A Study on Adoption of Kharif Groundnut Production Technology

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ABSTRACT

There exists a large gap between technological development and its full application in the field of common farmers. Study on frontline demonstrations showed that there exits a huge untapped potential yield under real farming situations. The present research was conceived to know the actual level of adoption of Groundnut production technologies at farmers' level. The results of this study indicated that an average level of adoption of improved groundnut production technologies was 61.14 per cent. The practices like tillage, improved varieties, harvesting, gap filling and supplementary irrigation were highly adopted. The knowledge, yield, size of land holding and annual income were significantly correlated with level of adoption.

Introduction

Appropriate production technologies suitable for different agro-ecological situations have been generated by the agricultural scientists to counter new challenges faced by the farmers. In spite of efforts made by the various development and extension agencies, it is realized that either the technologies have not reached to the farmers' field or farmers are reluctant to use these technologies. Still there exists a large gap between technological development and its full application in the field of common farmers.

Groundnut, a major oilseed crop of Saurashtra region of Gujarat State, contributes for about 40 per cent of total oilseed production of the country. Study on frontline demonstrations showed that there exits a huge untapped potential yield under real farming situations. Under the circumstances, with a view to know the actual level of adoption of Groundnut production technologies at farmers' level, it was planned to conduct a study with the following specific objectives:

1. To develop an adoption index of groundnut production technology.

2. To study the extent of adoption about groundnut production technology.

3. To ascertain the relationship between dependent and selected independent variables.

Methodology

Kharif groundnut crop was selected for the study. The age, education, size of land holding, annual income, extension participation, risk preference, yield and knowledge were the independent variables selected for the study. The study was conducted in 24 villages of 12 taluka of South Saurashtra agro-climatic zone of

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Table 1:   Distribution of respondents according to their level of adoption of groundnut production technology.   n=256

Sr. No.	Level of Adoption	Frequency	Percentage
1	Low	40	15.63
2	Medium	175	68.35
3	High	41	16.02
	X = 61.14 S.D. = 14.16		

Gujarat State during 1999. By proportionate random sampling method a total of 256 respondents were selected. Data were collected by personal interview method with the help of specially designed schedule.

To develop an adoption index initially the groundnut production technologies were divided in to 17 different practices by consulting the experts in the field as well as review of literature. The list of these 17 practices was then administered to experts to assign the weightage to each practice making a total of 100. The opinion of 80 experts who responded our effort was considered for the development of an adoption index. The practice wise weightage was determined on the basis of mean response of experts and all the 17 practices duly weighted by experts constituted the index.

Results and Discussion
A. Level of adoption

The data pertaining to level of adoption of groundnut production technologies are furnished in Table 1. The data clearly indicated that majority of the respondents (68.35%) possessed medium level of adoption of groundnut production technologies followed by high (16.02 %) and low (15.63 %) adoption of respective technology. However, on an average the

adoption of recommended groundnut production technologies was 61.14 per cent.

B. Practice wise adoption

Practice wise extent of adoption was also studied and the results are presented in Table 2.

The data presented in Table 2 indicated that the level of adoption was found very high in the practices like tillage 95.2 per cent (first rank), improved varieties 87.51 per cent (second rank), harvesting (ranked third), gap filling (ranked fourth), supplementary irrigation (ranked fifth). This indicated that the farmers are not only aware about these technologies but they do reap the benefits of that.

Though the level of adoption of the practice like grading and storage ranked seventh, most of the farmers are doing grading only. In case of weed management (ranked thirteenth), all the farmers were doing hand weeding only.

C. Relationship with independent variables

An attempt was also made to find out the relationship between the adoption (dependent variable) and selected independent variables (Table 3).

It is clear from the result of this study that variables, namely knowledge and yield

Table 2: Extent of adoption of different practices of groundnut cultivation practices

Sr. No.	Name of the practice	Weighted score	Mean score obtained	Per cent	Rank
1	Soil testing	3.21	0.47	14.64	XVII
2	Tillage	3.33	3.17	95.20	I
3	Improved variety	13.37	11.70	87.51	II
4	Seed treatment	5.29	3.16	59.74	XI
5	Seed rate	4.86	3.00	61.72	X
6	Sowing time	7.76	4.92	63.40	IX
7	Sowing distance	4.44	2.00	45.05	XIV
8	Sowing method	3.71	2.44	65.77	VIII
9	Organic manure	7.93	5.47	68.98	VI
10	Chemical fertilizer	7.37	1.53	20.76	XVI
11	Gap filling	3.20	2.57	80.31	IV
12	Interculturing	4.97	2.92	58.75	XII
13	Weed management	6.30	3.13	49.68	XIII
14	Supplementary irrigation	9.04	6.67	73.78	V
15	Plant protection	9.07	3.19	35.16	XV
16	Harvesting	3.62	3.13	86.46	III
17	Grading and storage	2.53	1.67	66.01	VII

were positive and highly significant relationship with the adoption level of the respondents. This may be due to the fact that the higher knowledge of production technologies leads to high adoption of the technology which in turn resulted in higher yield of groundnut.

The size of land holding and level of income were also significantly correlated with level of adoption of groundnut production technology. The reason behind this might be that the size of land holding and income are the main factors contributing to economic betterment of the farmers. The better economic conditions allow them to try and evaluate the technology at their farm which ultimately leads to adoption of the technology.

Table 3: Correlation of independent variables with the level of adoption of groundnut production technologies

Sr. No.	Independent variables	'r' value
1	Age	0.001 NS
2	Level of Education	0.048 NS
3	Level of Income	0.257 *
4	Size of land holding	0.294 *
5	Extension participation	0.191 NS
6	Risk preference	0.007 NS
7	Knowledge level	0.686 **
8	Yield level	0.627 **

NS = Non-significant
* = Significant at 0.05 level

The age, education, extension participation and risk preference were not significantly correlated with the adoption of groundnut production technology. The reason might be that groundnut is the inherited crop and being cultivated since many generations in the area of the study; hence the farmers possess enough experience irrespective of their age and education. The results observed in case of extension participation and risk preference might be due to the fact that the area under study is rain fed. The rainfall is erratic, scanty and uncertain and frequent drought is common.

Under such situations the risk is inevitable, which developed risk bearing capacities among respondents.

Conclusion and Implications

It is evident from the results of this study that on an average the adoption of improved groundnut production technologies was 61.14 per cent. The level of adoption of practices like tillage, improved varieties, harvesting, gap filling and supplementary irrigation was quite high. The knowledge, yield, size of land holding and annual income were significantly correlated with their level of adoption.