

Effect of Nitrogen and Phosphorus on Growth, Leaf and Seed Yield of Fenugreek (*Trigonella Foenum-graecum* L.)” CV. “Pusa Early Bunching”

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Abstract: Fenugreek, (*Trigonella foenum-graecum* L.) belongs to sub-family Papilionaceae of the leguminous family, is an erect annual herbaceous plant that grows up to 10-50 cm height. Gujarat and Rajasthan are the major fenugreek producing states in India, followed by Andhra Pradesh, Madhya Pradesh, West Bengal and Tamil Nadu. Fertilizer application in form of nitrogen and phosphorus has shown a promising result and practical usefulness in terms of yield and vigorous growth of fenugreek. A field experiments were carried out to study the effect of Nitrogen (0,30,60 kg/ha) and Phosphorus (0,30,60 kg/ha) dose with different combination on Growth, Leaf and Seed Yield of Fenugreek (*Trigonella foenum-graecum* L.). In this experiment it was found that Plant height (45 DAS and 90 DAS), Number of leaves per plant, Leaf yield, Number of pods per plant, Pod length, Average pod weight, Test weight of seed, and other yield attributing characters and seed yield were increased with the increase in nitrogen and phosphorus level. Application of N: P: K @ 30:80:40 kg/ha is more conducive for better growth, development and yield of fenugreek than the lower levels. Apart from this, these different levels of nitrogen and phosphorous fertilizer dose affect the net return and B:C ratio of this crop cultivation. The maximum total income was obtained (Rs.48399.7 per ha) in treatment T8 (30 :40 :40 kg/ha) whereas, the highest net return (Rs.31849.6 per ha) was recorded in case of treatment T9 @ (30 :80 :40 kg/ha) which is closely followed by application of T8 @ (30 :40 :40 kg/ha). However, highest B :C ratio of (2.23 :1) was registered from T7 @ (30 :0 :40 kg/ha).