SCLEROTINIA STEM ROT OF FLAX IN PAKISTAN

M. S. Mirza* and M. B. Ilyas

During April, 1983, a flax (*Linum usitatissimum* L.) cultivar "Border 1-7-5" grown in an experimental plot at NARC, Islamabad, was found to be infected with a stem rot disease. The characteristic symptoms of the disease were bleached lesions on the stem and branches which were covered with whitish mouldy growth and black sclerotia of the causal fungus (Fig. 1). The sclerotia were spherical to irregular in shape and 1 to 3 mm in diameter. The causal organism associated with the disease was identified to be a fungus called *Sclerotinia sclerotiorum* (Lib.) de Bary. This pathogen has a wide host range and has been reported on species of Brassica, Eruca, Capsicum and on Sesame, Coriander, Hibiscus, Sunflower and Tobacco (Butler and Bisby, 1933), on oil and fibre flax (Mederick and Piening, 1982), and on pea (Ilyas, 1984). However, it is a new record on oilseed flax in Pakistan.

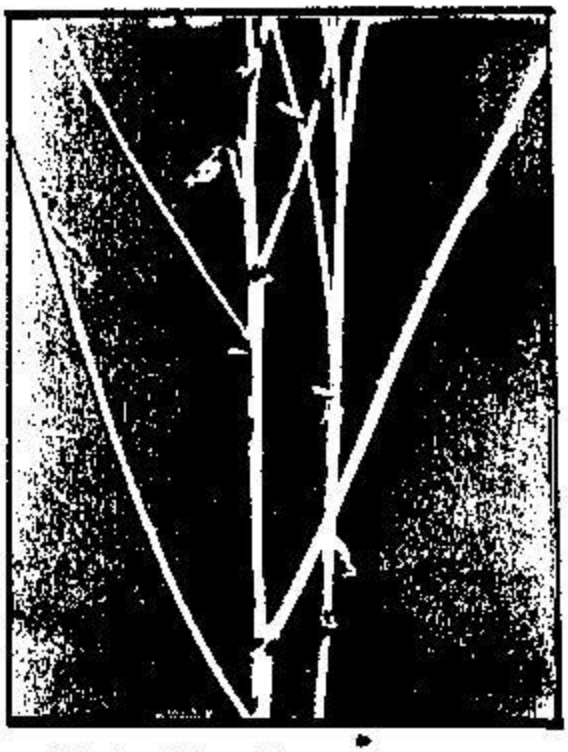

Fig. 1. Sclerotinia rot of oilseed flax.

The causal organism, as a pure culture, was isolated on PDA by plating infected stem pieces (surface sterilized in 1 % sodium hypochloride solution for 3 min. and rinsed in distilled sterilized water) and incubated at 25°C. Within 5-7 days of incubation, the fungus produced white cottony mycelium composed of much branched and septate hyphae, with a ring of large black sclerotia near the outer margin of the culture plates. Sclerotia on PDA plates were first

*National Agricultural Research Centre (NARC), Islamabad.

silvery white but later on turned black. They were spherical to irregular in shape and measured 2 to 7 mm in diameter.

Pathogenicity of the causal organism was established on the plants of cultivar "Border I-7-5", grown in clay pots. At flowering stage, stems of ten plants, each in a pot, were inoculated with the pure mycelial culture of *Sclerotinia sclerotiorum* with the help of a sterile inoculating needle and inoculated portions were sealed with vaseline. Ten injured but non-inoculated plants served as control. Both inoculated and non-inoculated plants were then covered with polythene bags for 48 hours and irrigated to provide humidity. After 10-15 days of inoculation, the inoculated plants developed lesions of soft watery rot which gradually extended upward and downward while no such symptoms were developed on non-inoculated control plants. Later, these lesions were covered with whitish mouldy zonated growth of the fungus. Black sclerotia developed after 25-30 days of inoculation. The fungus was reisolated consistently from the diseased tissue of the inoculated plants and was identical with the culture of *Sclerotinia sclerotiorum* originally isolated from the naturally infected plants, thus confirming its pathogenicity.

REFERENCES

Butler, E.J. and G.R. Bisby. 1933. Fungi of India. Scientific Monograph 1. I. C. A. R. New Delhi, India.

Ilyas, M. B. 1984. A new record of post-harvest pod decay of pea by *Sclerotinia sclerotiorum*. Pak J. Agri. Sci. 21 (1-2) : 107-108.

Mederick, F.M. and L.J. Piening 1982. *Sclerotinia sclerotiorum* on oil and fibre flax in Alberta, Canada, Plant Dis. Survey, 62 (1) : 11.