Ceriops tagal (Yellow Mangrove) Bark Extract Against *Fusarium oxysporum* f. sp. *Cubense* Tropical Race 4 (Fusarium Wilt) in Cavendish Bananas (*Musa acuminata AAA Cultivar Group)* under *in vitro* Conditions

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The study was done to determine the antifungal ability of *Ceriops tagal* bark used in inhibiting the growth of the Fusarium Wilt disease caused by *Fusarium oxysporum* f. sp. *cubense* Tropical Race 4 (Foc TR4). The study aims to provide for a sustainable and environmentally friendly alternative to expensive and hazardous synthetic fungicides and develop a more convenient and efficient method of disease control. The parameters used to measure the effectiveness of the plant extract was the mycelial growth diameter of the fungi in potato dextrose agar after the application of the treatments. Four different concentrations of *C. tagal* in 95% ethanol, namely, 150 g/L, 200 g/L, 250 g/L and 300 g/L, with distilled water and 95% ethanol set-ups for control were used against inoculated mycelia of Foc TR4. Results showed that all the treatments containing the plant extract were effective in inhibiting the growth of Foc TR4. It was also observed that the treatment containing 300 g/L of the *C. tagal* bark extract inhibited the growth of Foc TR4 the most with a mean mycelial diameter of 49.00 mm. Furthermore, other treatments were able to inhibit the growth of Foc TR4 and they were equally as effective as the aforementioned treatment. The results gathered from the experiment showed that the ethanolic bark extract of *Ceriops tagal* can effectively inhibit the growth of Foc TR4 and can also be used as a low-cost organic alternative to commercial fungicides. As bananas are one of the most important crops in agriculture, farmers managing banana plantations would benefit from the study as it would provide for a cheaper treatment against Foc TR4 compared to commercial fungicides and conventional methods used, like resistant cultivar and somaclonal variation. The developed organic fungicide can be utilized for the benefit of banana producers and consumers and at the same time can promote the use of sustainable agricultural materials and methods of banana production.

Keywords: Banana Disease, Fusarium Wilt, *Ceriops tagal*, Antifungal Plant Extract, *In vitro* Antifungal Assay, Davao City