

STEMPHYLIUM spp ON PLANTS OF LOTUS TENUIS IN ARGENTINA

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Lotus tenuis is a forage plant widespread in the so called "Pampa Deprimida" of the province of Buenos Aires (República Argentina), easily adaptable to flood-plains and to alkaline-saline soils.

On folioles of plants coming from pasturing fields necrotic spots were observed. From these spots the causal agents were isolated and identified as Stemphylium loti Graham and 4 isolates as Stemphylium sp.

S. loti has been quoted as a pathogen on plants of L. corniculatus (Graham, 1953; Graham, 1957; Drake, 1958; Ford, 1960) and on seeds of L. corniculatus (Graham, 1953; Madia de Chaluat, 1987), L. tenuis and L. uliginosus (Madia de Chaluat, 1987).

In artificial inoculations other Leguminosae as Lupinus sp (Graham et Zeiders, 1960), L. tenuis, L. scoparius, L. uliginosus (Graham, 1953) and Medicago sativa (Graham, 1957) were variable as regards susceptibility to the above-mentioned fungus.

According to the consulted literature no reference has been made to the other Stemphylium spp parasitizing L. tenuis. In Argentina this is the first record of a disease on L. tenuis aerial organs caused by S. loti.

In this work an inoculation with S. loti with a suspension adjusted at 3×10^5 spore/ml concentration was carried out.

Initially, reddish-brown points that later on developed into elliptical or circular, amphigenous, isolated or confluent, light brown spots, with reddish-brown edges, sometimes concentrically zonate were observed on the folioles. As the infection progressed a chlorosis followed by a necrosis was observed, which finally led to the foliole death and fall. On the stems small, elongated lesions appeared, similar to the above-mentioned on leaves.

The inoculations with S. sp 1; S. sp 2; S. sp 3 and S. sp 4 (3×10^5 spore/ml) first produced small circular point-like, then irregular, sometimes annulated

spots, with a greenish, cinnamon or light brown center. These dispersed and amphigenous spots were surrounded by a thin chlorotic halo. As time passed the lesions widespread.

They gathered and covered all the folioles surface which became light brown. Later the folioles died and fell.

Simultaneously with the wilt leaves a necrotic process of the stems developed which determined the death of the plants in 10-17 days.

Only S. sp 2, caused elongated and reddish-brown spots to appear on stems. The plants death occurred in 10-12 days, a week before than the other isolates.

From the 4 isolates, the more severe symptoms were caused by S. sp 2 and S. sp 4. However, the symptoms intensity and the infection evolution produced by S. loti were greater.

The symptoms of the natural infection and those of the artificial inoculation with S. loti were coincident.

In the case of the 4 isolates, the inoculated plants were remarkably more affected than the corresponding diseased material found in the field.

The spores characteristics of the Stemphylium spp isolated and cultured on V-8 juice agar during 7 days are detailed in Table 1.

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Table 1. Characteristics of Stemphylium spp spores isolated from Lotus tenuis.

Spores Characteristics	Fungi				
	<u>S. loti</u>	<u>S. sp 1</u>	<u>S. sp 2</u>	<u>S. sp 3</u>	<u>S. sp 4</u>
Conidial length (μm)	18, 7-30 (26,4)	15-33 (27,33)	18, 75-30 (22,54)	15-26, 25 (18,86)	15-30 (22,42)
Conidial wide (μm)	15, 5-22, 5 (19,1)	13, 12-28, 12 (21,10)	15-26, 25 (18,99)	11, 25-20, 62 (15,52)	15-26, 25 (17,73)
Conidial wall	smooth	smooth	smooth	smooth	smooth
<u>Perfect Stage</u>					
Ascospores length (μm)	—	—	—	—	30-48, 75 (41,21)
Ascospores wide (μm)	—	—	—	—	7, 50-15 (12,63)
Asci length (μm)	—	—	—	—	63, 75-146, 25 (111,37)
Asci wide (μm)	—	—	—	—	33, 75-56, 25 (44,25)