

closely agreed with the type description of the pathogen but there was variation in the size range of the fruiting bodies and the spores among the isolates from the various varieties and also from the strains described from other regions. Whether these differences are also accompanied by physiologic variation among these isolates is being investigated. The *Mycosphaerella* which was found in constant association with the *Cercospora* was brought into culture by obtaining ascospores using the ascospore discharge plate method described by Leach and single ascospore cultures were found to produce conidia of *C. musae*. So far only *M. musicola* from banana has been known to produce conidia in cultures and confirmed the identification of the present *Mycosphaerella* as *M. musicola*. Several banana varieties were observed in the field for their susceptibility to leaf spot. *Musa balbisiana* and its clone *Ela vazhai*, *Athiya Kol* and *Kallu bale* were found to be resistant as judged from disease intensity grading in the field under natural infection. Varieties of *Vamana Keli* and *Monthan* groups exhibited high susceptibility to leaf spot and the varieties under *Kunnan* group were only moderately susceptible; varieties under the other groups varied in their susceptibility. It is interesting to note that the cultivated variety *kaali* is resistant to leaf spot.

* The author furnished the following information in response to the questions raised during the discussion. The fungus penetrated the host leaf through the stomata on the lower surface of the spindle leaf. The perfect stage of the culture has not yet been obtained *in vitro* culture. Bordeaux mixture does not effectively control the ascospore infection but is effective in keeping down the conidial inoculum. This was probably because ascospores are all to germinate and cause infection without the presence of actual water drops while the conidia were unable to do so and required actual water drops. The ascospores were discharged only at high levels of humidity.

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5. SOME EXPERIMENTS ON THE FUNGICIDAL CONTROL OF LEAF DISEASES OF *Sorghum*

by

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M. KANDASWAMY

Sorghum is subject to leaf diseases incited by *Cercospora sorghi* E. & E. and *Bipolaris turcicum* (Pass) Shoemaker. The yield of grain and quality of straw is often adversely affected. Field experiments to control the diseases were conducted in 1961 and 1962 using Co. 1 (rainfed) and Co. 18 (irrigated) varieties of *Sorghum* respectively. The fungicides used in the first experiment were Dithane Z. 78, Flit 406, Sulphur dust, Ferbam, Ziram, Microcop, Colloidal copper, Wettable sulphur, Dithane D. 14, Bordeaux mixture and Copper oxychloride. The above treatments were applied thrice at monthly intervals. In the subsequent year Bordeaux mixture, Copper oxychloride, Flit 406, Dithane Z. 78 and Dithane M 22 were applied at weekly and fortnightly intervals. The weekly sprayed plots received 7 sprayings in all while the fortnightly sprayed plots received 4 sprayings.

In the first experiment Dithane Z.78 recorded the highest grain yield (27.7%) over untreated control which is significantly superior to Ferbam, Copper oxychloride, Bordeaux mixture and Colloidal Copper. Treatments with Copper fungicides gave better control of both the diseases but reduced the yield when

compared to the other fungicides and the unsprayed control. Similarly in the second experiment Dithane M 22 sprayed fortnightly recorded the highest yield (36.01%) over unsprayed control. The copper fungicides, however, caused severe scorching of the leaves and also significantly reduced yield over unsprayed control.

The toxicity of copper fungicides to *Sorghum* is reported here for the first time.

* It was suggested during the discussion that lower concentrations of copper fungicides may be tried and some idea of the economics of the treatments may be furnished. Residual toxicity to cattle, if any, may be investigated. The phytotoxicity of copper fungicides to *Sorghum* is a new information deserving wide publicity.

It was suggested that the thiocarbamates had a stimulatory effect on the plants apart from their fungicidal value. The Convenor agreed that this has been the common experience.

6. EXPERIMENTS IN FUNGICIDAL CONTROL OF PRE-EMERGENCE DAMPING OFF IN VEGETABLE CROPS

by

C. PADMANABHAN, A. P. SAROJINI DAMODARAN and C. S. KRISHNAMURTHY

For the purpose of selecting a suitable seed dressing fungicide for the control of pre-emergence damping off of vegetable crops viz., brinjal, *bhendi* and tomato caused by *Pythium aphanidermatum* (Eds.) Fitz., experiments were conducted under field conditions, adopting split plot design with two main plot treatments viz., 1. inoculated (with fungus), 2. non inoculated (no fungus) and eight sub-plot treatments (the fungicides) replicated twelve times.

The fungicides viz., Cerenox, ESD/AM and ESD/HS were found to be equally efficacious in controlling pre-emergence damping off of *Solanum melongena* L. (brinjal). In the case of *Hibiscus esculentus* L. (*bhendi*), the fungicides viz., Cerenox, Arasan and Ceresan were found to be equally effective in controlling pre-emergence damping off. In controlling pre-emergence damping off of *Lycopersicum esculentum* Mill. (Tomato), the fungicide ESD/AM was found to be very effective closely followed by Ceresan and Cerenox.

* During the discussion it was suggested that the possibility of mixed infection by several organisms in the causation of damping off may be investigated. It was also enquired whether *bhendi* was subject to damping off it being dibbled on the edges of raised ridges unlike brinjal and tomato which are transplanted from nurseries. The Convenor stated that *bhendi* had also been observed to suffer from damping off.

7. A PRELIMINARY NOTE ON SUSPECTED NEMATODE TRANSMISSION OF REDGRAM STERILITY MOSAIC VIRUS

by

P. NARAYANASWAMY, A. R. SESHADRI and K. RAMAKRISHNAN

The redgram sterility mosaic disease is widespread in India. At Coimbatore it occurs in high percentage and causes much loss of crop. It was observed that whenever redgram is grown repeatedly in the same soil the disease