool Wageningen 73–17: 71 pp.

After earlier work carried out by others mainly at Wageningen, the Netherlands, Gommers investigated the suppressing properties of members of the Compositae on nematode populations at the Groningen and Wageningen universities. The plant parasite *Pratylenchus penetrans* is particularly sensitive to various Compositae. This is related to its endoparasitic behaviour. In most experiments this species served as the test organism. Nematodes may be killed by Compositae after having entered the roots. There are no indications that nematicidal compounds released into the soil play a role. Some ectoparasitic nematode species multiply strongly on certain Compositae suppressing *P. penetrans* populations.

In a series of field and glasshouse experiments several additional Compositae with suppressing activity were found. Taxonomic relationships became evident: species with suppressing capacity were frequently detected among the tribes Heliantheae and Helenieae, and not, for instance, among the tribe Anthemideae.

From Compositae different fractions with in vitro nematicidal activity could be isolated. An interesting discovery is that the in vitro activity of a number of these compounds (including α-terthienyl) is strongly enhanced by daylight. The near ultra-violet wavelengths were shown to be responsible for this effect. At the same wavelengths these compounds also show the greatest absorption. In vitro experiments with α-terthienyl in light and darkness showed that the compound is released from the nematodes more slowly than it is taken up. *P. penetrans* from roots of *Tagetes* were also rapidly killed when exposed to light of the same wavelengths.

H. Hoestra

K. F. Baker & R. J. Cook: Biological control of plant pathogens (with a foreword by S. D. Garrett). W. H. Freeman and Company, San Francisco, USA 1973: 433 pp.; 58 figs.; subject index; cloth bound. Price $ 12.50, £ 5.90.

This book deals primarily with soil-borne diseases with only one chapter on pathogens of aerial parts. Much less is known of biological control of the latter than of soil-borne diseases.

The authors treat the subject clearly and systematically. After some chapters on general subjects such as biological balances, and the general nature of biological control, the roles of the pathogen, the antagonist, the host and the physical environment are discussed, each in a separate chapter. Much emphasis is laid on antagonistic micro-organisms. The authors present strong evidence that antagonists play an important role in limiting diseases, and might be used in more cases to control soil-borne diseases. They indicate approaches and techniques for this, but do not suggest that biological control is easy to achieve.

The book contains a wealth of well presented information and is pleasant to read. Not all views presented will be shared by all readers. The authors are aware of this and in their preface state that they will be content if, among other things, the book 'even irritates someone into proving us wrong'. In my opinion, many readers will be convinced that the time has come for a new interest in biological control of soil-borne plant diseases.

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