

Research Article

# Adoption of recommended package of practices by green gram growers

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**SUMMARY :** The present study was conducted in Parbhani district of Marathwada region of Maharashtra state. Parbhani, Jintur and Selu talukas of Parbhani District were purposively selected for study. 40 respondents from each taluka on the basis of maximum area under green gram. Thus, a total of 120 respondents were selected as sample for this study. The respondents were interviewed with the help of well structured interview schedule. Majority of the green gram were from medium farming experience, middle school level of education, medium land holding, joint family type and medium extension contact, social participation, annual income, economic motivation, risk orientation, sources of information, market orientation with medium knowledge level of recommended package of practices of green gram. It is also observed that education, extension contact, social participation, annual income, economic motivation, risk orientation, sources of information, were positively and significantly related with the level of knowledge of recommended package of practices of green gram growers.

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**KEY WORDS:**

Adoption, Recommended practices, Green gram growers

## BACKGROUND AND OBJECTIVES

Green gram (*Vigna radiata* L.) commonly known as 'Mung', mungbean', or golden gram is one of the most important short duration pulse crop of India, is the third important pulse crop after chickpea and pigeonpea. In Maharashtra green gram occupy an area of 433 thousand hectares during 2011-12 and about 412 thousand hectares during 2012-2013 with a production of about 254 MT during 2011-12 and about 195 MT during 2011-2013. Green gram is protein rich staple food. It contains about 25 per cent protein which is almost three times that of cereals. Green gram also plays important role in sustaining soil fertility by improving soil physical properties and leaves nitrogen effect for succeeding crops. In Agriculture, the contribution made by Agril. Universities not only helped to increase production and productivity of food crops.

It has also helped in achieving socio-

economic upliftment of the Maharashtra state. State Agriculture Universities in Maharashtra have generated number of farm innovations. Some of farmers having knowledge about new practices but they are not adopt at all because of some constraints in adoption so, present study was carried out for judging the adoption level of green gram growers.

**Objectives :**

- To study the profile of respondents.
- To study the adoption level of recommended package of practices of green gram.
- To find out relationship between the profile of respondents with adoption of recommended package of practices of green gram.

## RESOURCES AND METHODS

The present investigation was conducted in Marathwada region of Maharashtra state. For the

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**Table 1 : The profile of green gram growers**

Sr.No.	Categories	Frequency	Per cent
<b>Education</b>			
1.	Illiterate	11	9.16
2.	Primary school level (1 <sup>st</sup> to 4 <sup>th</sup> std.)	15	12.50
3.	Middle school level (5 <sup>th</sup> to 7 <sup>th</sup> std.)	59	49.16
4.	High school level (5 to 10 <sup>th</sup> std.)	24	20.02
5.	College level (above 10 <sup>th</sup> std.)	11	9.16
<b>Land holding</b>			
1.	Marginal farmers (Up to 1 .0)	09	7.50
2.	Small farmers (1.01 to 2.0)	43	35.83
3.	Semi-medium farmers (2.01 to 4.0)	43	35.83
4.	Medium farmers (4.01 to 10)	24	20.00
5.	Big farmers (10.01 and above)	01	0.84
<b>Farming experience</b>			
1.	Low (Up to 8 years)	18	15.00
2.	Medium (9 to 32 years)	78	65.00
3.	High (33 years and above)	24	20.00
<b>Annual income</b>			
1.	Low (Up to Rs 75693)	20	16.66
2.	Medium (Rs75694 to 250439)	81	67.50
3.	High (Above Rs 250439)	19	15.84
<b>Family type</b>			
1.	Joint family	81	67.50
2.	Nuclear family	39	32.50
<b>Economic motivation</b>			
1.	Low (up to 19 )	19	15.84
2.	Medium ( 20 to 23 )	76	63.33
3.	High ( 24 and above )	25	20.83
<b>Risk orientation</b>			
1.	Low (up to 19 )	24	20.00
2.	Medium ( 20 to 23 )	81	67.50
3.	High ( 24 and above )	15	12.50
<b>Extension contact</b>			
1.	Low ( up to 7 )	26	21.67
2.	Medium ( 8 to 12 )	68	56.66
3.	High (13 and above )	26	21.67
<b>Social participation</b>			
1.	Low ( up to 2)	31	25.83
2.	Medium ( 3 and 4)	72	60.00
3.	High ( 5 and above )	17	14.17
<b>Sources of information</b>			
1.	Low (up to 15 )	17	14.17
2.	Medium (16 to 20)	84	70.00
3.	High (21 and above )	19	15.83
<b>Market orientation</b>			
1.	Low (up to 19 )	13	10.83
2.	Medium ( 20 to 23 )	84	70.00
3.	High ( 24 and above )	23	19.17

study three talukas Parbhani, Jintur and Selu talukas were selected from Parbhani district. Four villages from each talukas were selected on the basis of maximum area under green gram. Thus, 12 villages from 3 talukas were selected for this study. From each village 10 green gram growers were selected randomly. Thus a total of 120 respondents were elected as sample for this study.

