

Impact of KVK Training Programmes on Guar (Cluster bean) Production Technology

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Abstract – The study was carried out in Hindaun block of Karauli district of Rajasthan. The Hindaun block was purposively selected because of large number of farmer participation in KVK's training programme. The data regarding gain in knowledge and adoption level about improved Guar (Cluster bean) production technologies were recorded under two heads like; knowledge before training and knowledge after training. The findings of the study revealed that farmers had gained knowledge about Cluster bean production technology ranging from 13.75 per cent of land preparation to 70.0 percent of used high yielding varieties after training programmes. The study shows that the none of farmers were following the improved practices of cluster bean production like soil testing, soil treatment, seed treatment and seed rate and spacing before training programme whereas, after training programme they were adopting seed treatment (86.25%), seed rate and spacing (62.5 %), soil testing (52.5%) and soil treatment (36.25 %). The study also revealed that they were adopting the cluster bean production technologies ranging from 11.25 per cent of storage practices to 86.25 per cent of seed treatment after training programmes.

Keywords – Training; Cluster Bean Production Technology; Impact; Knowledge; Adoption.

I. INTRODUCTION

To find out the success of any training programme a periodic appraisal and evaluation of what is being done is essential, so that suitable changes can be made to make training programme more effective. The concept of vocational training in agriculture through KVK grew substantially due to greater demand for improved agricultural technology by the farmers. They not only requires knowledge and understanding of the intricacy of technology but also progressively more and more skills in various complex agriculture operations for adoption at their farms. The training programmes were designed to impart the latest knowledge to the farmers through work experiences by applying the principles of "Teaching by doing" and "Learning by doing". Cluster Beans is widely used in various forms, with its pods used as vegetable, grain used as pulse and can also be used as fodder for animals. The guar bean or cluster bean, is definitely an annual legume, is definitely the method of obtaining guar gum. Guar could be consumed like a green bean, yet is much more essential as the original source of guar gum. Younger, fresh cluster beans have got a narrow as well as long body together with tiny pods. Cluster beans is said to be originated from somewhere in Africa but now it is

widely cultivated in Southern Asia. It is assumed to be developed from African Species *Cyanmopsis Senegalesis*. Cluster bean is now widely grown in India and is a legume, which lives on symbiotic relation with Nitrogen – fixing Bacteria Rhizobium. One of the most important characteristic of Cluster bean is its drought – resistance. Guar plays a major role as natural manure as it increases the growth of other crops by conservation of soil nutrients. In India, Rajasthan is the major producer of Guar followed by Haryana, Gujarat and Punjab. Due to high prices of Guar the production has now extended to other states like Madhya Pradesh, Chhattisgarh, Andhra Pradesh, Karnataka and Tamil Nadu. It contains various vitamins namely vitamin A, B and K and minerals such as Potassium, Iron, Folate and Calcium in addition to other nutrients. This green vegetable and seeds of Gawal ki phali have immense medicinal value packed with numerous health benefits. Keeping in view of an effective extension approach of trainings for dissemination of technology, it was thought to assess the impact of trainings organizing by KVK, Hindaun-Karauli. Therefore, the present study was undertaken with the specific objective to find out the extent of knowledge and adoption of Cluster bean production technology by the KVK trainees.

II. MATERIALS AND METHODS

Krishi Vigyan Kendra, Hindaun-Karauli since, its establishment has directed its effort towards agricultural development in the district and bringing about entrepreneurship and skills among practitioners of agriculture and rural with a view to ensure livelihood security. The study was carried out in Hindaun block of Karauli district of Rajasthan. The Hindaun block was purposively selected because of large number of farmer participation in KVK's training programme. For the selection of respondents, a list of Cluster bean trainees of KVK during preceding three years (2010-11 to 2013-14) was prepared. Out of 156 trainees list, only 80 farmers were randomly selected from KVK adopted villages of Hindaun block. The data were collected through personal contacts with the help of well-structured interview schedule. The gathered data were processed, tabulated, classified and analyzed in terms of percentage in the light of objectives of the study. Total twelve practices were selected to find out the gain in knowledge and adoption of cluster bean production technologies.

III. RESULTS AND DISCUSSION

Gain in Knowledge

It is assumed that the knowledge of a farmer to a large degree depends upon the extent of exposure given to him about the technology. The gain in knowledge by the respondents about improved package of practices of cluster bean was measured in term of percentage. The data regarding gain in knowledge about improved cluster bean production technologies were recorded in two heads i.e. knowledge before training and knowledge after training. The data in the table 1 depicts that the beneficiary farmers of cluster bean production training programmes were gained highest knowledge about high yielding variety (70.0 %), followed by seed treatment(67.50),weeding (57.50),seed rate and spacing(48.75%), plant protection measures (46.25 %), soil treatment (43.75%), water management (42.50 %), storage (40.0%), harvesting (32.50 %), nutrient management (22.50 %),sowing time (21.25 %) and field preparation (13.75%). The findings of the study also revealed that they had gained knowledge ranging from 13.75percent of field preparation to 70.0 per cent used of High yielding Variety after training programmes. These findings were in agreement with Joseph, R (2008), Hire math, and Nagaraju (2009), Meena and Gupta(2015) who reported that the knowledge levels were found to be increased for weeding, fertilizer application, plant protection measures and harvesting practices of maize and Garlic after attending the training programmes. This might be due to the fact that they were convinced through training programmes about cluster bean production technology by KVK which were designed to import latest knowledge through work experience.

