

**The effects of oil palm's empty fruit bunch compost with hexaconazole on biomass production and nutrient contents of sweet potato var. Vitato cultivated on sandy soil**

**ABSTRACT**

This experiment was conducted to investigate the effects of various treatment combinations consisting of oil palm's empty fruit bunch (EFB) compost and hexaconazole (HEX) on dry mass production, partitioning and nutrient concentrations and contents of sweet potato var. Vitato. The treatments consisted of the recommended inorganic fertilizer for Vitato cultivation (control), solely EFB compost and the combination of treatments consisting of EFB compost with 10 or 30 ppm HEX, using a randomized complete block design (RCBD) replicated four times on sandy soil. The destructive biomass analysis was carried out at 30, 55, 77 and 99 days after planting, which corresponded to the following growth stages, storage root initiation, early and middle bulking and maturity, respectively. The final biomass harvest (99 days after planting) was used for N, P and K nutrient analysis. The greatest response was observed using EFB compost plus 30 ppm HEX treatment, which significantly increased storage root dry mass production, storage root mass ratio, root to shoot ratio, plant total K content, storage root K concentration and content by 16.9%, 15.2%, 58.8%, 75.5%, 69.4% and 106.9% at the maturity stage, respectively. The results showed that the control treatment favored the growth of leaf and stem, while the EFB compost with 30 ppm HEX treatment favored the growth of storage root. The EFB treatment was able to supply high K nutrient to the plant. Both K and HEX were able to increase the assimilate translocation to storage root and consequently increased the storage root dry mass production. Based on the finding of this study, it is proposed that the EFB compost with 30 ppm HEX combination treatment could be used by farmers as alternative inputs to the inorganic fertilizer application in Vitato cultivation on sandy soil.