

## Isolation of Nodule Surface Fungi at Pre Flowering, Flowering and Fruiting Stage Of *Madicago Sativa L.*

Dr. Navin Yadav, Dr. Anant Kumar

Department of Botany, Narain (P.G.)College Shikohabad U.P. 205135 India.

### Abstract-

Study of Isolated Nodule surface fungi at different stages (Pre flowering, flowering and fruiting stage) of *Madicago sativa L.* was study. Total 20 fungi were isolated 4 from *Phycomycetes*. 1 from *Ascomycetes* & 15 from *Deutromycetes*, where as maximum number of fungi were present at pre flowering and number of fungi were increase at fruiting stage in comparatively to flowering stage. 12 Fungi were common at all stages on nodule surface in *Madicago sativa L.*

### Keywords :-

Nodule surface fungi at pre-flowering, Flowering and fruiting stage Alfa-Alfa.

### I. Introduction:-

Isolation of nodule surface fungi at pre flowering, flowering and fruiting stage of Leguminosae family's plants, have been studied by few workers Gupta (1971), Jain (2000), Babu (2005) and Kumar (2006) Isolated the nodule surface fungi and observed that fungi which have been isolated from preflowering do not persist up to fruiting stage Dix (1969) reported that some fungi appearing from rhizoplane. The Present finding is nodule surface fungi at Pre flowering stage do not persist up to fruiting stage because they succumbed to antagonism generated by the presence of other fungi.

### II. Material Method :-

Nodule surface fungi were isolated at pre-flowering, flowering and fruiting stages of plant growth. Nodules were detached with the help of sterilized needle and forcep from the plant roots. Nodules were washed thoroughly with several changes of sterilized distilled water in sterilized petridishes. Nodules were dried with sterilized Whatman's filter paper No. 44. Five nodules were placed in a sterilized petridish over solidified Czapek's medium. Twenty such plates were prepared and incubated for six days at 25 °C after which fungi were identified and recorded.

Isolated nodule surface fungi at pre flowering stage, 18 fungi were isolated where as 16 from flowering and 18 from fruiting stage. Following fungi were common in all the 3 stages Viz. *Rhizopus nigricans*, *Mucor mucedo*, *Neocosmospora vasinfecta*, *Aspergillus niger*, *A. flavus*, *Penicillium citrinum*, *Paecilomyces fusisporous*, *Trichothecium roseum*, *Nigrospora sphaerica*, *Curvularia lunata*, *Fusarium nivale*, *Myrothecium roridum* and *White sterile mycelum*. *Mucor luteus* and *Helementhospodium sativum*, were restricted to pre flowering stage. *Syncephalastrum racemosum* was only present in flowering stage where as *Chaetomella horrida* was restricted to Fruiting stage.

