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.

https://doi.org/10.29321/MAJ.10.A03931

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

occurred in high percentage while no disease occurred in a field where the crop was grown for the first time. This suggested that the virus was probably carried in the soil possibly by a soil inhabiting nematode as has been observed in many other virus diseases. To test this proposition a field experiment with five D.D. treated plots and five untreated plots as control was laid out. Each plot had 21 redgram plants. Pre-treatment examination of the soil showed that it contained species of *Pratylenchus, Tylenchorynchus, Rotylenchulus* and *Helicotylenchus*. D.D. treatment reduced the nematode population very considerably. Counts of diseased plants taken during November 1962 showed that the treated plots contained a very much lesser percentage of diseased plants than the untreated plots. The experiment therefore seemed to indicate that the virus is probably transmitted by one or more of the soil nematode species listed above. Further studies are in progress.

* In the course of the discussion it was suggested and readily agreed to that the transmission of the disease should be established by controlled greenhouse experiments. In fact such experiments are currently going on. The possibility of the effect of the fumigantitself in the soil on the virus should be eliminated. However, the virus being non sap transmissible its presence in the soil absorbed on to clay particles was only a very remote possibility. It was also suggested that any synergistic interaction between the nematode vector and the virus may also be investigated.

8. A PRELIMINARY NOTE ON VIRUS DISEASES OF CHILLI IN MADRAS STATE

by

T. K. KANDASWAMY, I. P. JANAKI, K. RAMAKRISHNAN, G. THANGAMANI, K. T. SUBBA RAJA and S. SELLAMMAL

Mosaic type of diseases are prevalent on chilli at various places in Coimbatore, Salem and Tirunelveli districts. The incidence of these diseases in the field varied from 0·5% to 75%. During the present study viruses involved in these diseases were established under green house conditions either by mechanical or aphid transmission.

From the mode of transmission these virus isolates could be classified into four broad groups viz., (a) transmissible by sap alone; (b) transmissible by sap and aphid vectors, (c) transmissible by aphid vectors alone and (d) a seed borne virus transmissible by sap and aphid vector.

Two isolates belonging to the first group produced systemic infection on chilli, tomato and tobacco and local necrotic lesions on *Nicotiana glutinosa* and *Datura metal*. The thermal inactivation point and dilution end points were between 85°C. and 90°C. and 1:100,000 and 1:1,000,000 respectively. They gave positive precipitin reaction with TMV antiserum and were therefore indentified as tobacco mosaic virus.

All the other isolates produced systemic symptoms on chilli and did not infect any other host so far tested. From the symptomatology and mode of transmission it is considered likely that these may include cucumber mosaic virus, all of which are known to infect chilli. Further elaborate tests are planned to identify them definitely.