

COMUNICAÇÕES

Natural occurrence of *Colletotrichum coccodes* (Wallr.) Hughes causing anthracnose on pepper (*Capsicum annuum* L.) in Brazil

Hugo José Tozze Júnior¹; Ricardo Gioria²; Olga Suzuki²; Kátia Regiane Brunelli²;
Renato Souza Braga²; Nelson Sidnei Massola Júnior¹

¹ESALQ/USP, Setor de Fitopatologia, C.P. 09, 13418-900, Piracicaba, SP. ²SAKATA SEED SUDAMERICA, C.P. 427,12906-840, Bragança Paulista, SP. nmassola@esalq.usp.br

Data de chegada: 05/04/2006. Aceito para publicação em: 30/10/2006.

1348

Anthracnose caused by *Colletotrichum* is one of the most important diseases of pepper (*Capsicum annuum*). It causes severe damages to both field and post harvest levels in warm and rainy seasons. *C. gloeosporioides*, *C. acutatum*, *C. capsici*, and *C. coccodes* are the main species reported on this host worldwide. In Brazil, *C. gloeosporioides* is reported as agent of pepper anthracnose (Kurozawa et al., In: Kimati et al., Manual de fitopatologia, v.2, 4 ed., p.589-596, 2005.). Otherwise, Costa et al. (Fitopatologia Brasileira, v.30, suppl., p.140, 2005) demonstrated that *C. coccodes* from tomato can infect pepper through artificial inoculations.

On April 2005, diseased fruits of pepper were found in Caxias do Sul county, Rio Grande do Sul state. These fruits exhibited anthracnose lesions covered with salmon mass of conidia and many microsclerotia, which are typical signs of *C. coccodes*, already reported in Brazil on tomato (Lopes & Avila, Doenças do tomateiro, 2005, 151p.) and potato (Mendes et al., Fungos em plantas no Brasil, 1998, 569p.).

The pathogen was isolated through collecting conidia directly from the lesions and plating them on PDA medium. Ripe fruits were inoculated by a small drop (20µL) of 10⁵ conidia/mL suspension. After depositing the drop, the fruit epidermis was wounded by a sterile needle. Inoculated fruits were kept under wet chamber at 25+1°C and 12 hours photoperiod. Three days after inoculation it were observed depressed lesions on the inoculated area. On the fifth day it was noticed intense sporulation of the

pathogen. Microsclerotia (Fig. 1A and 1B) were found on the tenth day after inoculation. The pathogen was reisolated and submitted to cultural and morphological characterization, as well as to molecular (Polymerase Chain Reaction - PCR) identification.

Morphological characterization was performed by analyzing shape and sizes of 30 conidia, produced on inoculated fruits, using methodology described by Tozze Jr. et al. (Summa Phytopathologica, v.32, n.1., p.71-79, 2006). For the cultural characterization, the pathogen was cultured on PDA at 25°C and 12 hours photoperiod for 7 days. Molecular identification was achieved by PCR using *C. coccodes* specific primers Cc1NF1 and Cc2NR1 described by Cullen et al. (Plant Pathology, n.51, p.281-292, 2002). In all tests it were used typical isolates of *C. coccodes* (from potato), *C. gloeosporioides* (from papaya) and *C. acutatum* (from peach) as references.

The isolate obtained from pepper showed straight, fusiform, sometimes slightly constricted in the middle and abruptly tapered to each end conidia, measuring 20.0 (14.6-22.6) x 3.4 (2.7-5.3) µm (fig. 1C). These observations matched *C. coccodes* described by Sutton (In: Baley & Jeger, *Colletotrichum*: biology, pathology and control, p.1-26, 1992). The cultural characterization revealed aerial mycelium white, sparse, with profuse production of microsclerotia (fig. 1D), similar to *C. coccodes* isolate used as reference. Finally, the PCR amplified a 349bp fragment from pepper and *C. coccodes* (potato) isolates (Fig 1E). This is the first report of *C. coccodes* as causal agent of pepper anthracnose in field conditions in Brazil.

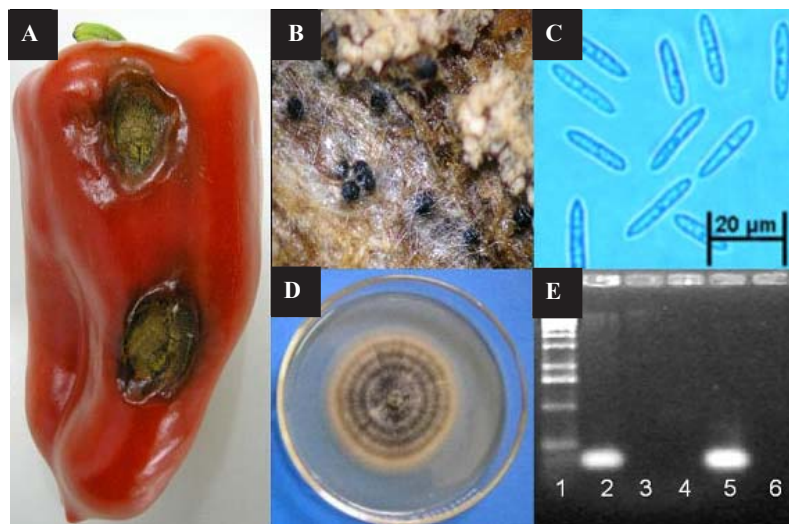


Figure 1. Aspects of *C. coccodes* isolated from pepper: (A) Symptoms on ten-days old inoculated fruit, (B) Microsclerotia on the lesions, (C) Conidia morphology, (D) Seven-days old colony on PDA; (E) PCR product in electrophoresis gel: 1- Ladder (1kb), 2- *Colletotrichum coccodes* (potato), 3-*Colletotrichum acutatum* (peach), 4- *Colletotrichum gloeosporioides* (papaya), 5- Pepper isolate, 6- mix. Fragment observed: 349bp.