



QUALITY, YIELD AND ECONOMICS OF SOYBEAN (*GLYCINE MAX* (L) MERRILL) VARIETIES AS INFLUENCED BY INTERACTION EFFECT OF FERTILIZER LEVELS WITH AND WITHOUT FYM

GHANSHYAM JAMLIYA* AND M.D. VYAS¹

Department of Agronomy, JN Krishi Vishwavidyalaya,

College of Agriculture, Ganj Basoda, Vidisha – 464221, Madhya Pradesh

¹Department of Agronomy, RVS Krishi Vishwavidyalaya, RAK College of Agriculture,

Sehore - 466001, Madhya Pradesh

*Corresponding author: jamliyaagri@gmail.com

ABSTRACT: A field experiment was conducted during rainy (*kharif*) season of 2010 at R. A. K. College of Agriculture Farm, Sehore, (M.P), to study the effect of 8 fertilizer levels (75% RDF, 75% RDF + FYM 5 t/ha, 100% RDF, 100% RDF + FYM 5 t/ha, 125% RDF, 125% RDF + FYM 5 t/ha, FYM 5 t/ha, Absolute control) on quality, yield and economics of two soybean varieties JS 95-60 and JS 97-52 were evaluated in factorial randomized block design with 3 replications. Application of 125% RDF + FYM 5 t/ha recorded significantly higher protein content in seed and it was at par with the application of 100% RDF + FYM 5 t/ha and 125% RDF. The grain yield was significantly higher with application of 125% RDF + FYM 5 t/ha (1820 kg/ha), which was at par with 100% RDF + FYM 5 t/ha (1801 kg/ha). The variety JS 95-60 recorded significantly higher grain yield (2203 kg/ha) as compared to variety JS 97-52 (886 kg/ha). Variety JS 95-60 with 100% RDF gave highest net returns (Rs.44534/ha) and B:C ratio (1:5.71) than other treatment combination of this variety. Whereas variety JS 97-52 with 125% RDF + FYM 5 t/ha gave highest net returns (Rs.17150/ha) and the highest B:C ratio (1:2.73) gave with 125% RDF than other treatment combination of this variety.

Key words: Fertilizer, FYM, Variety, Soybean, Quality, Yield, Economics

Citation: Jamliya G, Vyas MD (2017) Quality, yield and economics of soybean (*Glycine max* (L) Merrill) varieties as influenced by interaction effect of fertilizer levels with and without FYM. Indian J Trop Biodiv 25(2): 233 - 235

Received on : 31 Oct. 2017
Accepted on : 21 Nov. 2017
Published on : 30 Dec. 2017

Soybean (*Glycine max* (L) Merrill) is an important pulse as well as oilseed crop. It is a unique crop

with high nutritional value, providing 40 per cent protein and 20 per cent edible oil besides minerals and vitamins. It belongs to the family *leguminosae* and sub family *papilionaceae*. The appropriate combination of mineral fertilizers with organic manure can be feasible and visible to sustain agriculture as commercial and profitable ensuring high yield of crop without deterioration in quantity and quality of the produce and soil health. The use of FYM is the tool to improve the physical, chemical and biological properties of the soil. Farmyard manure being the source of all essential elements, improves soil organic matter and humus part of soil. FYM also plays an important role inhabiting beneficial bacteria thus making the nutrients available to crop. Keeping in view the above facts the present study was undertaken to see the effect of applied inorganic fertilizer with FYM and without FYM on quality, yield and economics in soybean varieties.

MATERIALS AND METHODS

The field experiment was conducted during the rainy (*kharif*) season 2010-11 at research farm of the R. A. K. College of Agriculture, Sehore, Madhya Pradesh (23° 12' N, 77° 05' E and at 498.77m above mean sea level). The experimental site is characterized by sub-tropical zone with extreme temperature during summer (45.60°C) and very low temperature (as low as 5°C). The average rainfall varies from 1000 to 1200 mm most of which is received during June-September. The soil was medium black clay loam having pH (7.3), electrical conductivity (EC) (0.12 dS/m), organic carbon (0.58), medium available N (245.25 kg/ha), medium available P (17.80 kg/ha), and high available K (425.24 kg/ha). The field trial consisting of 8 levels of fertilizer (75% RDF, 75% RDF + FYM 5 t/ha, 100% RDF, 100% RDF + FYM 5 t/ha, 125% RDF, 125% RDF + FYM 5 t/ha, FYM 5 t/ha, Absolute control) and 2 levels of soybean variety (JS 95-60 and JS 97-52) was a factorial experiment laid out in randomized block design with 3 replications. Fertilizer doses were calculated on the basis of recommended dose of nutrients 20 N+60 P₂O₅+20