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In vitro growth of *Ceratocystis paradoxa* in oil palm (*Elaeis guineensis*) fruit extract media

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ABSTRACT

The fungus *Ceratocystis paradoxa*, a pathogen of the oil palm and other economic crops, grows well *in vitro* on the oil palm fruit extract media (solid and liquid forms). A stock culture of the fungus (IMI specimen no. 79166) was used in this study, and its growth in oil palm fruit basal medium, potato dextrose and corn meal media were compared at three different temperatures (15 C, 28±2 C, 35 C). After 72 h of incubation at room temperature (28±2 C), the fungus had equal mean radial growth on potato dextrose agar (PDA) and oil palm fruit extract agar (PFEA) with a growth increase of 38 mm, while an increase of 11 mm was recorded for corn meal agar (CMA). At 15 C, growth was generally slow but the highest mean radial growth (increase of 10.8 mm) was recorded for PFEA, while 3.2 mm and 6.0 mm for CMA and PDA, respectively. No growth was observed on the three solid media at 35 C. However, the fungus grew at 35 C with mean increases in dry weight of 197 mg, 56 mg, and 271 mg, for potato dextrose broth (PDB), corn meal broth (CMB) and palm fruit extract broth (PFEB), respectively. PFEB yielded the highest mycelial dry weight of 80 mg at 15 C. There were significant differences between mycelial dry weight in PFEB and the control at all temperatures, as well as between PFEB and the other media at the same temperature. Palm fruit extract can be used as a substitute for commercial media for *in vitro* growth of this fungus.

Key words: *Ceratocystis paradoxa*, fruit extract, *in vitro* growth, Nigeria, oil palm.