

RESEARCH NOTE

A new symptom report in mundu chilli (Rainfed chilli) (*Capsicum* spp. L.) caused by *Colletotrichum capsici* in Ramanathapuram district, Tamil Nadu

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Colletotrichum is one of the most important plant pathogens worldwide causing the economically important disease anthracnose in a wide range of hosts including cereals, legumes, vegetables, perennial crops and tree fruits. Among these hosts, chilli (*Capsicum* spp.), an important economic crop worldwide, is severely infected by anthracnose which may cause yield losses of upto 50 per cent. Typical anthracnose symptoms on chilli fruit include sunken necrotic tissues, with concentric rings of acervuli (Manandhar *et al.*, 1995). Fruits showing blemishes have reduced marketability. During March-April, 2012 very high disease incidence (upto 100% of plants) was observed in farmer's fields in Kannamangalam Saveriyarpuram village in Illayankudi block in Ramnad district. In Ramnad district the chilli was cultivated in vast area in rainfed condition

(Fig.1). The farmers cultivated as rainfed crop with the help of monsoon. During march the temperature goes beyond 37°C. The crop and the fungus survives in this heavy temperature also. The characteristic field symptoms observed was entirely different. The following symptoms were observed in the field.

- There is no loss of per cent plant population due to the infection (Fig.2).
- There is no concentric ring and sunken necrotic tissues were observed.
- The per cent yield loss was upto 60 per cent. Even though the infection is severe the matured infected fruit did not withered from the plant (Fig.3).
- There is no difference in fruit shape and size
- The entire leaf was shredded from the plant.
- The dieback symptoms were observed in infected twigs.
- The infected fruit was turned into white in colour (Fig.3).

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Fig. 1 : Ramanathapuram mundu chilli



Fig. 3 : Seed covered with fungal mass



Fig. 2 : Infected field with optimum plant population



Fig. 4 : Infected fruit turned into white in colour with fruit borer damage

- On the surface of the fruit a small hole was observed. This damage was due to the fruit borer (Fig.3).

- Inside the infected fruit the seed material was covered with the grey colour fungal mass (Fig.4).

The fungus from field samples from Kannamangalam Saveriyarpuram village was *Colletotrichum capsici*, which produced white fruit, leaf shredding, die back symptoms in twigs. Microscopic examination of field samples revealed that the fungus was *Colletotrichum capsici*. Earlier the pathogen responsible for fruit rot of chilli was identified by morphological characters such as size and shape of conidia and appressoria, existence of setae or presence of a teleomorph and also cultural characters such as colony colour, growth rate and texture. *C. capsici* produces falcate shape conidia. Isolates of *C. capsici* produced cottony, fluffy, or suppressed colonies on PDA with a colour range of grey, grayish black to greyish white on the ventral surface whereas the reverse of the colonies was mainly black. The pathogen readily colonizes the seed coat and peripheral layers of the endosperm even in moderately colonized seeds. Heavily colonized seeds had abundant inter- and intracellular mycelia and acervuli in the seed coat endosperm and

embryo, showing disintegration of parenchymatous layers of the seed coat and depletion of food material in endosperm and embryo (Chitkara *et al.*, 1990).

The disease spread from infected field to healthy field in several ways. The farmers selected the seed from the infected fruit, this infected seed serve as primary inoculum. The disease spread through the irrigation water. The fruit borer damage may act as way for the fungal infection. The fungus may survive in the soil for several years in dormant stage; if favourable condition appears the conidia germinate and produce the symptom in the plant. However, this is the new symptom observed in the field and this may lead to study the relationship between fruit borer damage and anthracnose disease.

REFERENCES

- Chitkara, S., Singh, T. and Singh, D. (1990). Histopathology of *Colletotrichum dematium* infected chilli seeds. *Acta. Botanica. Indica*, **18** : 226.
- Manandhar, J.B., Hartman, G.L. and Wang, T.C. (1995). Anthracnose development on pepper fruits inoculated with *Colletotrichum gloeosporioides*. *Plant Disease.*, **79** : 380.