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SEED-BORNE MYCOFLORA OF *ALBIZZIA LEBBECK* BENTH. AND *DALBERGIA SISSOO* ROXB. COLLECTED FROM JAIPUR DISTRICT

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The seed-borne mycoflora of *Albizzia lebbeck* and *Dalbergia sissoo* is reported here which comprise 23 and 14 fungal species respectively. *Chaetophoma* sp., *Tetracocosporium* sp., *Trichothecium* sp., *Weisneriomyces* sp., *Xylohypha sp.*, are new records for India.

Keywords :Agar Plate test; *Albizzia lebbeck* Benth.; Blotter test; *Dalbergia sissoo* Roxb.; Seed mycoflora.

Introduction

Tree legumes are grown throughout India as cultivated and wild plants. Siris (*Albizzia lebbeck* Benth.) and Shisham (*Dalbergia sisoo* Roxb.) are important tree legumes of Rajasthan state. Their utility as fuel wood, timber and tannin/ gum yielding plants is well known. Besides they also have medicinal values in diarrhoea and other stomach ailments. Some work on the seed-borne mycoflora has been carried out in past on *Albizzia lebbeck*[1] from South East Asia and by Rajak *et al*[2]. They reported occurrence of *Alternaria albizziae, Cercoseptoria albizziae, Botryodiplodia theobromae* and *Macrophomina phaseolina*. Similarly on *Dalbergia sissoo* seed-borne mycoflora was reported by Vijayan and Rehill[3] which comprised *Aspergillus flavus, A. niger, A. phoenicis, A. tamarii, Fusarium oxysporum, F. solani* and Black sterile fungus. No such work has been done in Rajasthan, although both *Albizzia* and *Dalbergia* from an important flora of tree legumes in Rajasthan. Hence this investigation was taken up.

Meterial and Methods

Seeds of *Albizzia labbeck* and *Dalbergia sissoo* studied were collected from the 11 localities of Jaipur district. The standard seed health testing methods such as blotter test and agar plate methods as prescribed by ISTA[4] were used to analyse the seed-borne mycoflora of these plants. Different fungi observed were separately cultured on PDA slants. The percent incidence of different fungi obtained was calculated by the following formula.

$$\text{Percent Incidence} = \frac{\text{Number of seeds on which a species appeared}}{\text{Total number of seeds analysed}} \times 100$$

Result and Discussion

Seed-borne mycoflora of *Albizzia lebbeck* : A total number of 23 fungal species were isolated both by blotter and agar plate methods (Table 1). *Rhizoctonia* sp., *Trichothecium* sp. and *Weisneriomyces* sp. appeared only on blotter test. Similarly *Rhizopus* sp. and *Tetracocosporium* sp. appeared only on agar plate. It was observed that *Alternaria alternata, Cladosporium* sp. and *Fusarium oxysporum* were associated with the seeds collected from all the sites studied and were found to be dominant. Similarly *Tetracocosporium* sp., *Trichothecium* sp. and *Weisneriomyces* sp. were isolated from 3 sites viz. Rajasthan University Campus, Vidhyadhar Nagar and Nehru Garden only. These fungi form first report from India[5-7].

Seed-borne mycoflora of Dalbergia sissoo: A total number of 14 fungal species were isolated both by blotter and agar plate methods (Table 2). *Xylohypha* sp. appeared only on blotter method. Similarly *Chaetophoma* sp. is confined to

Table 1. Seed-borne Mycoflora of *Albizzia lebbeck* Benth.

