

GanoCare® improves oil palm growth and resistance against Ganoderma basal stem rot disease in nursery and field trials

ABSTRACT

Basal stem rot (BSR) caused by *Ganoderma boninense* is a major threat to sustainable oil palm production especially in Southeast Asia and has brought economic losses to the oil palm industry around the world. With no definitive cure at present, this study introduces a new fertilizer technology called GanoCare®, as an effort to suppress BSR incidence in oil palm. Experiments were carried out to evaluate the effect of GanoCare® on growth, physiology, and BSR disease suppression using sitting technique in the oil palm nursery stage. A follow-up using similar treatments was carried out in the field to test on severity of *Ganoderma* using baiting technique under natural condition. Treatments tested were 10 g/month and 30 g/three months given as pretreatment only or continuous treatment. Results showed that GanoCare® increased the height, bulb diameter, leaf area, chlorophyll content, photosynthesis rate, and fresh and dry weight of the leaf, bole, and root of oil palm seedlings in the nursery trial. Seedlings treated with GanoCare® exhibited reduced percentage of disease severity, incidence, and dead seedlings, compared to the control. In nursery and field, lowest percentage of dead seedlings due to *Ganoderma* was found in seedlings given combination of pretreatment and continuous treatment of 30 g/three months (T4) with 5.56 and 6.67%, while control seedlings significantly marked the maximum percentage of 94.45 and 93.33%. The most successful treatment in both nursery and field was T4 with disease reductions of 77.78 and 82.36%, respectively, proving that nutrients contained in GanoCare® are essential in allowing better development of a strong defense system in the seedlings.