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Effect of different rates of N on growth and yield of intercropped maize and groundnut

The field experiment was conducted at the research farm of the Faculty of Agriculture, University of Ruhuna, Kamburupitiya. There were six treatments, consisting of six different N rates (i.e 0, 10,2030,40 and 50Kg of N ha^{-1} as urea) which were arranged in a Randomized Complete Block Design with 4 replicates. In addition to that 50 and 75 kg ha^{-1} of P and K fertilizers as conc. Super phosphate and muriate of potash respectively were applied to all plots as a basal mixture prior to planting. Land at the experimental, each crop was grown in 1 maize and groundnut rows were 30cm while within row

specing of maize was 30 cm and groundnut was 15cm in all treatments. At maturity, ear yield of mainze pod yield of X-14 and dry matter yield of maize and X-14 were determined.

There was no significant effect of different nitrogen rates on growth and yield parameters studied. But growth and yield of maize and combined biomass yield of maize and X-14 in maize/X-14 intercropping marginally increased with increasing rates of nitrogen up to 40 kg ha-1 and further increase of N gave a negative effect. Therefore it is clear that the N requirement of maize /X-14 intercrop is different from that of mono crops. The optimum nitrogen rates (40kg ha^{-1}) for intercropping is lower than the recommended rate (60kg ha^{-1}) for mono crop maize and higher than the recommended rate (35kgha) for sole crop groundnut. Pod and dry matter yield of X-14 did not show any response to n fertilizer.