## OBSERVATIONS AND ANALYSIS

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

### The profile of green gram growers :

The data from Table 1 reveal that 49.16 per cent of them have middle school level of education while, equal percentage (35.83 %) of green gram growers were found in semi-medium land holding and small land holding category, 65 per cent of the green gram growers had experience of farming up to 9 to 32 years. Equal percentage of the respondent (67.50 %) had medium annual income and having joint family. Near about two third of the respondents (63.33 %) were having medium economic motivation, majority (67.50 %) of the green gram growers were in the medium risk orientation category, more than half of the green gram growers (56.66%) had medium extension contact. Sixty per cent of the green gram growers had medium social participation, more two third (70.00 %) of the green gram growers used medium sources of information, 70.00 per cent of the green gram growers had medium market orientation.

### Adoption of the green gram growers about recommended package of practices :

Table 2 that more then seventy percent (72.50 %) of the green gram growers were in the medium level of adoption of recommended package of practices while, 14.17 per cent and 13.33 per cent of them were in the low and high level of adoption, respectively. Similar worked was done by the Bedre (2009) okra growers ; Nichal (2010) on jasmine growers and Ramteke (2001). on pigeonpea practices.

**Table 2 : Distribution of the green gram growers according to adoption categories of recommended package of practices**

Sr. No.	Adoption categories	Frequency	Percentage
1.	Low	17	14.17
2.	Medium	87	72.50
3.	High	16	13.33
	Total	120	100.00

It was observed from Table 3 that green gram growers were having full adoption about some of the important recommended package of practices of green gram. Full adoption of the respondents about the recommended package

of practices like preparation of land (deep ploughing, 2-harrowing) and inter cultivation (1-weeding, 2-hoeing) is 80.00 per cent, threshing by using machines 77.50 per cent, 74.17 per cent of the respondent fully adopt seed rate @ 12 to 15 kg/ha.

Full adoption of the respondents about the recommended package of practices like selection of soil 71.67 per cent, sowing at 3 to 5 cm depth 63.33 per cent, sowing in June third to July first week 58.33 per cent, distance between two rows 30 cm and two plants 10 cm 40.00 per cent, seed treatment with rhizobium 38.33 per cent, use of recommended or improved varieties 33.33 per cent, first picking 30.00 per cent, seed treatment with fungicide 25.00 per cent, use of chemical fertilizers (25:50:0) only 21.67 per cent. 16.67 per cent of the respondent fully adopted chemical fertilizers at 5-10 cm deep and spray the crop with diamethoate to control pest and diseases. Irrigation at flowering or pod filling stage 13.33 per cent, only 10.00 per cent sprayed the crop with sulphur and adopt second picking and 8.33 per cent of respondents fully adopt recommended package of practices of green gram.

It was observed Table 3 that green gram growers were having partial adoption about some of the important recommended package of practices of green gram. Recommended package of practices like distance between two rows 30 cm and two plants 10 cm 46.67 per cent of the

respondents partially adopt. Practices like first picking (45%), irrigation (35.83%), Manuring (30.83%), use of chemical fertilizers 29.17 per cent of the respondent partially adopt this practices. Sowing (3-5 cm deep) 28.33 per cent, chemical fertilizers at 5-10 cm deep 26.67 per cent, 20.00 per cent of the respondent partially adopt practices like preparation of land and spray the crop with sulphur. Borse (2002) worked on the constraints faced in adoption of integrated pest management.

Recommended package of practices like seed rate and selection of soil partially adopt 17.50 per cent of respondent. practice like inter cultivation (13.33%), 11.67 per cent of respondent partially adopt practice like thinning and threshing with machine. Only 8.33 per cent of the respondent partially adopt practice like second picking of green gram. The findings are more or less similar to the findings of Patil (1997); Pawar (2008); Pawar (1996); Ramabasu and Rao (1997) and Sasane (2010).

Table 3 clear cut indicated that green gram growers were having no adoption about some of the important recommended package of practices of green gram. Recommended package of practices like thinning don't adopt (88.33%) of the respondent. practices like second picking of green gram (81.67%), seed treatment with fungicide (75.00%), spray crop with sulphur (73.33%), use of recommended or improved varieties 66.67 per cent of the respondent don't adopt

**Table 3: Distribution of respondents according to their practice wise adoption about recommended package of practices of green gram**

