B-20: Fungi in seed crops of radish (*Raphanus sativus L.*) raised at Kandapola

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Crops of radish (*Raphanus sativus* L.) raised for seed at Kandapola were reported to be diseased. They showed symptoms of fungal infection. Many of the economically important diseases affecting crops such as radish are seed-borne and seed-transmitted. This investigation was carried out to determine the seed-borne fungi infecting seed crops at Kandapola.

Collections were made of diseased plants with mature dry pods and seeds from fields at Kandapola. Visual examinations were made, and seeds further examined under low magnification with a stereoscopic microscope. Incubation tests were done using the standard blotter method. For each sample investigated, 400 seeds were tested, 25 seeds being incubated per plate on blotters. Plates were held at a temperature of 22-24°C in a cycle of 12 h near ultraviolet (NUV) light and 12 h darkness. The seeds were examined after 7 days incubation and thereafter at 2 day intervals up to 15 days.

Seeds, surface sterilized with 1:1000 mercuric chloride were also plated on potato dextrose agar (PDA) with 10 seeds per plate and incubated under alternating cycles of NUV and darkness. They were examined after 4 days of incubation and further observed up to the 8th day.

Dry examination of the seed samples revealed the presence of discoloured seeds/shrivelled seeds besides extraneous matter. Brownish black lesions of various size were observed at the stem base, stalk and stigma in diseased specimens. Internal tissues were not affected, the lesions being confined to the surface tissue layers.

The following fungi were detected on the stem and stalk: *Alternaria brassicae, Alternaria brassicicola, Alternaria raphani, Alternaria tenuis, Botrytis cinerea, Cephalosporium* sp., *Colletotrichum higginsianum, Drechslera graminea, Fusarium pallidoroseum Nigrospora* sp and *Phoma lingam.*

The fungi detected on seeds were *Alternaria brassicicola, Alternaris brassicicola, Botrytis cinerea* and *Phoma lingam.*

No fungal growth was observed when seeds treated with mercuric chloride were incubated in a PDA medium.

The seed crops at Kandapola were infected by several fungi which cause damage especially under favourable environmental conditions.

In raising seed crops, due attention must be given to the locations selected, the climatic conditions that characterise them and the cultural practices adopted. Certain problems can be avoided in this way and some of the fungi that infect crops held in check. Thus, the incidence of *Alternaria* spp and *Botrytis cinerea* can be controlled by adequate spacing so as to ensure good aeration and the reduction of moist conditions within the foliage conducive for fungal development. Seed crops need to be kept under constant observation at all stages, especially prior to flowering, and any fungal infections detected quickly controlled by fungicidal treatments. Where advisable, rouging could be done to remove sources of infection at the initial stages so as to prevent disease spread.