

## **Suitability of bioorganic Amphinema Ganoderma EF2 as enhancer on growth of oil palm seedlings**

### **ABSTRACT**

A study was conducted to determine the potential of bioorganic fertilizer containing endophytic fungus; Amphinema GanoEF2 as a biological fertilizer. Endophytes as a plant growth promoter act in synthesizing the plant growth substances which stimulate the growth of shoot and root of oil palm seedlings. Plant growth analysis in oil palm seedlings treated with bioorganic containing Amphinema GanoEF2 was tested in nursery to determine the effectiveness of the fungus as a growth enhancer and promoter. After eight months of experiment, oil palm seedlings treated with bioorganic empty fruit bunch (EFB) Amphinema GanoEF2 (T2) and bioorganic Real Strong bioorganic fertilizer (RSBF) Amphinema GanoEF2 (T3) resulted in increased of growth response with the mean value of total plant biomass of T2 seedlings at 109.15 g and T3 seedlings at 112.03 g with the relative growth rate (RGR) of 4.16 g/month and 4.19 g/month respectively compared to control seedlings with the 82.25 g of biomass with the RGR mean of 3.89 g/month. These products also increased the uptake of Nitrogen (N), Phosphorus (P) and Potassium (K) in oil palm seedlings. Oil palm seedlings treated with T2 gave the value of NPK at 2.56%, 0.23% and 1.96% respectively while seedlings treated with T3 gave the value of 2.94% of N, 0.22% of P and 2.10% of K which higher than control seedlings. These findings found that the application of these products produced positive effects on growth and NPK uptake of oil palm seedlings.

**Keyword:** Amphinema spp.; Bioorganic fertilizer; Endophytic fungus; NPK; Oil palm seedlings; Oil palm growth