

# Antagonistic potential of plant growth promoting rhizobacteria against *Phytophthora palmivora* in Cocoa

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## ABSTRACT

Pod rot disease in cocoa (*Theobroma cacao* L), caused by *Phytophthora palmivora* (Butler) has been identified as one of the main production constraints in all cocoa growing areas across the world. *P. palmivora* (Butler) is a hemibiotrophic oomycete capable of infect over 200 plant species. To manage the pod rot disease, plant growth promoting rhizobacteria plays an important role. In this study we screened the 50 bacterial isolates against the *Phytophthora palmivora* under *in vitro*, among the 50 bacterial isolates tested, NEG27 isolate was found significantly superior in its radial growth (1.60 cm) with maximum inhibition per cent (82.26%). This was followed by NWG12 with 2.03 cm radial growth and inhibition per cent of 77.41% which was on par with NEG14 (2.13 cm) with mycelial inhibition of 76.30%. Continued incubation up to four DAI indicated that only nine bacterial isolates NEG27 (3.40), NWG16 (2.97), NEG14 (2.87), NEG9 (2.32), NWG12 (2.03), NSK3 (1.40), NWG14 (1.20), NEG3 (0.50), NEG6 (0.36) produced characteristic Zone of inhibition against *P. palmivora*.

**Keywords:** *Bacterial isolates, Cocoa, Pod rot and P. palmivora*