Sr. No.	Recommended practices	Extent of adoption					
		Full adoption		Partial adoption		No adoption	
		No.	%	No.	%	No.	%
1.	Selection of soil	86	71.67	21	17.5	13	10.83
2.	Manuring (15-20 carts / ha)	10	8.33	37	30.83	73	60.83
3.	Preparation of land (deep ploughing, 2-harrowing)	96	80.00	24	20.00	0	0
4.	Use of recommended or improved varieties (BSMR – 145, BM – 4, BM-2003-2, S8)	40	33.33	0	0	80	66.67
5.	Seed rate @ 12 to 15 kg / ha	89	74.17	21	17.50	10	8.333
6.	Sowing in June third to July first week	70	58.33	50	41.67		
7.	Seed treatment with rhizobium (250 g / 10 kg )	46	38.33	0	0	74	61.67
8.	Seed treatment with trichoderma(4),Thyram(2) carbendisam (1 g / kg)	30	25.00	0	0	90	75.00
9.	Distance between two rows 30 cm and two plants 10 cm	48	40.00	56	46.67	16	13.33
10.	Thinning 10-15 days after sowing	0	0	14	11.67	106	88.33
11.	Sowing (3-5cm deep)	76	63.33	34	28.33	10	8.333
12.	Use of chemical fertilizers (25:50:0)	26	21.67	35	29.17	59	49.17
13.	Use of chemical fertilizers at 5-10cm deep	20	16.67	32	26.67	68	56.67
14.	Inter cultivation (1-weeding, 2-hoeing)	96	80.00	16	13.33	6	5.00
15.	Irrigation at proper stage	16	13.33	43	35.83	61	50.83
16.	Spray the crop with diamethoate (10 ml in 10 lit of water )	20	16.67	22	18.33	78	65.00
17.	Spray the crop with sulphur or carbendisam+ diamethoate	12	10.00	24	20.00	88	73.33
18.	First picking (75% pod become dry)	36	30.00	54	45.00	30	25.00
19.	Second picking (8-10 days after first harvesting)	12	10.00	10	8.333	98	81.67
20.	Threshing with machines	93	77.5	14	11.67	18	15.00

recommended package of practices of green gram. Spray the crop with diamethoate 65.00 per cent, seed treatment with rhizobium 61.67 per cent, manuring (60.83%), use of chemical fertilizers at 5-10 cm deep (56.67%) and 50.83 per cent of respondent don't adopt recommended package of practices of green gram. This finding is similar to Mane (2001); Deshmukh (2006); Sasane (2010) and Mane (2012).

### Relationship between profile of green gram growers with the adoption of package of practices :

It is observed from Table 4 education, social participation, annual income, extension contact, risk orientation and sources of information were positively and significantly related with adoption of recommended production technology of green gram. Whereas land holding, economic motivation and market orientation had non-significant relationship with adoption of the farmers about recommended package of practices of green gram growers. Whereas farming experience, family type had no any relationship with adoption of recommended production technology of green gram. Similar work was done by Badale (2007); Kadam (2003) Singh and Bhagwat (2004) and Singh (2007).

**Table 4 : Relationship between profile of green gram growers with adoption**

Sr. No.	Independent variable	Correlation co-efficient ('r')
1.	Education	0.286**
2.	Land holding	0.095 <sup>NS</sup>
3.	Farming experience	-0.019 <sup>NS</sup>
4.	Annual income	0.239*
5.	Family type	-0.102 <sup>NS</sup>
6.	Economic motivation	0.191 <sup>NS</sup>
7.	Risk orientation	0.251*
8.	Extension contact	0.484**
9.	Social participation	0.204*
10.	Sources of information	0.428**
11.	Market orientation	0.060 <sup>NS</sup>

\* and \*\* indicate significance of values at P=0.05 and 0.01 respectively  
NS = Non-significant

### Conclusion :

It is concluded that majority of green gram was complete adoption about selection of soil (71.62 %), manuring (15-20 carts/ha) (8.33), preparation of land (80.00), use of recommended varieties (33.33), appropriate seed rate (58.33), sowing (58.33), seed treatment (rhizobium) (38.33), distance between plant and row (40.00), use of chemical fertilizers (21.67), interculturing (75.00), irrigation (30.33), plant protection (use diamethoate) (16.67) and 30.00 per cent farmers was complete adoption about harvesting.

The data from the Table 1 revealed that majority of green

gram was complete adoption about selection of soil (71.62 %), manuring (15-20 carts / ha) (8.33), preparation of land (80.00), use of recommended varieties (33.33), appropriate seed rate (58.33), sowing (58.33), seed treatment (rhizobium) (74.17), distance between plant and row (40.00), use of chemical fertilizers (21.67), interculturing (75.00), irrigation (30.33), plant protection (use diamethoate) (16.67) and 30.00 per cent farmers was complete adoption about harvesting. Education, social participation, annual income, extension contact, risk orientation and sources of information were positively and significantly related with adoption of recommended production technology of green gram. Whereas land holding, economic motivation and market orientation had non-significant relationship with adoption of the farmers about recommended package of practices of green gram growers.

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