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Pratap Narain, Verma, B. and Singhal, A.K. 1980. Nitrogen economics through inter-cropping of pigeonpea in rainfed sorghum. *Indian J. Agron.*, 25(2): 190-196.

A field experiment was conducted with four doses of nitrogen (0, 25, 50 and 75 kg/ha) with and without 40 kg P_2O_5 and 40 kg P_2O_5+30 kg K_2O /ha. Application of nitrogen increased grain yield of sorghum significantly over the control but the yield of pigeonpea was affected adversely owing to smothering effect of sorghum on pigeonpea, when sorghum crop was fertilized with recommended dose of 75 kg N/ha. Because the difference between various doses of nitrogen was mostly non-significant, the lowest dose of 25 kg N/ha applied to sorghum rows alone was sufficient for this mixture under rainfed conditions. Nitrogen added through leaf litter of pigeonpea after crop harvest ranged from 10 to 40 kg/ha under different treatments.