



RESEARCH PAPER

Relationship between selected characteristics of the respondent greengram growers with extent of adoption of recommended package of practices: A study in Nagaon district of Assam

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Abstract : The study was carried out to see the extent of adoption of recommended package of practices of greengram and its relationship with selected characteristics of the respondent greengram growers. The present study was conducted Nagaon district of Assam. The survey was conducted in the month of February to March, 2016. The study revealed that majority of the respondents (63.33%) exhibited medium level of extent of adoption of recommended package of practices of black gram and greengram. The study revealed that in case of greengram, the cent per cent of the farmers adopted sowing time and land preparation. Recommended seed rate, manual weeding operation and FYM were adopted by 95.83 per cent, 70.83 per cent and 62.50 per cent, respectively. While in case of growing of HYV, 30.83 per cent adopted HYV of greengram. While 14.17 per cent farmers adopted chemical pest control and the adoption of fertilizer application without rhizobium, chemical disease control and spacing were 8.33, 5.83 and 4.17 per cent, respectively. Nobody was found to adopt practices like seed inoculation with *Rhizobium*, fertilizer application with *Rhizobium*, chemical weed control and protection against storage-pests. A positive and significant relationship was found between extent of adoption and size of operational land holding, urban contact, knowledge on pulse crops and annual farm income. On the other hand, age, education level, family size, area under pulse crops, sources of finance, innovation proneness and risk orientation could not establish any significant relationship with the extent of adoption of scientific cultivation of pulse crops.

Key Words : Extent of adoption, Pulse crops, Package of practice

View Point Article : Goswami, Arup Jyoti, Deka, Chandan Kr. and Das, Pabitra Kr. (2017). Relationship between selected characteristics of the respondent greengram growers with extent of adoption of recommended package of practices: A study in Nagaon district of Assam. *Internat. J. agric. Sci.*, 13 (2) : 327-330, DOI:10.15740/HAS/IJAS/13.2/327-330.

Article History : Received : 30.01.2017; Revised : 26.04.2017; Accepted : 10.05.2017

INTRODUCTION

Agriculture is the predominant sector of Indian

economy that meets the basic requirement of food, clothing and shelter of the people and it continues to

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contribute about 26 per cent of the national income and remains a major sector that employs 60 per cent of the labour force in the rural India (Anonymous, 2002).

Among the crops, pulses are the basic ingredient in the diets of a vast majority of the Indian population, as they provide a perfect mix of vegetarian protein component of high biological value when supplemented with cereals. Pulses are not only important sources of proteins but also offer vitamins and minerals, popularly known as “poor man’s meat” and “rich men vegetable”. For an active normal body pulses requirement is about 40 g per day or 14.6 kg per person per year (Rao, 2010).

In Assam, pulses occupy only 4 per cent of the total cropped area. In 2013-14, Assam produced 104.3 thousand ton pulses from the area of 150.1 thousand ha with the productivity of 695 kg/ha. The requirement of pulses in Assam is 2.62 lakh ton and the deficit is 1.63 lakh ton which is 62 per cent. Self-sufficiency in pulses in Assam is at present 38 per cent of the total requirement. But the productivity of the pulse crops in Assam (695 kg/ ha) as well as in Nagaon district (584 kg/ha) is low as compared to the national average (764 kg/ ha) and the state has to import 62 per cent of the pulses requirement from other states of the country.

Green gram is one of the important pulse crops of Assam. In the year 2014-15 from the area of 11285 ha Assam produced 7757 MT with the productivity of 687kg/ha. Nagaon district is one of the important pulse growing district of Assam. Among the pulse crops grown in the district, greengram is one of the important pulse crops of the district. In the year 2014-15, from the area of 903 ha Nagaon district produced 524 MT black gram with average productivity of 581 kg/ha. As the production and productivity of greengram in the district is low, question naturally arises why the production and productivity greengram is low, what are the hidden factors affecting the production and productivity, what are the problems of farmers in cultivating pulse crops. In view of the study, the specific objectives of the present study were :

- To study the extent of adoption of recommended package of practices of greengram by the farmers.
- To identify the variables influencing the extent of adoption of recommended package of practices of greengram.

MATERIAL AND METHODS

The present study was carried out in the purposively

selected Nagaon district of Assam as it is one of the major pulse growing district of Assam (4th rank in area and production). The survey was conducted in the month of February to March, 2016. From Nagaon district, Hojai, Lanka, Raha and Samuguri sub-divisions were selected purposively for the study as greengram is mostly cultivated in these four sub-divisions. Jugijaan development block from Hojai sub-division, Lumding block from Lanka sub-division, Raha block from Raha sub-division and Bajiagaon block from Samuguri sub-division were purposively selected because of higher concentration of families engaged in cultivation of greengram. From each of the selected blocks, two villages and from each village 15 farmers were selected randomly for the study. Data collection was carried out by personal interview technique administering a structured schedule. Statistics like percentage, frequency, mean, standard deviation, ranking, co-efficient of variation and correlation were used for the analysis of data.

