

Effect of integrated nutrient management practices in summer groundnut

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ABSTRACT : A field experiment was conducted at the Groundnut Research Station, Orissa University of Agriculture and Technology, Bhubaneswar to study the effect of various integrated nutrient management practices in groundnut (*Arachis hypogaea* L.) during summer season of 2015. The soil was acidic (pH=4.9), well drained, sandy loam, low in available nitrogen (211 kg/ha) and medium in available phosphorus (14.9 kg/ha) and potassium (219.5 kg/ha). The effect of eight different integrated nutrient management practices in summer groundnut viz. RDF (20-40-40 kg N-P₂O₅-K₂O /ha), RDF + *Rhizobium*, RDF + FYM (10t/ha), RDF + Lime (0.2LR), RDF + gypsum (250 kg/ha), RDF + *Rhizobium*+ FYM (10 t/ha), RDF +*Rhizobium*+ FYM(10 t/ha) + Lime (0.2LR), and RDF + *Rhizobium* + FYM(10 t/ha) + Lime (0.2LR) + gypsum (250 kg/ha) were evaluated in a randomized block design (RBD) with three replications. Integrated use of recommended dose of fertilizers, *Rhizobium*, FYM along with lime and gypsum resulted in highest pod (2292 kg/ha) and oil (850 kg/ha) yields in groundnut crop. The crop removed the highest quantity of nutrients 138.3 kg N, 12.1 kg P and 74.2 kg K per hectare when was supplied with recommended dose of fertilizers, *Rhizobium*, FYM, lime and gypsum in an integrated manner. Groundnut crop produced maximum pod yield 2292 kg/ha with the highest net return of Rs 49,957 per hectare and B-C ratio 2.20 under conjunctive use of all the components. The minimum values under growth, yield, yield attributes and economics was however, recorded under application of recommended dose of fertilizer alone.

Key Words : Groundnut (*Arachis hypogaea*) L., yield, rhizobium, FYM, nutrient management.