

## Bacterial Canker of Grapevine in Roraima, Brazil

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### RESUMO

#### Cancro-bacteriano da videira em Roraima

Este é o primeiro relato de *Xanthomonas campestris* pv. *viticola* causando cancro-bacteriano da videira (*Vitis vinifera*) no Estado de Roraima, Brasil.

The bacterial canker of grapevine (*Vitis vinifera* L.), caused by *Xanthomonas campestris* pv. *viticola* Nayudu (Dye), is a quarentenary disease officially restricted in Brazil to the states of Bahia, Pernambuco, Piauí and Ceará. The disease was described for the first time in India (Nayudu, *Phytopathologische Zeitschrift* 73:183. 1972) and reported in Brazil in 1998 at Petrolina, PE (Malavolta Jr. *et al.*, *Summa Phytopathologica* 25:262. 1999). In July 2006, the Plant Pathology Laboratory at Embrapa Roraima received samples from grapevine plantations established in Boa Vista, RR, with stem canker and leaf necrosis symptoms. An intense exudation was observed when these materials were examined under the light microscope. Upon isolating the bacteria it was observed that a permanent association exists between the bacteria able to incite a typical hypersensitive reaction in tomato cv. Santa Clara and tobacco plants only 48 h after infiltration. The bacteria presented the following characteristics: aerobic growth with white colonies, convex, mucoid, no fluorescent pigment production in culture media and gram-negative reaction. Positive results were obtained for esculin and starch hydrolysis, acid from trehalose, glucose, celobiose, melibiose and arabinose and weakly positive for glycerol. Negative results were obtained for oxidase, urease, use of asparagine as sole carbon and nitrogen source, and acid production from dulcitol. To perform Koch's postulates, grapevine plants var. Italia and Niagara Rosada were inoculated by spraying a suspension of bacterial cells previously adjusted to  $10^7$  cfu.mL<sup>-1</sup>. In stems, a 50 µL aliquot of the suspension was deposited on a wound caused by a micropipette tip. Plants were transferred to a humid chamber for 48 h. After that, plants were moved to a greenhouse. Leaf spots were observed after 12 days in var. Italia and 18 days in var. Niagara Rosada plants. Necrosis and initial canker on stems were observed 20 days after inoculation, re-isolating the pathogen. These characteristics allowed the identification of the bacteria *Xanthomonas campestris* pv. *viticola* as the

causal agent of the disease (Schaad *et al.*, *Laboratory guide for identification of plant pathogenic bacteria*. 3 ed. 2001; Nascimento & Mariano, *Ciência Rural*. 34:301. 2004). In Boa Vista city, grapevine plantations have been established using propagative material from Petrolina, and the disease must have been introduced in this way. This is the first report of bacterial canker of grapevine in Roraima State.

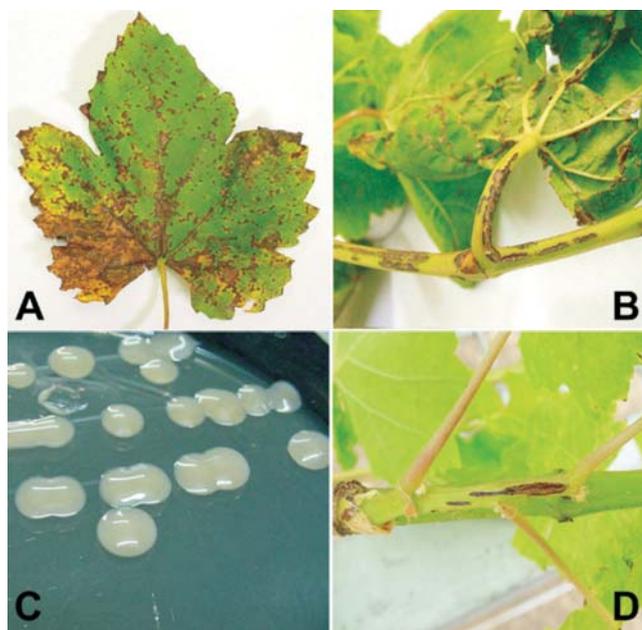


FIG. 1 – A. Leaf necrosis caused by *Xanthomonas campestris* pv. *viticola*; B. typical bacterial canker in a stem and petiole of *Vitis vinifera*; C. colonies of Xev in Kado & Heskett 523 culture medium; D. canker in grapevine var. Italia stem incited by the bacteria after inoculation.