Impact Of Red Gram (*Cajanus Cajan* L) Production Technologies Advised By The KVK Jammikunta In Karimnagar District Of Telangana State

ABSTRACT

The study conducted at KVK Jammikunta of Telangana State along with its 15 adopted villages was selected for the study. A sample of 60 Red gram growing farmers who are adopting the KVK technologies and 30 Red gram farmers who are not covered under KVK production technologies were selected from the adopted villages. Present paper highlights the impact of Red gram production technologies in terms of adoption quotient, productivity and profitability in Karimnagar district of Telangana State. High impact in terms of adoption quotient, productivity and profitability of red gram production technologies is observed among the KVK Jammikunta adopted farmers compared to the non adopted farmers.

Key words: adoption quotient, productivity, profitability and impact of Red gram production

Introduction

Red gram (*Cajanus cajan* L.) requires average rainfall of 600-650 mm with moist conditions for the first eight weeks and drier conditions during lowering and pod development stage, rains during lowering results in poor pollination. However, the critical growth stages are branching, lowering and pod filling where moisture stress causes adverse effect therefore in the absence of rains, heavy irrigation is required. Red gram needs a moist and warm weather i.e. 30 – 35 °C during germination and slightly lower temperature (20 -25°C) during active vegetative growth and at maturity it needs higher temperature of around 35 – 40°C. Water logging, heavy rains, frost are very harmful to the crop. Hailstorm or rain at maturity damages the entire crop. It has a good drought tolerant capacity because of its deep tap root system. This crop grows well on all types of soils but loam to sandy loam soil is suitable. This crop also does well in sloppy lands in the mid-hills. It can be grown successfully on neutral soils having a pH range of 6.5 to 7.5. Land is prepared by at least one ploughing during the dry season followed by 2 or 3 harrowing and disc ploughing. The seed rate is 15 kg/ha. Red gram should be sown in rows at a distance of 50 cm with seed to seed spacing of 15- 20 cm. The crop gives much higher yield if, it is sown in last week of May. (Rao *et.al* 2017)

The performance of any event or technology is assessed through impact. Impact is known through the consequences accrued by the technologies. Technology application process is incomplete without understanding the impact created in the environment. Impact studies facilitate for scaling up of technologies. Being red gram is one of the important crop of Karimnagar district grown by farmer for long period of time. The present investigation

emphasized on impact of production technologies on Red gram crop.

Being red gram is one of the important crops of Karimnagar district, KVK, Karimnagar promoted different technologies like Optimum seed rate, more profitable as sole crop, Growing of LRG 41 is tolerant for helicoverpa, Seed treatment with Trichoderma viridi @ 8 gm/kg of seed 4 and Application of biological pesticides controls insect pest, under limited irrigation facilities good net return etc.

METHODOLOGY

Ex-post facto research design combined with exploratory type of research design adopted

The KVK Jammikunta of Telangana State along with its 15 adopted villages was selected for the study. A sample of 60 Red gram growing farmers who are adopting the KVK technologies and 30 red gram farmers who are not covered under KVK production technologies were selected from the adopted villages.

The impact of red gram production technologies advised by KVK Jammikunta was assessed among the KVK adopted red gram farmers in comparison with non adopted farmers. The impact is studied in terms of adoption quotient, productivity and profitability.

RESULTS AND DISCUSSION

Impact of Red gram Production Technologies of KVK Jammikunta in Karimnagar District.

Impact of red gram production technologies in terms of adoption quotient

a) Adoption quotient of red gram adopted farmers

$$\text{Adoption quotient} = \frac{\text{Total obtained score of all the selected red gram adopted farmers}}{\text{Total possible score of the entire selected red gram adopted farmers}} \times 100$$

$$\text{Adoption quotient of red gram adopted farmers} = \frac{3262}{432} \times 100$$

$$= 86.29\%$$

b) Adoption quotient of red gram non adopted farmers

$$\text{Adoption quotient} = \frac{\text{Total obtained score of entire red gram non adopted farmers}}{\text{Total possible score of all the selected red gram non adopted farmers}} \times 100$$

$$\text{Adoption quotient of red gram non adopted farmers} = \frac{1255}{1890} \times 100$$

$$= 66.40\%$$

c) Impact of KVK technologies in terms of adoption quotient in red gram

86.29 - 66.40 = 19.89%

It is observed that adoption quotient of red gram adopted farmers is 86.29% and that of non adopted farmers is 66.40%. 19.89% is the difference between red gram adopted and non adopted farmers

These results are in conformity with the results of Biradar (2007) and Pavan kumar (2007).

