

Colletotrichum destructivum: a new lucerne pathogen in Argentina

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Abstract. *Colletotrichum destructivum* was isolated and identified as a lucerne pathogen in the south-west area of the Buenos Aires province, Argentina. This is the first report of *C. destructivum* on lucerne in this country. Symptoms and fungal morphology are described.

Lucerne (*Medicago sativa*) is susceptible to several foliar pathogens that cause a loss of vigour and reduce both the hay quality and yield. Since September 2002, a new foliar disease has been observed in different surveys performed in crops in the south-west of Buenos Aires province, Argentina. Affected lucerne plants showed small, irregular, slightly depressed spots with a light brown centre and dark red–chestnut edges. Such lesions appeared mainly on the edges of leaflets, usually causing discoloration of large tissue areas. No lesions were observed on plant stems.

Diseased plant material was collected by mid spring. Pathogen isolations were made on potato dextrose agar (PDA) from leaflet sections showing symptoms. Samples were disinfected with 2% sodium hypochlorite solution for 2 min. Plates were incubated at $23 \pm 2^\circ\text{C}$, under continuous light. Fungal colonies developed quickly, producing poorly organised acervuli with numerous setae and apricot to salmon coloured conidial masses. The isolated fungus was identified as *Colletotrichum destructivum* based on previous descriptions (Tiffany and Gilman 1954; Pauly 1974) and was characterised by conidia which were unicellular, hyaline, granulose, guttulated, straight or slightly unilaterally curved, with a rounded apex and a subconical base ($14.1\text{--}20.3 \times 3\text{--}4.5 \mu\text{m}$). Setae were dark brown, straight to flexuous, subulate, subacute or rounded at the ends. Thick-walled appressoria, more or less ovate to irregular and unicellular were produced from conidia. The isolate was placed in the culture collection of the Laboratory of Plant Pathology, Agronomy Department, Universidad Nacional del Sur, Argentina.

Pathogenicity tests were conducted on 4-week-old lucerne seedlings (cv. Cordobesa INTA) by spraying the leaves with a conidial suspension (4×10^4 conidia/mL). Control plants were only sprayed with sterile water. Pots containing plants were placed in a moist chamber for 48 h and then kept under greenhouse conditions ($23\text{--}25^\circ\text{C}$). Seven days after inoculation, all plants developed symptoms similar to those observed in the field, whereas control plants remained healthy. The original pathogen was reisolated from diseased tissues. These results fulfilled Koch's Postulates.

Colletotrichum destructivum is frequently associated with lesions on lucerne stems and petioles, similar to those

produced by *C. trifolii*, causing in some cases defoliation (Raynal 1977; Troeung and Gosset 1987). Even though *C. destructivum* is commonly considered a secondary pathogen (Graham *et al.* 1976; Koch *et al.* 1989), under wet and warm conditions it may act as a primary pathogen in lucerne (Latunde-Dada *et al.* 1997). In this work, *C. destructivum* was repeatedly isolated from leaflet lesions, in accordance with results obtained in the USA (Graham *et al.* 1976), Canada (Boland and Brochu 1989) and South Africa (Koch *et al.* 1989). Therefore, the presence of this pathogen should not be omitted when assessing foliar damage.

This is the first report of *C. destructivum* causing a foliar disease in lucerne in Argentina.

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Manuscript received 10 March 2008, accepted 24 April 2008