

## D-49 A comparison of pathogenicity of two chilli anthracnose pathogens

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Anthracnose disease is a severe chilli disease causing considerable crop loss and production of unmarketable pods. Two *Colletotrichum* species viz. *C. capsici* and *C. gloesporioides* are causative agents. In this study the pathogens were isolated and their disease severity was compared.

Pods showing anthracnose symptoms were collected from various parts of Sri Lanka, viz Maha Illuppallama, Matara, Embilipitiya, Kiribbanwewa and Lunama and pathogens were isolated on Czapek Dox Agar and Potato Dextrose Agar from necrotic spots after surface sterilization. Content of infected dried pods and leaf spot were also used as the source. Pathogenicity was tested for each isolate on excised chilli pods incubated in moist chambers and by spraying on pot grown plants. Two *Colletotrichum* species showed symptoms and could be re-isolated and hence pathogenicity was confirmed. The degree of pathogenicity was studied using conidial suspensions of various concentrations conidia/ml in the range  $1.40 \times 10^5$  to  $1.04 \times 10^6$ . Excised pods were painted with the suspensions using a paint brush and plants were sprayed, using an atomizer (15 - 20 ml per plant). At  $8.6 \times 10^5$  viable conidia/ml *C.capsici* caused disease in all excised pods and 80% in pods in plants whereas *C.gloesporioides* at  $1.04 \times 10^6$  caused disease in 74% of excised pods and only 60% of intact pods. In excised pods disease developed in 3 days and pods were completely destroyed in day 5 by *C. capsici* while *C. gloesporioides* took 5 days for the development of disease and 8 days for complete destruction. Severe flower fall was also caused by *C. capsici* (100% at  $5.73 \times 10^5$  viable conidia/ml) and the severity of *C. gloesporioides* was lower (93% at  $1.4 \times 10^6$  viable conidia/ml).

Of the 2 species *C. capsici* is the more common and more severe pathogen in all aspects.

However *C. gloesporioides* should not be overlooked, since this also accounts for a considerable portion of chilli anthracnose. Furthermore *C. gloesporioides* is known to cause anthracnose in many other crops and if the strains of the fungus are involved, control through culture methods may be less effective.