



Study on problems confronted in cultivation of green gram

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Abstract : Pulses serves as an excellent forage and grain concentrates in the feed of the large cattle population of the country and some of them are the excellent green manuring crops adding much needed for humus formation and plant nutrients to the soil. Present investigation was undertaken with an objective, to study the problems confronted in *Kharif* green gram cultivation practices for selected respondents. The present study was conducted in the Parbhani district of Marathwada region of Maharashtra state as is has considerable area under green gram crop. On the area basis, Parbhani and Selu talukas were purposively selected. Parbhani and Selu tahsils ranks first and second (16000 ha and 15000 ha. area under green gram cultivation, respectively) among nine tahsils of Parbhani district. Pre-structured and pre-tested questionnaire was developed for data collection. Personal interview technique was used for collection of data. Data were analysed by SPSS software. It can be concluded that scientific preparation of FYM or compost was the problem expressed by 63.33 per cent of the respondents whereas 53.33 per cent of them expressed that FYM or compost was not available on cash in village itself. Whereas 34.66 per cent of them opined that timely sowing was not possible due to erratic nature of rains. Similarly 26.66 per cent of them expressed the problems of high cost of seed. Lack of proper knowledge about use of chemicals and lack of confidence about benefits of seed treatment were the problems faced by 27.33 per cent and 24.00 per cent of them, respectively. While 46.66 per cent of them faced problems of fertilizers was risky due to uneven distribution of rains. Very meagre percentage of respondents *i.e.* 6.00 per cent had expressed the difficulty of non availability of chemicals at nearby village. 90.00 per cent respondents expressed that timely harvesting was difficult due to continuous rains at the time of harvesting. Whereas 73.33 per cent of them faced problem of complete loss of crop due to continuous rains during harvesting. 93.33 per cent of them faced problems of lack of training programmes. From the regression analysis it was seen that out of nine variables, education, annual income, source of information and knowledge had significant contribution to the problems confronted in green gram cultivation.

Key Words : Problem confronted, Green gram cultivation

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INTRODUCTION

India occupies the largest area in the world under pulse crops. The important pulse crops in India are bengal gram, green gram, black gram etc. Pulses are grain legume crops grown universally in the country as they are chief source of protein in vegetarian diet of Indian population. Pulses contain 17.25 per cent protein and are rich source of energy, minerals and some vitamins such as vit. B. (Srilakshmi, 2003).

Pulses serves as an excellent forage and grain concentrates in the feed of the large cattle population of the country and some of them are the excellent green manuring

crops adding much needed for humus formation and plant nutrients to the soil. Under poor soil fertility conditions, pulses are able to do better because of their ability to fix atmospheric nitrogen through root nodule bacteria (Ghugre, 1993).

Hajare (1998) reported that the erratic distribution of rainfall exposed green gram crop either to moisture stress or to excessive wet condition at the time of harvesting during *Kharif* season responsible for low and poor quality yield of green gram. This irregular behavior of rainfall posed challenge for cultivation of green gram during *Kharif* season. This creates most uncertainty in production. There may be late

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sowing due to late monsoon or sometimes due to complete dry spell many times farmers could not compensate cost of cultivation also.

Keeping in view above facts, the present investigation was undertaken with an objective, to study the problems confronted in *Kharif* green gram cultivation practices for selected respondents.

MATERIALS AND METHODS

The present study was conducted in the Parbhani district of Marathwada region of Maharashtra state as it has considerable area under green gram crop. On the area basis, Parbhani and Selu talukas were purposively selected. Parbhani and Selu tahsils ranks first and second (16000 ha and 15000 ha. area under green gram cultivation, respectively) among nine tahsils of Parbhani district. A list of villages having maximum area under green gram cultivation was obtained from the office of one window system of respective tahsils. Five villages from each of tahsil were selected randomly. List of green gram cultivators was obtained from the record of Talathi of respective villages. Fifteen respondents from each village were selected by using nine number method of random sampling. Thus total sample comprised of 150 respondents. Pre-structured and pre-tested questionnaire was developed for data collection. Personal interview technique was used for collection of data. Data were analysed by SPSS software.

RESULTS AND DISCUSSION

During course of investigation problems confronted by green gram growers were studied. The problems expressed by them are as follows.

