

## **Influence of microbial inoculants on growth and nutrient dynamics in oil palm nursery**

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Oil palm, the highest vegetable oil yielding crop in the world, is a heavy feeder and requires huge quantity of chemical fertilizers which are costly inputs and posing threat to the environment. Biofertilization, which involves beneficial microorganisms, is good alternate to chemical fertilizers for improving plant growth and environmental quality. Thus, an experiment was conducted to study influence of microbial inoculants on growth and nutrient dynamics in oil palm nursery. The study was laid out in completely randomized design with 11 treatments and 15 replications. Different types of microbial inoculants (*Azotobacter chroococcum*+*Azospirillum brasilense*+*Bacillus megaterium*+*Glomus aggregatum*+*Frateruria aurantia*) individually and combination with or without chemical fertilizers (RDF: 30g N, 38g P & 25g K) were used for the study. Better results were obtained in integrated application of bio- and chemical fertilizers rather than individual and combined application of different types of microbial inoculants as compared to the control. Among the treatments, more biomass was produced with integrated application of microbial inoculants and 25 per cent recommended dose of chemical fertilizers. Similarly, more microbial population and nutrient availability in potting mixture and nutrient assimilation by seedlings were observed with integrated application of microbial inoculants and 25 per cent recommended dose of chemical fertilizers. Therefore, application of mixture of microbial inoculants can reduce chemical fertilizers by 75% without affecting the growth of oil palm seedlings.

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