

Economics of nutrient management treatment in soybean

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ABSTRACT

A field experiment was conducted at Agriculture College farm, Nagpur (Maharashtra) during *kharif* 2006-2007 to study the economics of nutrient management treatments in soybean crop. The study revealed that treatment T₁ (RDF) 30:75:00 kg NPK/ ha recorded maximum gross monetary returns (Rs.36,335/ha) followed by treatment T₇ 75 % RDF + 5t FYM. But the net monetary returns were highest in T₁ (RDF) 30:75:00 kg NPK/ ha (Rs.25,027 ha) followed by T₇ 75%RDF + Amrutpani + PSB + Rhizobium (Rs.23,848/ha) and T₆ 75% RDF + Amrutpani + PSB (Rs.23,632/ha). Similarly, treatment T₁ (RDF) gave the maximum B:C ratio (3.21) followed by T₇ (3.06) and T₆ (3.05).

INTRODUCTION

Soybean was introduced in India in mid sixties. It has become the miracle “Golden bean” of the twentieth century. Area of soybean in India and Maharashtra is continuously increasing due to its dual utility as pulse as well as oilseed crop. So, intensive agriculture with very high nutrient turnover in soil-plant system coupled with indiscriminate and imbalanced fertilizer use result in deterioration of native soil fertility. Hence, an integrated approach of using chemical, organic and their efficient management has shown promise in sustaining productivity and soil fertility (Hedge and Sarkar, 1990). Still there is large scope for the improvement in the production of soybean in a cost effective manner. Bobde *et al.* (1998) found that 50 per cent reduction in recommended dose of fertilizer to soybean along with 7.5 t of FYM/ ha gave significantly more monetary returns (11.2%) than absolute control and RDF.

METHODOLOGY

The experiment was conducted during *kharif* season 2006 – 2007 at Agriculture College Farm, Nagpur under Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The experiment was conducted in RBD with eleven treatments combination of inorganic, organic and biofertilizer and Amrutpani as T₁ RDF (30:75:00kg NPK /ha), T₂ Amrutpani, T₃ 75 % RDF, T₄ 75 % RDF + 5t FYM, T₅ 75 % RDF +

Amrutpani, T₆ 75 % RDF + Amrutpani + PSB, T₇ 75 % RDF + Amrutpani + PSB + Rhizobium, T₈ 5t FYM /ha, T₉ 5 t FYM /ha + Amrutpani, T₁₀ 5t FYM/ ha + PSB, T₁₁ 5t FYM /ha + Amrutpani + PSB + Rhizobium. Amrutpani is an organic formulation known to be having good population of PGPR and thereby improving soil properties (Rupela *et al.*, 2006). In present investigation, Amrutpani was prepared by taking 250 g Ghee + 15kg of cow dung + 10 lit of cow urine + 500 g of honey + 200 lit of water. The ingredients were thoroughly mixed together and mixture so obtained called as Amrutpani. The cost of cultivation for soybean was worked out on the basis of prevailing rates and applicable input charges are shown in Table 1 (A) and 1(B). Yield of soybean was converted in money value (Rs./ha) at the rate of soybean grain : Rs. 1750/ q soybean straw : Rs. 125/q, recommended by APMC, Nagpur 2006-2007.

RESULTS AND DISCUSSION

From Table 2 it is revealed that the grain yield/ha of soybean was higher in treatment T₁ (18.20 q/ha) which was at par with treatment T₄ (17.90 q/ha), T₇ (17.69 q/ha) and T₆ (17.54 q/ha). Straw yield/ha was also higher in T₁ (35.88 q/ha) which was at par with treatment T₄ (35.74 q/ha), T₇ (35.59 q/ha), and T₆ (35.45 q/ha). The higher grain yield due to inorganic alone and in combination with organic sources along with biofertilizer might be

Key words :

Soybean, Nutrient management treatment, Economics

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