Table 1 reveals that lack of knowledge about scientific preparation of FYM or compost was the problem expressed by 63.33 per cent of the respondents whereas 53.33 per cent of them expressed that FYM or compost was not available on cash in village itself while 32.00 per cent of them faced the problem of high cost of FYM or compost. These were the problems confronted by green gram growers in application of FYM or compost.

Table 1 : Problems confronted in use of FYM/compost

Sr. No.	Problems confronted	Frequency	Percentage
1.	Lack of knowledge about scientific preparation of FYM/compost	95	63.33
2.	Non-availability of FYM on cash	80	53.33
3.	High cost of FYM/compost	48	32.00

From Table 2 it is clear that 41.13 per cent of the respondents expressed the problems of lack of knowledge about recommended varieties. Whereas 34.66 per cent of them

opined that timely sowing was not possible due to erratic nature of rains. Similarly 26.66 per cent of them expressed the problems of high cost of seed. While very meagre percentage *i.e.* 4.00 of them faced the problem of non availability of seed in proper time and in sufficient quantity.

Table 2 : Situational problems in seeds and sowing

Sr. No.	Problems confronted	Frequency	Percentage
1.	Timely sowing is not possible due to erratic nature of rainfall	52	34.66
2.	Lack of knowledge about recommended varieties	62	41.13
3.	Non-availability of seed in time and in sufficient quantity	6	4.00
4.	High cost of seed	40	26.66

It is apparent from Table 3 that 86.66 per cent and 64.00 per cent of the respondents expressed the problems of high cost of chemicals and lack of knowledge about seed treatment, respectively. Whereas lack of proper knowledge about use of chemicals and lack of confidence about benefits of seed treatment were the problems faced by 27.33 per cent and 24.00 per cent of them, respectively.

Table 3 : Problems confronted in seed treatment by green gram growers

Sr. No.	Problems confronted	Frequency	Percentage
1.	Lack of knowledge about seed treatment	96	64.00
2.	Lack of confidence about benefits of seed treatment	36	24.00
3.	Non-availability of chemicals at proper time	11	7.33
4.	High cost of chemicals	130	86.66
5.	Lack of proper knowledge about use of chemicals	41	27.33

It is observed from Table 4 that 48.00 per cent of green gram growers were expressed the problem of high cost of fertilizers. While 46.66 per cent of them faced problems that use of fertilizers was risky due to uneven distribution of rains. Whereas 30.00 per cent of them expressed the problems use of lack of knowledge about recommended fertilizer dose, while 10.00 per cent of them faced the difficulty of non-availability of fertilizers at proper time.

Table 5 indicates that high cost of chemicals, lack of knowledge about plant protection measures and handling of sprayers involves risk were the problems expressed by 76.66 per cent, 30.66 per cent and 30.00 per cent of the respondents, respectively. Whereas 28.00 per cent of them expressed that

Table 4 : Problems confronted in use of chemical fertilizers

Sr. No.	Problems confronted	Frequency	Percentage
1.	Lack of knowledge about recommended fertilizer dose	45	30.00
2.	Non availability of fertilizers at proper time	15	10.00
3.	High cost of fertilizers	72	48.00
4.	Use of fertilizers is risky due to rainfall	70	46.66

Table 5 : Problems confronted in plant protection measures

Sr. No.	Problems confronted	Frequency	Percentage
1.	Lack of knowledge about plant protection measures.	46	30.66
2.	Non-availability of chemicals at nearby village	9	6.00
3.	High cost of chemicals	115	76.66
4.	Non-availability of sprayers and dusters when needed.	42	28.00
5.	Handling of sprayers involves risk	45	30.00

sprayers and dusters were not available at proper time. While very meagre percentage of respondents *i.e.* 6.00 per cent had expressed the difficulty of non availability of chemicals at nearby village.

Table 6 reveals that majority of the respondents (90.00 per cent) expressed that timely harvesting was difficult due to continuous rains at the time of harvesting. Whereas 76.66 per cent of them faced problem of complete loss of crop due to continuous rains during harvesting. While 73.33 per cent of them opined the difficulty of timely unavailability of labours for harvesting.

