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IN VITRO EVALUATION OF FUNGICIDES AGAINST
'AZHUKAL' DISEASE OF CARDAMOM

Azhukal - leaf and capsule rot - caused by *Phytophthora* sp is a serious disease of cardamom in certain parts of the high ranges of Kerala. In an attempt to select suitable fungicides for the control of the disease, laboratory evaluation of eleven proprietary fungicides was conducted and the results are presented herein.

The effect of different fungicides on the growth of the fungus was tested by the poisoned food technique using oat agar as basal medium. The required quantity of fungicide was uniformly incorporated in molten basal medium, poured in petridishes and allowed to solidify. Mycelial discs of 5 mm diameter, cut out from an actively growing culture of the test fungus were then placed in

Table 1

Average colony diameter (mm) of *Phytophthora* sp on oat agar medium containing different fungicides

Fungicide	Colony diameter at 2000 ppm	Percent inhibition of growth	Colony diameter at 3000 ppm	Per cent inhibition of growth
Cercobin	60	33.3	50	44.4
Ceresan wet	0	100.0	0	100.0
Cuman L	18	80.0	6	93.3
Difolatan	0	100.0	0	100.0
Dithane C-90	0	100.0	0	100.0
Dilhane M-45	0	100.0	0	100.0
Dithane Z-78	46	48.8	46	48.8
Kocide	0	100.0	0	100.0
Miltox	0	100.0	0	100.0
Thiride	0	100.0	0	100.0
Ziride	15	83.3	8	91.1
Control	90	—	90	—

the centre of the petridishes containing the poisoned medium, at the rate of one disc in each. Suitable controls of non-poisoned oat agar medium were also inoculated with the fungus as mentioned above. The petridishes were incubated at room temperature (20 - 22°C) for eight days. The average colony diameter of the fungus in different treatments was assessed and the per cent inhibition of growth over control was calculated as $\frac{C-T}{C} \times 100$ where C is radial growth of fungus in control and T the radial growth of fungus in treatment.

The results indicate that all the proprietary fungicides tested were able to inhibit the growth of the fungus to various extents. However, complete inhibition of the mycelial growth of the fungus could be obtained only with Ceresan wet, Difolatan, Dithane C-90, Dithane M-45, Kocide, Miltox and Thiride. The above fungicides could effect cent per cent inhibition at both the concentrations tested.

സംഗ്രഹം

സമീപകാലങ്ങളിൽ ഏലകൃഷിക്ക് കടുത്ത ഭീഷണിയായിതിന്നിരിക്കുന്ന ഒരു രോഗമാണ് "അഴുകൽ". ഫൈറ്റോപാത്ഹോളജി എന്ന പേരിലറിയപ്പെടുന്ന ഒരു കമീയ മൂലമാണ് ഈ രോഗം ഉണ്ടാകുന്നത്. പാമ്പാടം പാറ ഏലം ഗവേഷണകേന്ദ്രത്തിലെ സസ്യരോഗപരിക്ഷണ ശാലയിൽ 11 കമീയ നാശിനികൾ പരീക്ഷിച്ചതിൽ സെറിസാൻ വൈറ്റ്, ഡൈഫോലാറ്റൻ, ഡൈതേൻ - സി - 90, ഡൈതേൻ - എം - 45, കോസൈഡ്, മിൽറോക്സ്, തൈ റൈഡ് എന്നിവയ്ക്ക് 2000 ppm (0.2%) വീര്യത്തിൽ രോഗകാരണമായ കമീളിന്റെ വളർച്ചയെ നൂറു ശതമാനവും നിയന്ത്രിക്കുവാൻ സാധ്യമാണെന്ന് തെളിഞ്ഞിരിക്കുന്നു.

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