

Effect of mulching, hydrogel and nutrient management on productivity of summer groundnut

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ABSTRACT : A field experiment was conducted at the AICRP on Groundnut, Bhubaneswar Centre of Orissa University of Agriculture and Technology, Bhubaneswar during *Rabi*-Summer, 2013-14 in a split-plot design with three replications two mulching practices (With biodegradable mulch and Without biodegradable mulch) in the main plot sown with three hydrogel levels (Control (Irrigation as per recommendation), - 2.5 kg/ha (reduce 2-3 irrigation depending on location and 5.0 kg/ha (reduce 2-3 irrigation depending on location) in the sub plots and three levels of Nutrient management practices (Organic nutrient management (locally available resources), Inorganic nutrient management and Integrated nutrient management in sub sub plots. Pod yield (2104 kg/ha), haulm yield (4025 kg/ha), nodules/plant (40.3), shelling per cent (68.9%), hundred kernel weight (40.2g), B:C ratio (2.11) and net monetary returns (Rs. 43172/ha) were obtained with biodegradable mulch which was significantly higher than practice without mulching (1650 kg/ha, 3276 kg/ha, 34, 63.2 %, 32.7 g, 1.66 and Rs. 25499/ha), respectively. Application of hydrogel @ 5.0 kg/ha to groundnut also significantly influenced pod yield of groundnut (2326 kg/ha) than control and other lower levels. The integrated nutrient management practices followed in groundnut was found to be significant with respect to pod yield (2397 kg/ha) and yield attributing characters than either fully organic or inorganic nutrient management practices. The combined application with biodegradable mulch, hydrogel @ 5.0 kg/ha and integrated nutrient management practices followed in groundnut proved to be significantly superior with respect to pod yield of groundnut (2397 kg/ha), net return of Rs. 54524 Rs./ha and benefit cost ratio of 2.40 over other combinations studied.

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