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SURVEY OF FUNGAL DISEASES OF FLAX IN WESTERN MAHARASHTRA

L. M. Khade and S. S. Kamble
Mycology and Plant Pathology Research Laboratory, Dept. of Botany, Shivaji University, Kolhapur. 416004 (M. S.)
leenakhade10@gmail.com

Abstract:
In the survey it was found that the important oil seed crop flax (*Linum usitatissimum* L.) was affected by rust caused by *Melampsora lini*, leaf blight caused by *Alternaria lini* and root rot of flax caused by *Rhizoctonia solani*. Out of total 10 selected localities rust was reported on all 10 samples while *Alternaria* blight was reported on 8 samples and *Rhizoctonia solani* on 2 samples. Among these *Alternaria* blight caused by *Alternaria lini* is very harmful resulting in heavy loss.

Keywords: *Linum usitatissimum, Melampsora lini, Alternaria lini, Rhizoctonia solani*

Introduction-

Flax or linseed is known as Jawas in Marathi. Flax or Linseed (*Linum usitatissimum* L.) belongs to family linaceae. It is an annual herb. It produces pure blue flowers. The fruit is capsule. It is grown for it's seeds and fibres. Different parts of the plant are used to make fabric, dye, paper, medicines, fishing nets etc. Flax or linseed is one of the most important oilseed crops in various countries. It is cultivated in Ethiopia, India, Egypt, Canada, China & U. S. A. India ranks second in area (4.37 lac / ha) and fourth in production (1.681 ac. tones) after Canada, China, & U.S.A. (Srivastava, 2010). The linseed crop is sown in October-November and is harvested in March-April. The cultivation of flax is affected by many diseases, among these the rust, blight and root rot are found common. The diseases causes reduction in seed yield. It also affects oil content of the seed. Linseed rust caused 50% loss in the yield (Agrawal & Kotasthane, 2009). *Rhizoctonia solani* occurs on a wide range of hosts (Anderson, 1977,1982; Nelson *et. al,* 1996). *Alternaria* blight disease of linseed attacks both the assimilative and reproductive parts of the plants, therefore, resulting in high yield loss (Chauhan and Shrivastava, 1975; Singh *et al.*, 2003). Therefore, present survey was done to identify fungal diseases on flax in Western Maharashtra.

Material and Method -

The diseased plant samples of flax were collected from different localities and brought to laboratory. The infected parts were cut into small pieces, surface sterilized with 0.1% mercury chloride, washed with sterile distilled water and inoculated on Czapek's Dox Agar medium. Agar plates incubated for 4-5 days. The fungi growing on medium were identified following Subramanian (1971) and Burnett and Hunter (1972).

Results and Discussion -

In the survey it was found that Flax or linseed (*Linum usitatissimum* L.) gets affected by rust caused by *Melampsora lini,* leaf blight caused by *Alternaria lini* and root rot caused by *Rhizoctonia solani.* Among these *Alternaria* blight caused by *Alternaria lini* is very harmful resulting in heavy loss. The results are in agreeng with another workers also. Disease severity of *Alternaria lini* on leaves varied from 41.07 % to 65.01 % while bud damage % ranged between 23.56% to 46.12 %. (Singh, *et al.,* 2014) According to Holi *et al.* (2015), *Alternaria lini* was a serious disease of linseed causing losses up to 23 to 60 %.

Table 1 : Gives an account of fungi isolated from diseased flax samples.

Sr. No.	Locality	pathogen	Diseases
1.	Sangli	*Melampsora lini, Alternaria lini*	Linseed rust, linseed blight
2.	Kawalapur	*Melampsora lini, Alternaria lini*	Linseed rust, linseed blight
3.	Salgare	*Melampsora lini, Alternaria lini*	Linseed rust, linseed blight
4.	Kavthemahankal	*Melampsora lini, Alternaria lini*	Linseed rust, linseed blight
5.	Jath	*Melampsora lini, Alternaria lini*	Linseed rust, linseed blight
6.	Pusegaon	*Melampsora lini, Rhizoctonia solani*	Linseed rust, Root rot of linseed
7.	Hiware	*Melampsora lini, Alternaria lini*	Linseed rust, linseed blight
8.	Sangola	*Melampsora lini, Alternaria lini*	Linseed rust, linseed blight
9.	Nagaj	*Melampsora lini, Rhizoctonia solani*	Linseed rust, Root rot of linseed
10.	Kolhapur	*Melampsora lini, Alternaria lini*	Linseed rust, linseed blight

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