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BENOMYL RESISTANCE OF PINEAPPLE FUSARIOSIS

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Pineapple fusariosis caused by *Fusarium subglutinans* f. sp. *ananas* is widespread in all growing areas in Brazil, with yield losses of 30-40% on cultivars Perola and Smooth Cayenne. Efforts to reduce losses rely mainly on the use of an integrated disease management by cultural, chemical and genetic control methods. Chemical control is recommended with benomyl fungicide at 0.05% a.i. to protect the inflorescences after forcing. Recently, resistant isolates were found on benomyl treated commercial crops in the State of Espirito Santo, Brazil.

Twenty two isolates of the fungus from different production areas of pineapple of the Espirito Santo and Bahia States, Brazil, were tested *in vitro* and *in vivo* to evaluate their resistance to benomyl. Four isolates showed resistance to benomyl at 1000 µg ml⁻¹. The LD₅₀ of the isolates tested varied from 109 to 288. These results showed that *F. subglutinans* f. sp. *ananas* has become resistant due to the constant use of benomyl on pineapple crops.

Molecular DNA analysis by PCR-RAPD of isolates from differentiate regions showed 80% similarity, but this technique did not differentiate between resistant and non-resistant fungicide isolates. Significant differences in virulence were found among isolates of the pathogen on cultivar Perola propagative material (slips), and the resistant isolate E272 were more virulent than non-resistant isolates. Pineapple cultivar Primavera was resistant to all pathogen isolates. New fungicide formulations such as captan, tebuconazole and iminoctadine significantly reduce fusariosis severity on the fruits. These results suggest the integrated management of pineapple fusariosis with new fungicides