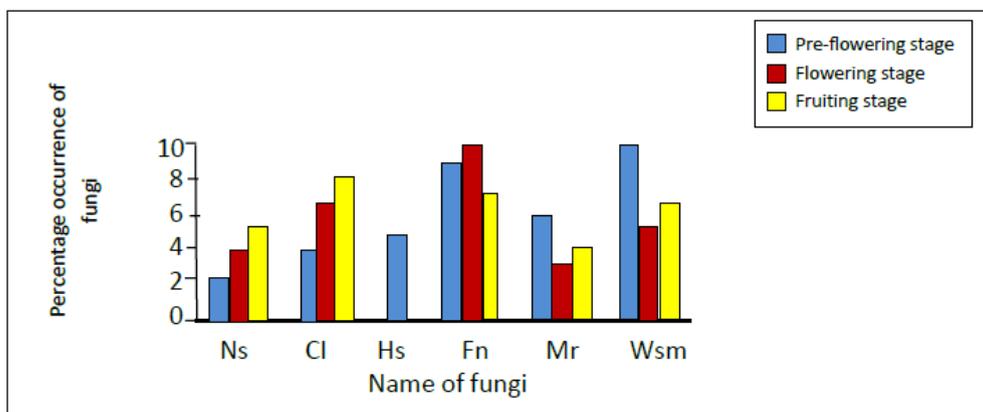
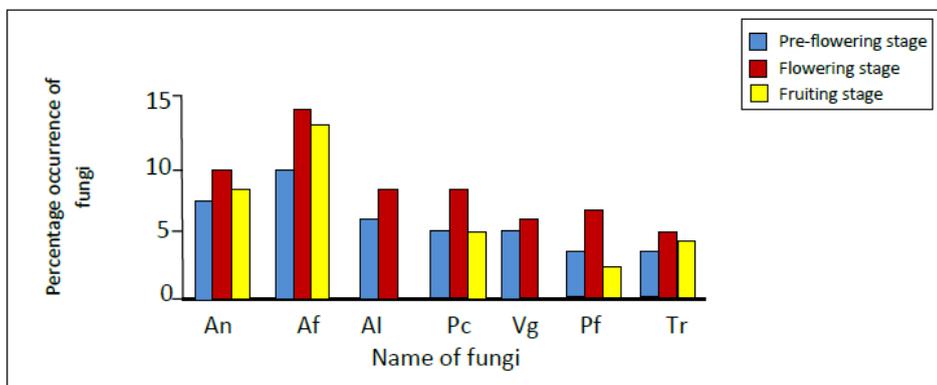
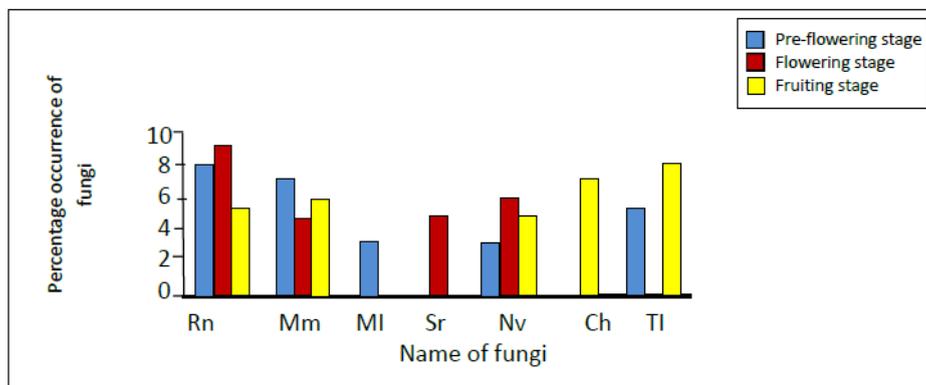
No.	Name of fungi	Different stages		
		Pre-flowering	Flowering	Fruiting
1.	<i>Rhizopus nigricans (Rn)</i>	8	9	5
2.	<i>Mucor mucedo (Mm)</i>	7	5	6
3.	<i>M luteus (ML)</i>	3	-	-
4.	<i>Syncephalastrum racemosum (Sr)</i>	-	4	-
5.	<i>Neocosmospora vasinfecta (NV)</i>	3	.6	5
6.	<i>Chaetomella horrida (Cn)</i>	-	-	6
7.	<i>Trichoderma lignorum (TL)</i>	5	-	7
8.	<i>Aspergillus niger (AN)</i>	8	10	9
9.	<i>A flavus (At)</i>	10	14	13
10.	<i>A luchuense (AL)s</i>	6	-	8
11.	<i>Penicillium citri (PL)mum</i>	5	8	5

*Isolation of Nodule Surface Fungi At Pre Flowering, Flowering And Fruiting Stage Of ..*

12.	<i>Verticillium glaucu (Vg)m</i>	4	5	-
13.	<i>Paecilomyces fusispor (Pt)us</i>	3	6	2
14.	<i>Tricothecium roseum (Tr)</i>	4	5	4
15.	<i>Nigrospora sphaerica (NS)</i>	2	4	5
16.	<i>Curvularia lunata (CI)</i>	4	7	8
17.	<i>Helminthosporium s (HS)ativum</i>	5	-	-
18.	<i>Fusarium nivale (FN)</i>	8	9	7
19.	<i>Myrothecium roridu (Mr)m</i>	6	3	4
20.	<i>White sterile mycelium (WSm)</i>	9	5	6

(Each reading in the mean of 100 nodules).

**PLATE - 7**



Result to study of Nodule surface fungi were isolated at preflowering, flowering and fruiting stage of plant growth. In all 20 fungal species were isolated. 18, 15, 16 fungi were isolated from preflowering, flowering and fruiting stage.

#### **Acknowledgments :-**

The authors are thank full to **Dr. V.K. Gupta**, Department of Botany, Narain (P.G.) College for guideline in my research work.

#### **References :-**

- [1]. Dix, N.J. (1969). Further experimental studies on bean rhizosphere fungi. *Trans. Brit.Mycol. Soc.*, 52 (3) : 451-457.
- [2]. Gupta, V.K. (1971). Rhizosphere studies in relation to nodulation of *Trigonella foenum-graecum* Linn. Ph.D. Thesis, Banaras Hindu, University, Varanasi-5, India Jain, Vivek (2001). Effect of rhizosphere mycoflora and foliar application of certain chemicals on nodulation and growth of *Vigna mungo* L. Hepper. Ph.D. Thesis, Dr. B.R. Ambedkar University, Agra.
- [3]. Babu, Mahesh (2005). Study of rhizosphere mycoflora and foliar spray of certain chemicals in relation to nodulation and growth of *Vicia faba* Linn. Ph.D Thesis, Dr. B.R. Ambedkar University, Agra
- [4]. Kumar, A. (2005). Studies of rhizosphere mycoflora and certain chemicals on nodulation and growth of *Vigna sinensis* L. Sevi. Ex. Hassk. Ph.D. Thesis of Dr. B.R. Ambedkar University Agra.
- [5].