Table 1. Impact of trainings on change in knowledge level of Cluster bean growers.

Technology	Before Training	After Training	Gain in Knowledge
Field preparation	69(86.25)	80(100.0)	11(13.75)
Soil treatment	6(7.50)	41(51.25)	35(43.75)
Seed treatment	5(6.25)	59(73.75)	54(67.50)
High yielding variety	21(26.25)	77(96.25)	56(70.0)
Sowing Time	50(62.50)	67(83.75)	17(21.25)
Seed rate and spacing	13(16.25)	52(65.0)	39(48.75)
Water Management	33(41.25)	67(83.75)	34(42.50)
Weeding	23(28.75)	69(86.25)	46(57.50)
Nutrient Management	17(21.25)	35(43.75)	18(22.50)
Plant protection measures	24(30.0)	61(76.25)	37(46.25)
Harvesting	29(36.25)	55(68.75)	26(32.50)
Storage	15(18.75)	47(58.75)	32(40.0)

*Figure in parentheses indicates percentage

Extent of Adoption

The data presented in Table 2revealed that then one of the farmers were following the improved practices like soil testing, soil treatment, seed treatment, seed rate and spacing before acquiring training whereas, after attending training programme they adopted seed treatment (86.25%),seed rate and spacing (62.5%), soil testing (52.5%) and soil treatment (36.25%). Over 81.25 percent farmers were practicing land preparation before training programmes and the remaining18.75 percent began after training programmes. Regarding high yielding variety 22.5 percent farmers were using before training while after training programmes 65 percent farmers started to grow high yielding variety of cluster bean crop on their farms. They were following improved practices of cluster bean production like water management(65 %), weeding (61.25%), plant protection measure (28.75), harvesting (26.3 %), nutrient management (16.25 %)and storage (16.25 %) before training programmes. while other farmers were started adopting the improved practices like; water management (16.25%), weeding (21.25%), plant protection measures (35.0%), harvesting (32.5 %) and nutrient management (37.5 %) for cluster bean production after training programmes. Only 11.25 per cent farmers started storage practices for grains after receiving training. It was due to lack of storage structure at farmer's level. Farmers were adopting the production technologies ranging from 11.25 per cent for storage practices to 86.25 per cent for seed treatment. This might be due the fact that increase in knowledge, skills and confidence level of farmers through training programmes on different production technologies like high yielding variety, seed rate and spacing, seed treatment, soil testing, soil treatment, weeding, plant protection measures, irrigation scheduling, fertilizer application and harvesting has helped farmers to improve the yield of cluster bean crop. These findings were supported agreement with Samui et al. (2000), Thakral, and Bhatnagar (2002), Singh (2013), Meena and Gupta (2015) who reported that the adoption levels were found to be increased for weeding, fertilizer application, plant protection measures and harvesting practices of maize, soybean and Garlic after attending the training programmes. This might be due to the fact that they were convinced through training programmes about cluster bean production technology by KVK which were designed to import latest knowledge through work experience.

Table 2. Change in adoption level of the respondents regarding cluster bean production technologies.

Technology	Before Training	After Training	Gain in Knowledge
Field preparation	65(81.25)	80 (100.0)	15(18.75)
Soil testing	00 (0.00)	42 (52.50)	42(52.50)
Soil treatment	00 (0.00)	29(36.25)	29(36.25)
High yielding variety	18 (22.5)	62 (77.5)	52(65.0)
Seed treatment	00(0.00)	69 (86.25)	69(86.25)
Seed rate and	00 (00.0)	50 (62.5)	50(62.50)

<i>Technology</i>	<i>Before Training</i>	<i>After Training</i>	<i>Gain in Knowledge</i>
<i>spacing</i>			
<i>Water Management</i>	52 (65.00)	65 (81.25)	13(16.25)
<i>Weeding</i>	49 (61.25)	66 (82.5)	17(21.25)
<i>Nutrient Management</i>	13 (16.25)	43(53.75)	30(37.50)
<i>Plant protection measures</i>	23(28.75)	51 (63.75)	28(35.0)
<i>Harvesting</i>	21 (26.3)	47(58.75)	26(32.50)
<i>Storage</i>	13 (15.0)	22 (27.5)	9(11.25)

*Figure in parentheses indicates percentage

IV. CONCLUSION

The findings of the study revealed that farmers had gained knowledge about cluster production technology ranging from 13.75 per cent of Field preparation to 70 per cent of used high yielding variety after attending training programmes organized by the KVK. The study showed that none of the farmers were following the improved package of practices of cluster bean production like soil testing, soil treatment, seed treatment, seed rate and spacing before acquiring the training whereas, after attending the training programme they adopted seed treatment (86.25 %), seed rate and spacing(62.5 %), soil testing (52.5 %) and soil treatment(36.25 %). The study also revealed that they started adopting the Cluster bean production technologies ranging from 11.25 per cent for storage practices to 86.25.Percent for Seed treatment after attending training programmes. Thus, it can be concluded that training programme conducted by the KVK is one of the important tool for dissemination of knowledge and technical skills to the farmers. Meanwhile, conductance of short duration trainings is playing an important role in motivating the farmers for adoption of improved agricultural technologies, thus resulting in their increased yields and profits.

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