

RESEARCH NOTES

**BIOASSAY OF FUNGICIDES AGAINST *COLLETOTRICHUM* SP.
ON AVOCADO**

A species of *Colletotrichum* was found to infect Avocado (*Persea americana* Mill.) causing leaf spots at Trivandrum during the rainy season of 1970. An attempt was made to ascertain the relative effects of some fungicides in inhibiting the spore germination of the organism, the results of which are presented below.

The fungicides used were copper oxychloride (Fytolan), zinc and manganese ethylene bisdithiocarbamate (Dithane M-45), zinc ethylene bisdithiocarbamate (Dithane Z-78), tryphenyl tin hydroxide (Duter), zinc dimethyl dithiocarbamate (Ziride) and N-trichloro methyl mercapto-4-cyclohexene-1,2-dicarboximide (Captan); each of which was tried at the five graded concentrations of 5, 10, 50, 100 and 200 ppm. The fungicide solutions were added to two percent water agar medium after autoclaving to give the desired concentrations. A spore suspension of the organism was prepared from a ten days old culture and five ml of it was poured in the centre of the dish after the medium had solidified. The spore suspension was carefully spread out and incubated at laboratory temperature for 24 hours before examination.

Table I

Percent inhibition of spore germination of *Colletotrichum*
sp. by various fungicides

Fungicide	Concentration of fungicides in ppm					Mean
	5	10	50	100	200	
Fytolan	8.46	20.40	10.38	7.80	14.48	12.37
Dithane M-45	34.94	65.43	83.57	87.12	87.97	71.80
Dithane Z-78	8.13	68.94	61.88	87.97	87.97	62.98
Duter	54.49	38.47	67.79	81.02	85.08	65.37
Ziride	71.65	80.36	80.36	81.59	87.97	80.38
Captan	74.20	79.51	82.65	84.42	90.00	82.16
Control	No inhibition of spore germination					

C. D. (0.05) for comparison between fungicides = 3.16

C. D. (0.05) for comparison between levels of fungicides = 7.06

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Results were assessed by counting with the aid of a low power microscope the number of spores in which germination was inhibited out of a total of 200 spores under each treatment. The percentage of inhibition calculated was transformed to degrees and analysed. Table 1 gives the results.

The data reveal that all the fungicides were effective in inhibiting spore germination. Captan was the best, which was on a par statistically with ziride; they were superior to Dithane M-45, Duter and Dithane Z-78 which among themselves were on a par statistically and were superior to Fytolan, which was the least toxic.

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