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## ASSOCIATIVE AND ANTAGONISTIC EFFECT OF PHYLLOSPHERE FUNGI OF SOME ORNAMENTAL PLANTS

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### ABSTRACT :

The ground parts of plants are normally colonized by a variety of bacteria, yeast and fungi .While a few microbes are isolated within plant tissues many more from surface of plants. Phylloplane provides a suitable habitat for the growth of microorganisms .Microorganisms compete with each other for nutrition . Antibiosis between microorganisms may protect plant from pathogens.

**KEYWORDS :** Phyllosphere, antagonism ,association.

### INTRODUCTION :

Phylloplane is a natural habitat on leaf surface which support heterogenous population comprising pathogens and non pathogenic microbes. Phylloplane microflora is of importance due to their associative and antagonistic interaction. Also it act as source of allergic air borne spores. Ornamental plants are commercially important ,they are grown in various environment as glass house, open field and as indoor plants. Phylloplane microbes can affect on normal health of plants. Present study deals with associative and antagonistic effect of fungi.

### MATERIALS AND METHODS :

To study phylloplane fungi leaves of ornamental plants like Rose, Photos, China rose and periwinkle were collected, brought to laboratory. Phyllosphere fungi were isolated from leaves through leaf washing technique (Aneja 2003 ). To study their antagonistic and associative properties pure cultures were maintained on potato dextrose agar medium at 4 C. In vitro colony interaction was studied by growing fungi on PDA, dual inoculation of fungi set up. Culture discs of 5 mm dia were cut from periphery of the actively growing colonies using a sterilized cork borer. These plates were incubated for 6-9 days to study interaction between fungi.

### RESULT AND DISCUSSION :

Fungi isolated are species of *Rhizopus* , *Aspergillus* , *Alternaria* , *Fusarium* and *Trichoderma* from phyllosphere of China rose, Rose and Periwinkle .A total of five fungi were tested against each other for their interaction between each other .Result shows that *Aspergillus* species and *Rhizopus* species shows associative effect. *Fusarium oxysporum* and *Aspergillus* species show no harmful effect on each other. *Trichoderma* species show antagonistic effect on *Fusarium oxysporum*. *Alternaria* species show no harmful effect on above fungi.

**Antagonistic and associative effect between phyllosphere fungi**

Sr.No.	Name of fungi	Reactions Number			
		A	B	C	D
1	<i>Aspergillus</i> species v/s <i>Rhizopus</i> species	+	-	-	-
2	<i>Aspergillus</i> species v/s <i>Alternaria</i> species	+	-	-	-
3	<i>Aspergillus</i> species v/s <i>Fusarium</i> species	+	-	-	-
4	<i>Trichoderma</i> species v/s <i>Alternaria</i> species	-	-	+	+
5	<i>Trichoderma</i> species v/s <i>Fusarium</i> species	-	-	+	+

A= Both colonies grow side by side without harming each other

B= Fungi overlap each other

C= One fungus overlaps another fungus

D= One fungus antagonistic to other fungus

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