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EFFECT OF DIFFERENT LEVELS OF NPK FERTILIZER MANAGEMENT ON MAIZE + GROUNDNUT (2:2) INTERCROPPING SYSTEM UNDER RAINFED CONDITION

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ABSTRACT

A field experiment was conducted during kharif season of 2008 and 2009 in the experimental farm of School of Agricultural Sciences and Rural Development, Nagaland University, Medziphema Campus, Nagaland to evaluate the different levels of NPK fertilizer management in maize + groundnut intercropping system. The experiment was laid out in split plot design with three replications. The treatments comprised of F_1-Control (No NPK) F_2-, 100% NPK to maize and intercrop, F_3-100% NPK to maize,F_4- 100% NPK to maize + 50% NPK to intercrop, F_5-50% NPK to maize + 100% NPK to intercrop, F_6-50% NPK to maize and intercrop. Maize with groundnut (2:2) was found to be the best intercropping system recording better crop growth and yield attributes and higher grain and stover yields. Among the different fertilizer doses, application of NPK at 100% to both the crops was found to be the best fertilizer dose producing the highest crop growth and yield (37.53 q/ha). Maize equivalent yield increased significantly up to 100 per cent NPK doses applied to maize and groundnut. Application of 50 and 100 per cent NPK to maize and groundnut increased maize equivalent yield from 26.20 per cent to 47.74 per cent over control. Intercropping system involving maize with groundnut along with application of 100% NPK to both the crops increased pooled grain yield by 36.72 per cent over 50 per cent NPK to both the crops. Highest groundnut yield (9.32 q/ha) and benefit cost ratio of 2.54 was also recorded in the same treatment. On pool basis it was found to be the most economically viable cultivation practice registering the highest gross return and net return/ha and also recording the higher B:C ratio.

KEYWORDS: Maize, Groundnut, Intercrop, Nutrient Management, Yield

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