

# Effect of Different Planting Patterns, Nitrogen and Weed Management Practices on Nutrient Uptake, Yield and Economics of Export Oriented Groundnut

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## ABSTRACT

A Field experiments were conducted during two consecutive *rabi* seasons of 2008 and 2009 on sandy clay loam soils of wetland block of S.V. Agricultural College, Tirupati campus of ANGRAU, to develop certain agro- techniques for enhancing the productivity and quality of export oriented groundnut in Southern Agro climatic Zone of Andhra Pradesh. The experiment was laid out in a split - spit plot design replicated thrice. It consisted of three planting patterns viz., 22.5 cm x 10 cm ( $P_1$ ), 30.0 cm x 10 cm ( $P_2$ ) and 37.5 cm x 10 cm ( $P_3$ ) as main plots, four nitrogen management practices viz., 100% N through fertiliser ( $N_1$ ), 100% N through poultry manure ( $N_2$ ), 50% N through fertilizer + 50% N through poultry manure ( $N_3$ ) and 25% N through fertilizer + 75% N through poultry manure ( $N_4$ ) as sub plots and four weed management practices viz., Two hand weeding at 20 DAS and 40 DAS ( $W_1$ ), Pre-emergence application of Pendimethalin @1.0 kg a.i ha<sup>-1</sup> + one hand weeding at 40 DAS ( $W_2$ ), Post emergence application of Quazifop -p-ethyl @ 54 g a.i ha<sup>-1</sup> at 20 DAS + Hand weeding at 40 DAS ( $W_3$ ) and Pre-emergence application of Pendimethalin @ 1.0 kg a.i ha<sup>-1</sup> + post emergence application of Quazifop -p-ethyl @54 g a.i ha<sup>-1</sup> at 40 DAS ( $W_4$ ) as sub-sub plots. The results revealed that bold kernelled (export oriented) groundnut cv. Bheema (TG-49) could be successfully grown in the southern agro-climatic zone of Andhra Pradesh, with a promising and viable package of agro techniques, comprising of sowing groundnut with planting pattern of 22.5 x10 cm, supply of 30 kg N ha<sup>-1</sup> @ 50 per cent each through fertiliser and poultry manure along with hand weeding twice at 20 and 40 DAS, for obtaining higher yield with better quality and remunerative monetary returns, without any objectionable drain on the soil productivity status.

**Key words :** Export oriented groundnut, Planting pattern, Nitrogen