Sample Code No.	AL1		AL2		AL3		AL4		AL5		AL6		AL7		AL8		AL9		AL10		AL11	
Locality	Rajasthan University		Jhalana Doongri Arboratum		Ashoka Vihar Nursery Sect		Hathod		Harmara		Grassfarm Nursery, Jhotwara		Vidhyadhar Nagar		Nehru Garden Tonk Road		Jhalana Park Malviya Nagar		Sanganer		Amer	
Method Employed*	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
Germination Percentage	77.00	85.00	71.00	76.00	71.00	75.00	82.00	90.00	71.00	75.00	59.00	67.00	81.00	85.00	67.00	74.00	69.00	75.00	55.00	69.00	65.00	72.00
Name of the Fungi	Percent Incidence																					
Alternaria alternata	9.50	-	-	13.40	-	0.20	14.20	4.20	23.00	2.00	16.30	-	1.30	-	14.20	2.50	-	2.50	21.00	-	2.20	-
Aspergillus aculeateus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.90	4.70	-	-	-	-
A. candidus	-	-	-	-	-	-	-	5.20	-	-	-	-	-	-	-	-	-	-	-	-	3.90	-
A. flavus	14.00	-	14.20	-	-	-	-	4.90	-	-	12.00	-	-	-	-	-	4.60	3.20	-	-	14.50	-
A. niger	-	-	4.50	-	-	-	-	-	-	-	-	2.40	-	-	-	-	-	4.50	-	-	23.00	4.90
A. ochraceous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.20	-	-	-	-	-
Botrytis cinerea	-	-	-	2.90	-	-	-	-	-	-	-	-	-	-	-	-	-	4.90	-	-	-	-
Cladosporium sp.	0.50	-	-	4.20	-	1.20	-	0.50	-	0.20	1.30	-	6.90	15.30	-	4.60	-	4.30	-	13.20	-	1.20
Chaetomium atrosporum	-	-	-	-	-	-	-	13.30	-	-	-	-	-	-	-	-	-	-	4.50	-	-	-
Chaetomium globosum	4.00	4.50	6.20	-	4.60	14.70	-	-	-	-	9.20	2.00	-	4.90	14.20	-	14.60	-	-	-	-	-
Curvularia lunata	-	-	-	-	14.30	-	-	-	-	-	19.00	-	-	-	-	-	5.90	-	-	-	-	-
Drechslera tertramera	-	-	-	3.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fusarium oxysporum	5.00	14.00	2.10	4.60	-	4.70	17.60	1.20	14.90	3.40	2.50	4.30	4.60	12.90	-	2.60	1.50	4.50	3.20	14.50	-	0.10
F. proliferatum	-	-	4.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.60	-	3.60	-
F. solani	4.90	23.50	-	-	-	-	-	4.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myrothecium roridum	5.30	-	-	-	-	-	-	7.90	-	-	-	6.00	-	-	-	-	-	-	14.90	-	-	-
Paecilomyces sp.	-	-	-	-	-	-	-	-	-	-	-	1.20	-	-	-	-	-	4.90	-	-	-	-
Phoma sp.	-	-	-	-	-	-	23.60	-	-	-	-	-	-	-	-	-	14.20	2.60	-	-	-	14.20
Rhizopus sp.	-	-	-	4.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rhizoctonia sp.	-	-	-	-	-	-	-	-	-	-	4.10	-	-	-	-	-	-	-	-	-	-	-
Tetracocosporium sp.	-	1.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichothesium sp.	-	-	-	-	-	-	-	-	-	-	-	-	7.00	-	-	-	-	-	-	-	-	-
Weisneriomyces sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.70	-	-	-	-	-	-	-

* B = Blother Method
A = Agar Plate Method

Table 2. Seed-brone Mycoflora of *Dalbergia sissoo* Roxb.

Sample Code No. / Locality	DS1 Rajasthan University		DS2 Ashoka Vihar Nursery Sect		DS3 Hathod		DS4 Harmara		DS5 Grassfarm Nursery		DS6 Vidhyadhar Nagar		DS7 Durgapura		DS8 Jhalna Doongri, Arboratum		DS9 Jhalana Park, Malviya Nagar		DS10 Sanganer		DS11 Amer	
Method Employed*	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A
Germination Percentage	89.00	82.00	79.00	78.00	82.00	88.00	72.00	75.00	91.00	92.00	85.00	92.00	69.00	75.00	76.00	82.00	71.00	78.00	80.00	85.00	81.00	83.00
Name of the Fungi	Percent Incidence																					
Alternaria alternata	-	3.50	14.50	4.60	-	-	4.30	2.90	13.60	2.90	5.40	-	-	-	-	-	-	-	-	-	4.30	-
Aspergillus aculeateus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.90	-	-	-	5.20	-
A. candidus	-	-	-	-	-	-	-	-	-	-	-	-	14.20	-	-	-	-	-	4.60	2.50	-	-
A. flavus	-	4.50	-	-	14.10	5.90	-	-	-	-	4.90	4.20	-	-	5.20	14.20	-	1.20	25.20	15.00	-	-
A. niger	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.20	4.60	-	-	-	-	-	-
Chaetomium crispatum	-	-	-	-	-	-	4.20	14.20	-	-	-	-	-	-	-	2.30	-	-	-	-	-	-
C. globosum	-	14.20	-	-	-	-	5.20	-	-	-	-	-	-	-	14.20	5.60	-	-	-	-	-	14.20
Chaetophoma sp.	-	-	-	-	-	-	-	-	-	-	-	1.20	-	-	-	-	-	-	-	-	-	-
Curvularia lunata	*3.10*	*0.50*	-	-	-	-	-	4.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drechslera tertramera	9.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fusarium oxysporum	4.20	5.90	4.50	1.20	5.50	-	5.20	2.50	26.20	4.60	2.90	4.60	3.70	1.20	0.50	-	2.60	-	4.60	-	1.40	-
Fusarium solani	-	-	1.20	-	-	-	-	0.50	-	-	-	1.50	-	-	-	0.20	-	-	-	-	-	-
Penicillium sp.	3.90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.60	-	-	-	-	2.60	-
Xylohypha sp.	-	-	-	-	-	-	-	-	-	-	-	-	3.20	-	-	-	-	-	-	-	-	-

* B = Blotter Method
A = Agar Plate Method

agar plate. It was noted that *Fusarium oxysporum* was associated with seed samples collected from all the sites and was found to be dominant. *Aspergillus flavus, A. niger, Fusarium oxysporum* and *F. solani* were also reported previously by Vijayan *et al*[3]. However *Chaetophoma* sp. and *Xylohypha* sp. are reported here for the first time[5-7].

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