Table 6 : Problems confronted in harvesting and threshing

Sr. No.	Problems confronted	Frequency	Percentage
1.	Timely harvesting is difficult	135	90.00
2.	Complete loss of crop due to continuous rainfall during harvesting period	110	73.33
3.	Timely unavailability of labours	115	76.66

It is observed from Table 7 that, majority of the green gram growers *i.e.* 96.66 per cent expressed problem of low prices to produce in market. Whereas 93.33 per cent of them faced problems of lack of training programmes. While similar percentages of them (*i.e.* 83.33 per cent) were having problems

Table 7 : Economic and problems faced by green gram growers

Sr. No.	Problems confronted	Frequency	Percentage
1.	Low prices to produce in market	145	96.66
2.	High wages of labourers	125	83.33
3.	Lack of training programmes	140	93.33
4.	Lack of demonstrations	125	83.33

of high wages of labourers and lack of demonstrations.

The respondents were categorized into three groups *i.e.* low, medium and high on extent of problems confronted with the help of mean standard deviation. The data in this respect are given in Table 8.

Table 8 : Distribution of the respondents according to extent of problems confronted in cultivation green gram crop

Sr. No.	Extent of problems	Frequency	Percentage
1.	Low Medium	24	16.00
2.	Medium	101	67.33
3.	High	25	16.67

Table 8 shows that majority of the respondents (67.33 per cent) had faced problems to medium extent, whereas 16.67 per cent and 16.00 per cent of them fronted problems to high and low extent, respectively.

Perusal of Table 9 reveals that out of nine independent variables six variables *viz.*, education, land holding, annual income, source of information, economic motivation and knowledge had negative and significant relationship at 0.01 level of probability while social participation had negative and significant relationship at 0.05 level of probability. While age and risk preference rate showed negatively non significant relationship with problems confronted in cultivation of green gram.

Table 9 : Relationship of personal, socio-economic and psychological characters of green gram growers with problems confronted in cultivation of green gram

Sr. No.	Variables	Co-efficient correlation 'r' value
1.	Age	-0.066
2.	Education	-0.545**
3.	Land holding	-0.380**
4.	Annual income	-0.627**
5.	Social participation	-0.175*
6.	Source of information	-0.650**
7.	Economic motivation	-0.260**
8.	Risk preference	-0.009
9.	Knowledge	-0.420**

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

Table 10 shows that the value of $R^2 = 0.659$ indicated that 65.90 per cent of variation in the problems confronted in green gram cultivation was explained through multiple regression equation. About 35.10 per cent variation was unexplained which may be due to extraneous factors. From the regression analysis it was seen that out of nine variables, education, annual income, source of information and knowledge had significant contribution to the problems confronted in green gram cultivation. Other independent variables namely age, social participation, economic motivation and risk preference did not show any relationship with problems confronted in cultivation of green gram.

Table 10 : Multiple regression analysis of problems confronted in cultivation of green gram

Sr. No.	Variables	Regression co-efficient 'r' value	SE	t value
1.	I Age	-0.0276	-0.0169	-1.629
2.	Education	-0.5836	-0.195	-2.978**
3.	Land holding	0.8183	0.352	2.320*
4.	Annual income	-0.0807	0.0129	-6.229**
5.	Social participation	-0.208	0.258	0.808
6.	Source of information	-0.362	0.0702	-5.159**
7.	Economic motivation	-0.122	0.0725	-1.682
8.	Risk preference	0.0589	0.0549	1.072
9.	Knowledge	-0.479	0.137	-3.483**

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

Conclusion:

It can be concluded that scientific preparation of FYM or compost was the problem expressed by 63.33 per cent of the respondents whereas 53.33 per cent of them expressed

that FYM or compost was lot available on cash in village itself. Whereas 34.66 per cent of them opined that timely sowing was not possible due to erratic nature of rains. Similarly 26.66 per cent of them expressed the problems of high cost of seed. Lack of proper knowledge about use of chemicals and lack of confidence about benefits of seed treatment were the problems faced by 27.33 per cent and 24.00 per cent of them, respectively. While 46.66 per cent of them faced problems of fertilizers was risky due to uneven distribution of rains. Very meager percentage of respondents *i.e.* 6.00 per cent had expressed the difficulty of non availability of chemicals at nearby village. The respondents (90.00 per cent) expressed that timely harvesting was difficult due to continuous rains at the time of harvesting. Whereas 76.66 per cent of them faced problem of complete loss of crop due to continuous rains during harvesting. 93.33 per cent of them faced problems of lack of training programmes. From the regression analysis it was seen that out of nine variables, education, annual income, source of information and knowledge had significant contribution to the problems confronted in green gram cultivation.

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