
SUMMARY
AND
CONCLUSION...

VI - SUMMARY AND CONCLUSION

- 1) Cultural and fundamental studies of soil fungi of Karad region were undertaken.
- 2) Soil fungi of cultivated soil (Sugarcane and Banana field (Black cotton and Deposited clay soil) were investigated.
- 3) Regarding fungal flora 40 species belonging to 21 genera were isolated from the soils. Of these 5 species belong to Phycomycetes, 3 species are Ascomycetes and 32 species belong to fungi imperfecti.
- 4) Of the 40 species isolated 13 are common to all the soils studied, remaining fungi being restricted to their distribution.
- 5) Some species appeared only sporadically while others are predominant and were recorded more frequently in all the seasons. They include Rhizopus stolonifer, Rhizopus oryzae, Aspergillus fumigatus, Aspergillus niger, Aspergillus phoenicys, Aspergillus candidus, / c Cladosporium cladosporioides, and white mycelium.
- 6) The present study confirms the generally accepted view that the commonest soil fungi are representative of Aspergillus, Rhizopus, Cladosporium, Fusarium, Trichoderma, Thielavia, Humicola. It also confirms that Aspergilli sp. dominate in tropical soils.

- 7) The order of occurrence of the chief genera was Aspergillus, Rhizopus, Cladosporium, Fusarium, Trichoderma, Thielavia, Humicola sp.
- 8) Physico-chemical properties of soil and plant cover on soil were studied.
- 9) From both sugarcane and banana field deposited clay soil contains large number of fungi than black cotton soil.
- 10) The soil types under study slightly differed with their plant cover due to which there was variation in fungal flora.
- 11) There is an inverse correlation between the abundance of fungi in the soil and the soil moisture.
- 12) In the present study p^H of the soil is between 7.4 and 8.9. There is no effect on the fungal flora according to p^H of soil.
- 13) It appears that there is some positive correlation between three major nutrients, total nitrogen, available phosphorus and exchangeable potassium in affecting the fungal flora in soils. As it was observed that the deposited clay soil of sugarcane field was the richest in total nitrogen, available phosphorus and exchangeable potassium and they had the greatest

average of fungal counts. Amongst sugarcane and banana fields, deposited clay soils was richest in nitrogen, phosphorus, potassium content and they had highest fungal count than Black cotton soils.

- 14) There is a direct correlation between the sodium content and fungal flora in all soils. While calcium content and fungal counts in sugarcane field soils shows inverse correlation and banana field soils shows direct correlation.
- 15) In the present study a direct correlation existed between exchangeable iron and magnesium and fungal numbers in all the soils.
- 16) There is a general negative correlation was observed between the manganese, copper, zinc and fungal numbers in all soils.
- 17) Seasonal variations in fungal numbers were studied from all types of soil. In the soils under investigation the lowest number of fungi were recorded during summer months viz. March, April, May, June and highest numbers in the September, and October. The numbers fluctuated little in July, August, November, December, January, February. But a sudden fall was observed in May in all the soils.

- 18) Twenty one genera were isolated during this experiment, three genera were of high seasonal occurrence and these were Aspergillus, Rhizopus, Cladosporium.
- 19) Three genera were of moderate seasonal occurrence and these were Mucor, Fusarium and white mycellium.
- 20) Other fifteen genera were of rare seasonal occurrence.
- 21) The present study indicates that soil fungi are cosmopolitan geographically and to a certain extent ecologically also and do not differ significantly from the reports of the other investigators.