

Palm oil mill effluent, nitrogen and phosphorus management on growth and yield of bambara groundnut (*Vigna subterranea*) - a review

ABSTRACT

Bambara groundnut (*Vigna subterranea*) has characteristics to grow in the marginal soil and also tolerant into the drought condition and also have potential of nitrogen fixation. Using POME as organic soil amendment was found to improve the soil fertility by providing plant nutrient and organic matter contents to plants, as well as increase the plant growth and yield. Nitrogen is the key plant nutrient that stimulates root and shoot growth. Phosphorus application significantly improves many aspects of plant physiology including photosynthesis, flowering, fruiting and maturation which ultimately result in better yield. Symbiotic nitrogen fixation is a complex process, in which Rhizobium bacteria form a beneficial interaction with a legume crop to fix atmospheric nitrogen and convert it to ammonium for plant uptake. Nitrogen and phosphorus enhance soil fertility status and productivity. Application of nitrogen and phosphorus fertilizer exerted significant effect on root development, photosynthesis, yield contributing character and pod yield of the crop. Bambara groundnut yields are low due to abiotic and biotic stresses. But with application of nitrogen and phosphorus increase the yield of this crop. Its seeds contain 63 percent carbohydrate, 19 percent protein and 6.5 percent oil and good source of fibre, calcium, iron and potassium.

Keyword: Bambara groundnut; POME; Nitrogen; Phosphorus; Growth; Yield