New Disease Reports

First report of *Bipolaris australiensis* causing pod rot of senna in India

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Senna (*Senna angustifolia*) is used as a laxative and has replaced phenolphthalein as an active ingredient in various laxative medications (Verloop *et al.,* 2004). It is cultivated on a large scale in the states of Rajasthan and Uttar Pradesh in north India, where incidence of *Bipolaris* pod rot disease on senna has been recorded for the first time. The disease was first observed in May 2010, and initially appeared in the form of brown, circular to irregular, minute to large necrotic spots on the pods which later turn into pod rot. Similar symptoms were also observed on leaves and stem. Seeds in infected pods were malformed and had reduced viability. Isolations carried out from the infected pods on potato dextrose agar (PDA) invariably yielded a species of *Bipolaris*. The fungus initially produced silky-smooth, greyish white colonies which later became olive green to black with a raised greyish periphery. Hyphae are septate and brown. Conidiophores are brown, simple or branched, geniculate and bear conidia sympodially (Fig. 1). Conidia range from 20-30µm x 7.5-10 µm (average 22.9 x 9.9 µm) and are three-septate, fusoid to cylindrical and light brown. Based on cultural and morphological characters, the fungus was identified as *Bipolaris australiensis*. The identification was later confirmed by IMTECH, Chandigarh, India and the culture deposited with Accession No. MTCC-10182.

Pathogenicity of the fungus was tested on healthy attached senna pods under glasshouse conditions. *B. australiensis* was grown on PDA in petri dishes for 7-10 days and spores and mycelia scraped from the surface of the culture into sterile distilled water (SDW). An aqueous spore suspension containing 10 conidia/ml was sprayed over the wounded senna pods and plants were kept under high humidity (96%) for three days at 25 ± 2°C followed by a glasshouse at 25 ± 2°C and 75% humidity. In controls, pods were gently wounded and sprayed with SDW. Symptoms first appeared three to four days post inoculation and progressed from minute, brown necrotic spots to large dark brown patches on the infected pods (Fig. 2), then advanced towards leaves and stem causing premature drying of infected plants 20-25 days after inoculation. No symptoms were observed on control plants. Re-isolation from artificially infected pods consistently yielded *B. australiensis* thus fulfilling Koch's postulates. Senna has been reported to be affected by leaf blight caused by *Alternaria alternata* (Saxena *et al.*, 1981)and leaf spot caused by *Kabatiella* sp.(Mitra *et al.,* 1984)in India. *B. australiensis*has been previously reported on *Cynodon* (Fang *et al.*, 2006), several turfgrasses (Smith *et al.,* 1989) and betelvine (*Piper betle*) (Shahzad & Amer-Zareen, 1999) but a new record as a plant pathogen on senna (Fabaceae) is very significant. Thus, brown pod rot on senna caused by *B. australiensis* is the first report from India and worldwide.

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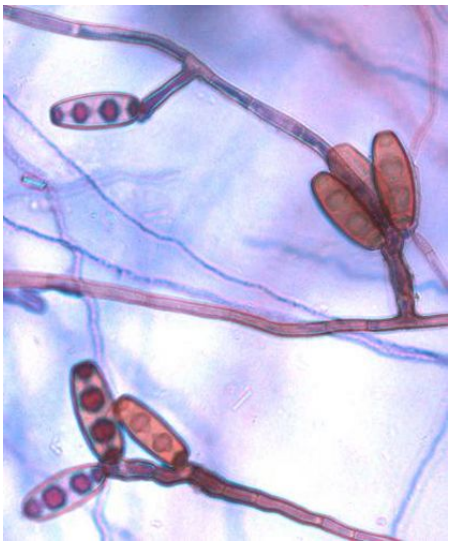

Figure 1

Figure 2

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