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#### Abstract

Banana trees suffer from infection with many fungal, bacterial and viral diseases. Root and corm rot is the most constrain fungal disease. Infection severity differed in inspected location due to the examined cultivar, but it was generally higher on roots than on corms. Rotted roots and corms yielded many fungal isolates (*Fusarium moniliforme*, *F. oxysporum*, *F. semitectum*, *Rhizoctonia solani*, *F. solani*, *Botryodiplodia theobromae*, *Verticillium* sp., *Pythium* sp., *Alternaria* sp., *Epicoccum* sp., *Nigrospora* sp., *Curvularia* sp., *Aspergillus flavus*, *Penicillium chrysogenum*, *Phytophthora* sp. and *Trichoderma harzianum*). However, *F. moniliforme*, *F. oxysporum*, *F. semitectum*, *R. solani*, *F. solani*, *B. theobromae*, *Verticillium* sp. and *Pythium* sp., were the only pathogenic isolates to banana (Williams cv). *F. moniliforme* and *F. oxysporum* were the most pathogenic obtained isolates. Thus, they were the most frequently isolated ones. Two isolates were the most aggressive (i.e. Fm1 of *F.moniliforme* and Fo6 of *F.oxysporum*). Roots of Williams banana plants were more susceptible to isolates of both fungi than the corms. The percentages of severity in root and corm-rots were gradually increased by increasing the inoculum density. The maximum disease incidence occurred when sandy soil was inoculated at the time of planting, using suckers of Williams banana cv (3-months and one month old), potassium absence in fertilizers and using organic fertilizers (chicken manure, compost and fresh farmyard). The two tested fungi (*F. moniliforme* and *F. oxysporum*) infected 6 tested hosts, i.e. banana, cucumber, pea, pepper, tomato and water-melon as well as all banana cultivars, tested (i.e. Bassri, Paradiaca, Poyo, Green Bombay, Grand Nain, Hendi, Maghrabi and Williams). However, Hendi cv. was the lowest susceptible one.

On electrophoresis studies, similarity between the isolates of *F.moniliforme* and *F.oxysporum* was 53.69 % for protein, 54.25 % for esterase, 12.86% for peroxidase and 25.08 % for DNA. Different degrees of growth reduction (inhibition zone) were recorded on mycelium growth of *F.moniliforme* and *F.oxysporum* due to using of five isolates of both *B.subtilis* or *T.harzianum*. *F.moniliforme* was more affected than *F.oxysporum* by the tested antagonistic isolates of *B.subtilis* and *T. harzianum*. Both *B.subtilis* (isolate 2/19) and *T.harzianum* (isolate A/17) caused low reduction in the severity of root and corm rots and *F.oxysporum* was more affected by the two tested bioagents in case of root-rots severity, while *F.moniliforme* was more affected on corm rots severity. Benlate and Topsin M-70 were the most efficient fungicides to the linear growth of the two tested pathogens. On contrast, Captan-50 followed by Rovral were the least efficient ones. Furthermore, *F.moniliforme* was greatly affected by any of the tested fungicides than *F.oxysporum*. Adding Benlate, Captan-50, Rovral 50 or Topsin M-70 as a soil drench to the grown banana plants, resulted in significant decreases of root and corm -rots severity. *F.moniliforme* was greatly affected by the tested fungicides than *F.oxysporum*, Topsin M-70 was the best fungicide to control the disease at 1000 and 2000 ppm.

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