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Effect of rate and time of gypsum application on yield, economics and nutrient uptake in groundnut

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ABSTRACT : A field experiment was conducted at Breeder Seed Production Farm of Orissa University of Agriculture and Technology, Bhubaneswar for three consecutive *Kharif* seasons of 2010 , 2011 and 2012 in factorial complete randomized block design with 8 treatments replicated three times. The treatments consisted of four rates of gypsum i.e. 200, 400, 600 and 800 kg/ha and two time application of gypsum i.e. 100% at sowing and 50% at sowing + 50% at 30 DAS. Pod (1467 kg/ha) and haulm yield (2261 kg/ha) increased significantly with the increasing levels of gypsum up to 600 kg/ha, which was at par with gypsum@800 kg/ha. The increase in pod yield due to application of gypsum@600 kg/ha was 34.5 % more over gypsum @200 kg/ha. Highest dry pod weight per plant (63.3 g), number of pods/plant (18.2), shelling per cent (69.2) was recorded with the application of gypsum @800 kg/ha which was at par with 600 kg/ha. Nitrogen, sulphur and calcium uptake in pod and haulm of groundnut increased significantly with increasing levels of gypsum up to 600 kg/ha. Similar trend was observed for gross return (Rs 37617/ha), net return (Rs 18326/ha) and B:C ratio (2.09) of groundnut with application of gypsum @600 kg/ha. Split applications of gypsum significantly improved pod yield, haulm yield ,kernel yield and yield attributes as well as economics of groundnut over basal application of entire dose of gypsum. However, interaction effect was found to be non significant.

Key Words: Groundnut, gypsum, split application, nutrient uptake, yield.