RESULTS AND DISCUSSION

The experimental findings obtained from the present study have been discussed in the following heads:

Extent of adoption of recommended package of practices of greengram :

The perusal of data given in Table 1 revealed that out of the fourteen selected practices of greengram, cent per cent of the farmers adopted sowing time and land preparation. Recommended seed rate, manual weeding operation and FYM were adopted by 95.83 per cent, 70.83 per cent and 62.50 per cent, respectively. While in case of growing of HYV, 30.83 per cent adopted HYV of greengram. Few farmers adopted other practices like chemical pest control, fertilizer application without *Rhizobium*, chemical disease control and spacing. Nobody was found to adopt practices like seed inoculation with *Rhizobium*, fertilizer application with *Rhizobium*, chemical weed control and protection against storage-pests.

Level of extent of adoption of scientific practices of greengram :

It is evident from Table 2 that majority of the respondents (63.33%) had medium level of extent of adoption followed by low and high level of extent of adoption *i.e.* 20.83 per cent and 15.84 per cent, respectively. The mean adoption score was found to be

9.08 which reflect that on and average respondents belonged to the medium adoption group.

Variables influencing the extent of adoption of recommended package of practices of greengram:

It was evident from the Table 3 that the size of operational land holding, urban contact and knowledge

on pulse crops had exhibited positive and significant relationship at one per cent level of probability. Similarly, annual farm income exhibited positive and significant relationship with the extent of adoption of scientific cultivation practices of pulse crops at 5 per cent level of probability. Seven attributes *viz.*, age, education level, family size, area under pulse crops, source of finance,

Recommended practices	Frequency	Percentage (%)
Growing of HYV	37	30.83
Sowing time	120	100.00
Land preparation	120	100.00
Seed rate	115	95.83
Seed inoculation with <i>Rhizobium</i>	0	0.00
Spacing	5	4.17
FYM or compost	75	62.50
Fertilizer application (Without <i>Rhizobium</i> Culture)	10	8.33
Fertilizer application (With <i>Rhizobium</i> Culture)	0	0.00
Weeding operation (Manually)	85	70.83
Chemical weed control	0	0.00
Chemical control measure against disease	7	5.83
Chemical control measure against pest	17	14.17
Protection against storage-pests	0	0.00

Level of adoption	Frequency	Percentage (%)	Mean
Low (Upto 7.24)	25	20.83	
Medium (7.25 – 10.87)	76	63.33	9.08
High (Above 10.87)	19	15.84	
Total	120	100	

Sr. No.	Parameters	Correlation co-efficient (r value)
1.	Age	0.147 NS
2.	Education level	0.045 NS
3.	Family size	-0.050 NS
4.	Size of operational land holding	0.392**
5.	Area under pulse crops	0.026 NS
6.	Annual farm income	0.226*
7.	Urban contact	0.313**
8.	Sources of finance	0.107 NS
9.	Innovation proneness	-0.031NS
10.	Risk orientation	0.143 NS
11.	Knowledge on scientific cultivation of greengram	0.488**

* and ** indicate significance of values at P=0.05 and 0.01, respectively

NS = Non-significant

innovation proneness and risk orientation could not establish any significant relationship with the extent of adoption of scientific cultivation practices of pulse crops by the pulse growers. In order to measure the relationship that exists between the extent of adoption of pulse growers with socio-personal, socio-economic, socio-psychological and communication characteristics of the farmers the correlation co-efficient was worked out and was duly tested for its statistical significance and its presented in Table 3.

Conclusion :

The findings on extent of adoption revealed that the majority of the farmers had low level of adoption of recommended cultivation practices. The study revealed that none of the farmers use seed treatment with *Rhizobium* culture which is an important practice for increasing the pulse crop. The number of farmers growing HYV of greengram is also not satisfactory. It suggests that extension agencies should continue their efforts in accelerating the adoption of recommended scientific cultivation practices of greengram through training and demonstration. Demonstration are one of the practical approaches to maximize the production by display of relevant technologies at farmers field under strict supervision of agricultural experts helped to narrow down the extension and technological gaps to a considerable extent (Katare *et al.*, 2011). Dubey *et al.*

(2008) reported that the exposure of KVK training programme significantly changed the attitude of farmers in desired direction. The efficiency and self-confidence of the black gram growers could be enhanced by developing their knowledge, skill and attitude through training. So the concerned agencies should conduct need based training to motivate the pulse growers to go for scientific cultivation. A positive and significant relationship was found between extent of adoption and size of operational land holding, urban contact, knowledge on pulse crops and annual farm income. On the other hand, age, education level, family size, area under pulse crops, sources of finance, innovation proneness and risk orientation could not establish any significant relationship with the extent of adoption of scientific cultivation of pulse crops.

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