

## SEED PATHOLOGY OF LOTUS spp

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The aim of this work was to analyse seed samples of some Lotus spp with the purpose of recognize the fungal flora and determine its effects on seed germination.

The seeds examined were of the following varieties: L. angustissimus L., L. corniculatus L., L. krylovii Schischkin & Serg., L. ornithopodioides L., L. palustris Willd., L. peregrinus L., L. purshianus Cl. & Cl. and L. suavelons Pers. from the area of Chascomús (Buenos Aires province, Argentina) and harvested in 1991/92.

The tests were carried out by the blotter method following I.S.T.A. technique (Neergaard, 1974). In this case 100 seeds of each specie were tested. They were placed in Petri dishes on 3 layers of well moistened absorbent paper and incubated during 7 days at a standard temperature ( $20 \pm 1$  °C) and humidity (75-80 %) with a 12 h light/12 h darkness cycle including near ultraviolet light (12 h). After this period the observations were made under stereo-binocular microscope 6-40 X.

The number of seeds with the presence of several fungi, showing mycelium and fructifications, were evaluated. With these values the incidence of each organism on seed germination was determined. For this the following formula was used:

$$\frac{\text{N}^{\circ} \text{ total seeds}}{\text{N}^{\circ} \text{ contaminated and no germinated seeds}} \times 100$$

Isolates were done from mycelium and/or fructifications. Morphobiometrical characteristics of the reproductive structures were also studied.

For the fungi identifications were consulted the research work of Barnett and Hunter (1972), Booth (1971), Graham and Zeiders (1960), Graham and Luttrell (1961), Tiffany and Gilman (1954) and Von Arx (1957).

The fungi recorded were:

- On L. angustissimus: Alternaria sp Nees  
Leptosphaerulina trifolii (Rostr.) Petr.  
Phoma sp Sacc.  
Stemphylium loti Graham
- On L. corniculatus: Alternaria sp  
Colletotrichum trifolii Bain et Essary
- On L. krylovii: Alternaria sp  
C. trifolii  
C. dematium (Pers. ex Fr.) Grove var.  
truncata (Schw.) Arx  
Fusarium equiseti (Corda) Sacc.
- On L. ornithopodioides: Alternaria sp  
S. loti
- On L. palustris: C. dematium var. truncata
- On L. peregrinus: Alternaria sp  
Cladosporium sp Link ex Fr.  
Phoma sp
- On L. purshianus: -----
- On L. suavelons: -----

Table 1. Percentage of contaminated and no germinated seeds and incidence of the different fungi.

Fungi	Samples	Germination incidence %
<u>Alternaria</u> sp	<u>L. angustissimus</u>	11
	<u>L. corniculatus</u>	10,5
	<u>L. krylovii</u>	1
	<u>L. ornithopodioides</u>	0,4
	<u>L. peregrinus</u>	6
<u>Cladosporium</u> sp	<u>L. peregrinus</u>	4
<u>Colletotrichum dematium</u> var. <u>truncata</u>	<u>L. krylovii</u>	3
	<u>L. palustris</u>	12,5
<u>C. trifolii</u>	<u>L. krylovii</u>	0,5
	<u>L. corniculatus</u>	26
<u>Fusarium equiseti</u>	<u>L. krylovii</u>	3
<u>Leptosphaerulina trifolii</u>	<u>L. angustissimus</u>	2
<u>Phoma</u> sp	<u>L. angustissimus</u>	2
	<u>L. peregrinus</u>	25
<u>Stemphylium loti</u>	<u>L. angustissimus</u>	3,5
	<u>L. ornithopodioides</u>	0,5

The results show that there is a great variability in the pathogenicity of one specific fungus related with every Lotus sp and between the same Lotus sp respecting the different pathogen.

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