

## GROWTH OF *CYLINDROCLADIUM QUINQUESEPTATUM* ON DIFFERENT OIL INCORPORATED MEDIA

A severe leaf blight disease of clove (*Eugenia caryophyllata* L.) caused by *C. quinqueseptatum* Boedijn et Reitsma was found to be widely prevalent in many parts of Kerala, India which has been reported by Wilson *et al.* (1977).

Clove being an oil yielding crop, a study was undertaken on the influence of different oils including clove oil on the growth of the fungus on culture media as part of a detailed study on the disease. Both solid and liquid Czapeks' broth were used for the study with the following five oils, clove oil, coconut oil, eucalyptus oil, gingelly oil and lemongrass oil.

The oil was added into both Czapeks' agar and Czapeks' broth at the rate of 1 ml per 60 ml of medium and thoroughly mixed by shaking for 20 min in a rotary shaker. The media were then sterilized by autoclaving at 1.05 kg/cm<sup>2</sup> for 15 min. Mycelial discs of 5 mm diameter were cut out from an actively growing culture of the fungus and centrally placed on each dish. Controls were also run simultaneously using normal Czapeks' agar medium without any oil. The petridishes were incubated at room temperature (28 + 2°C) and observations on the radial growth of the fungus were taken on the 3rd day of inoculation. The amended and control Czapeks' broths at the rate of .30 ml per 250 ml flasks were taken and after sterilization the test fungus was inoculated into these. After 15 days of incubation at room temperature the mycelial growth was filtered and dry weight of the mycelium was determined.

The average colony diameter of the fungus on solid medium and the average dry weight of mycelium in different treatments are presented in Table 1. The fungus could grow on media amended with all the oils except lemongrass oil, even though all the oils tested had an inhibitory effect on the growth of the fungus. Of the different oils tested, the maximum growth was obtained on medium amended with gingelly oil, followed by coconut and clove oils. The growth was least in medium amended with eucalyptus oil. Statistical analysis of the data revealed that the growth of the fungus on media amended with gingelly oil and coconut oil was not significantly different. The effect of clove oil and coconut oil was also on par. Maximum dry weight of the mycelium was obtained in Czapeks' broth amended with gingelly oil which was followed by coconut oil. Coconut oil was followed by clove oil and eucalyptus oil. But there was no growth in the case of lemongrass oil. Statistical analysis revealed that gingelly oil and control were on par and superior to other treatments. Clove and eucalyptus oils were also on par and superior to lemongrass oil in which there was no growth.

The results of the present study revealed that the oils have got an inhibitory effect on the growth of the fungus *Cylindrocladium quinqueseptatum*, even though they varied in their ability to do so.

Table 1

Growth of the fungus on media incorporated with oils

Czapeks' medium amended with different oils	*Radial growth of the fungus in mm	*Dry weight of the mycelium in mg
Clove oil	42.10	119.00
Coconut oil	54.23	285.75
Lemongrass oil	0.00	0.00
Gingelly oil	61.25	352.50
Eucalyptus oil	15.45	104.25
Control	90.00	465.33

\*Mean of 3 replications

## സംഗ്രഹം

ഗ്രാമ്പൂവിനെ ബാധിക്കുന്ന ഇലകൾ *rallies!* രോഗത്തിന് കാരണമായ *സിലിങ്ങ് ട്രൈക്ലോഡിയം കപിൻകപിസെപ്റ്റോറം* എന്ന കുമിളിന്റെ വളർച്ച വിവിധ ഇനം സസ്യങ്ങളുടെ കലർത്തിയ മാദ്യമത്തിൽ പരീക്ഷിക്കുകയുണ്ടായി. എള്ളെണ്ണ കലർത്തിയ മാദ്യമത്തിൽ അവ നന്നായി വളരുന്നതായും എന്നാൽ പുൽതൈലം കലർത്തിയ മാദ്യമത്തിൽ ഈ കുമിളിന് തീരെ വളരാൻ കഴിയാത്തതായും കാണുകയുണ്ടായി.

College of Agriculture  
Vellayani 695522  
Trivandrum, Kerala

K. K. Sulochana  
K. I. Wilson  
M. Chandrasekharan Nair

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