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In the present study entitled "Studies of Aeromycoflora in relation to leaf surface mycoflora of Mentha arvensis Linn." an attempt has been made to study of aeromycoflora, leaf surface mycoflora, microbial ecology, and effect of leaf exudates and leaf tissue sap on the germination of fungal spores for selected medicinal plant Mentha arvensis Linn. (Plate-1) commonly known as mint plant. This plant is widely cultivated all over the world because of their medicinal and food values. The selected experimental plant is cultivated in 8x8 meter size plot for present investigation. The survey was conducted for one year from March 2004 to February 2005 at Raipur.

Raipur is the capital of newly formed Chhattisgarh state. It is geographically located approximately in the central part of India at 21°-14' North latitude and 81°-37' in East latitude, situated at a height of 298.60 meters above mean sea level. Raipur has a year round tropical climate characterized by warm days and cooler nights. The climate of the Raipur city is pleasant, except in the later part of summer (April to mid June). The whole year is divided into four climatic seasons, the summer season from March to June, the rainy season from July to October and the winter season from November to February.

The total rainfall during experimental period (March 2004 to February 2005) of the city was about 1230.7 mm and most of the rainfall (85%) occurs during June to September. July was the rainiest month (379.8 mm). Temperature varies from 10.9° C in winter to 41.1° C in summer. May and mid June (up to 15th June) were the hottest months of the year. December and January were the coolest months having dew fall. Temperature begins to rise from February. Relative humidity varies between 21 to 93 %.
Survey of Aeromycoflora

For survey of aeromycoflora over the plants, 5 petriplates containing PDA media were used. The petriplates were exposed over cultivated mint plants for 5 minutes at a regular interval of 15 days and then these petriplates were brought into the laboratory and placed at 25 ± 1°C for incubation. After appropriate incubation period, numbers of colonies were counted, identified and maintained the pure culture.

Survey of Leaf Surface Mycoflora

For the survey of leaf surface mycoflora, leaves of mint plants were sampled randomly at a regular interval of 15 days. Sampled leaves were then placed in sterilized polythene bags and brought into the laboratory. After that, leaves were placed in 250 ml conical flask containing 75 ml of sterilized distilled water. This flask is hand shaken for 30 minutes to obtain a homogenous suspension of microorganism. This suspension is used for isolation of leaf surface mycoflora. 0.1 ml of this suspension was poured in to petriplates containing PDA media. 5 petriplates will be at a time in each experiment, and then these petriplates are incubated at 25 ± 1°C. After incubation, fungal colonies were counted from each plate, identified and maintained the pure culture.

Ecological Studies

For ecological studies, at the end of the incubation period of the mycoflora percentage frequency, percentage density and percent contribution of fungal flora will be calculated (Prasad and Bilgrami (1969)).

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\text{Percentage Frequency} = \frac{\text{No. of observation in which a species appeared}}{\text{Total no. of observations}} \times 100
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\text{Percentage Contribution} = \frac{\text{No. of colonies of individual species in all the plates}}{\text{Total no. of colonies of all species}} \times 100
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Study of the Effect of Leaf Exudates and Leaf Tissue Sap on the Germination of Spores

For the germination of spores, at least 10 days old culture was harvested and centrifuged for 10 minutes at a speed of 2800 rpm. The inoculum was standardized that one loop full contained 30 to 50 spores.

(I). Effect of Leaf Exudates on the Germination of Spores

The experimental plants were sprayed with sterilized distilled water. After 12 hours, drops from the leaf surface were collected with help of dropper. This liquid is called to be leaf exudates. 04-05 drops of these leaf exudates was poured into cavity slides, and then one loop of spore suspension was added to it. After 2, 4, 8, 16 and 24 hours of incubation period at 25 ± 1° C the spore germination was recorded. The spore germination in the sterilized distilled water in the cavity slide is treated as control.

(II). Effect of Leaf Tissue Sap on the Germination of Spores

For the study of effect of leaf tissue sap on spore germination, about 10-20 leaves were picked up at random from different plants and than leaves were crushed. The sap thus obtained was known as leaf tissue sap. 04-05 drops of this leaf tissue sap is poured in to the cavity slides and then one loop full of spore suspension was poured into it. After 12 hours of incubation period at 25 ± 1° C, the spore germination was recorded. The spore germination in the sterilized distilled water in the cavity was treated as control.