

NEW DISEASE REPORT

First report of walnut canker caused by *Fusarium incarnatum* in ArgentinaS. Seta^{a*}, M. Gonzalez^b and G. Lori^c

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The agronomic practices of walnut (*Juglans regia*) production in Argentina have improved significantly over the last 10 years. New walnut varieties have reduced the average cropping period from 12 to 7 years, in addition to improving the overall economic value of the crop, through greater yield and improved fruit quality. In 1999, disease symptoms were observed on 1-year-old grafted walnuts from the Zavalla locality in Santa Fe province. Primary symptoms were cankers of varying sizes (up to 50 mm) principally on the main stem but also on side branches. On walnut varieties Chandler, Davis and Tulare, cankers were seen in lateral and terminal buds. Fruit symptoms consisted of necrotic brown spots of diameter 20 mm and depth 5 mm. Affected fruit would abscise prematurely. In 2000 and 2001, the same symptoms were detected in a walnut collection of the Facultad de Ciencias Agrarias, Rosario University.

Necrotic tissue fragments taken from diseased plants were surface-sterilized and transferred to potato dextrose agar. A *Fusarium* species was consistently isolated into pure culture. Single spore cultures from these colonies were grown on carnation leaf agar to assist species identification (Nelson *et al.*, 1983). The fungus was identified as *F. incarnatum* (= *F. pallidoroseum* = *F. semitectum*) based on its micromorphology and cultural features. To

test pathogenicity, a conidial suspension (1×10^6 conidia mL⁻¹) was sprayed onto wounded branches of 1-year-old walnut plants (cv. Tulare). Control plants were sprayed with water. The inoculated plants and controls were placed in a humid chamber at 20–25°C and 85% RH for 2 days. The plants were observed daily for symptom development. All the inoculated plants showed dieback after 30 days and cankers appeared 60 days postinoculation. None of the wounded control plants developed any symptoms. *Fusarium incarnatum* was successfully reisolated from all the inoculated plants, thus fulfilling Koch's postulates. This fungus has previously been recorded affecting walnut in Italy (Belisario *et al.*, 1999). This is, however, the first report of walnut canker caused by *Fusarium incarnatum* in Argentina.

References

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