Significant difference was observed between the adoption quotients of adopted and non adopted farmers in the red gram crop, it is quite obvious that the farmers can noted under adopted category adopts most of the recommended practices advocated by the KVK against to their counter parts of non adopted farmers who are avers to accept and implement the recommended practices. Hence it has been reflected by symbolizing more adoption quotient by the adopted farmers compared to non adopted farmers; it is all may be due to the efforts put in by the KVK scientists to motivate and persuading the farmers to adopt the innovative farm technologies through the process of technology assessment, refinement, demonstration and dissemination.

Impact of Technologies in terms of Productivity in *Red gram* Crop

a) Productivity Level of Red gram Adopted Farmers

$$\text{Productivity level} = \frac{\text{Total productivity of entire selected red gram adopted farmers}}{\text{Number of selected red gram adopted farmers}}$$

$$\text{Adopted red gram farmers productivity level} = \frac{83400}{60} = 1390 \text{ Kg/ha}$$

b) Productivity Level of Red gram Non Adopted Farmers

$$\text{Productivity level} = \frac{\text{Total productivity of entire selected red gram non adopted farmers}}{\text{Number of selected red gram non adopted farmers}}$$

$$\text{Non adopted red gram farmers productivity level} = \frac{25110}{30} = 837 \text{ Kg/ha}$$

c) Impact of KVK Technologies in Terms of Productivity level in Red gram

1390 – 837 = 553 Kg/ha

It is known that the productivity of red gram adopted farmers is 1390 Kg/ha and that of non adopted farmers is 837Kg/ha, the difference between productivity levels of red gram adopted and non adopted farmers is 553 hg/Ha.

The result is in line with the finding of Benagi *et al.*, (2004)

It was evident that the technologies disseminated by the KVK, Karimnagar had an impact on the productivity level of adopted farmers in red gram crop. Their productivity levels are higher than the non adopted farmers, the reasons could be before adoption of these technologies by the farmers, the KVK scientists were disseminating these technologies by scrupulous assessment careful refinement and showing the value or skill involved in these technologies by conducting well planned method and result demonstrations. This might have facilitated farmers to practice KVK advocated technologies in to in true spirit, there by the farmers reaped the devidends in the form of high productivity level.

Impact of technologies in terms of profitability

Impact of Technologies in Terms of Profitability in *Red gram* Crop

a) Profitability level of red gram adopted farmers

$$\text{Profitability level} = \frac{\text{Total profitability of entire selected red gram adopted farmers}}{\text{Number of selected red gram adopted farmers}}$$

$$\text{Adopted Red gram Farmers Profitability level} = \frac{12,51,360}{60} = 20,856 \text{ Rs/ha}$$

b) Profitability level of red gram non adopted farmers

$$\text{Profitability level} = \frac{\text{Total profitability of all the selected red gram non adopted farmers}}{\text{Number of selected red gram non adopted farmers}}$$

$$\text{Non adopted Red gram Farmers Profitability level} = \frac{4,20,300}{30} = 14,010 \text{ Rs/ha}$$

c) Impact of KVK Technologies in Terms of Profitability level in Red gram

20,856 - 14,010 = 6,046 Rs/ha

It is stated that the profitability of red gram adopted farmers is 20,856 Rs/ha and that of non adopted farmers is 14,010 Rs/ha, the difference between profitability levels of red gram adopted and non adopted farmers is 6,046 Rs/ha.

The results on profitability accrued by the farmers of red gram crop give an impression that there was glaring difference between profitability levels of adopted and non adopted farmers of selected crops, this could be due to continuation of the adoption of location specific technologies recommended by the scientists of KVK, Karimnagar, the technologies recommended were assessed and refined on various fronts like their simplicity, practicability, applicability, trialability, compatibility and cost. The KVK Karimnagar is known for past few decades for its popularity of recommending low cost and high profitable technologies which has lured the farmers in a massive way to come forward to accept and apply the recommended technologies, hence there is every reason to quote these technologies are the main contributors of

enhanced profitability level among adopted farmers.

CONCLUSION

High impact of Red gram production technologies in terms of adoption quotient, productivity and profitability was seen among the farmers adopted by the KVK Jammikunta compared to the non adopted farmers. This could be due to the multiplicity of the transfer of technology mechanisms followed by the KVK scientists in the adopted villages especially for the benefit of farmers adopted by the KVK.

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