

## Knowledge and Adoption of Weed Management Practices in Rabi Crops

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### ABSTRACT

*The present study was undertaken in Deesa, Kankrej, Dhanera and Dantiwada talukas of Banaskantha District of Gujarat state having large area under cultivation of potato, wheat and cumin crops. From selected talukas the list of villages was prepared and five villages from each taluka were selected on the basis of highest area under potato, cumin and wheat crop. From selected villages, the list of farmers was prepared village wise and six farmers from each villages were selected by random sampling technique. Total 120 respondents were selected for the study. The data were collected by personal interview. Based on the finding of the study, majority of the respondents were having medium level of knowledge, followed by low level of knowledge and high level of adoption. While in case of adoption, that majority of the respondents had medium level of adoption, followed by low level of adoption and high level of adoption. Among various personal, socio-economic, communicational, situational and psychological characteristics of the respondents, education, size of family, land holding, annual income, herd size and methods of sowing had no relationship with extent of adoption, where as age, caste, social participation, occupation, irrigation method, previous rabi crop, scientific orientation and risk preference were negatively significant with their extent of adoption. While only extension contact was positively significant relationship with their extent of adoption of weed management practices, where as only knowledge level was positively highly significant relationship with their extent of adoption of weed management practices.*

**Keywords:** Knowledge, Adoption, Weed management

### INTRODUCTION

Weeds accounts for 45 percent, insects 30 percent, diseases 20 percent and other pests 5 percent losses due to four groups of agro-climatic pests. Weeds incur a loss of 31.50 per cent in food grain crops. Weed competition mostly depends upon certain factors like; type of weed species and its duration, competing ability of crop plant, Severity of infestation and especially soil moisture and climate condition for its favorable growth. Weed competes successfully with crops for water, light, space and nutrients which affect growing of crop plants. Weed losses are generally of a subtle nature therefore often are not cleared to us. But, if weed are not controlled, yield losses from 20 to 100 per cent as an average of 40 to 60 per cent of potential crop yield are not uncommon, complete crop loss is possible in poorly managed

farms. There are about 2500 plant species in the world out of which 2500 all considered as weed in agriculture and non-agriculture system. (Gautam, 1994).

Wheat, Cumin and Potato are the major crop grown in rabi season in the Banaskantha District of the Gujarat state. Weed infestation in these crops play important role in loss of yield. The knowledge regarding weed management practice in the rabi crops and adoption of weed management practices among the farmers is very important for minimize losses due to weed. Therefore the present study was planned with following objectives.

### OBJECTIVES

- 1 To ascertain the knowledge of the respondents regarding the recommended weed management

practices

- 2 To determine the extent of adoption of recommended weed management practices by the respondents
- 3 To find out the relationship between personal, socio-economic, communication, situational and psychological characteristics of the respondents with their extent of adoption of recommended weed management practices.

**METHODOLOGY**

The present study was undertaken in Banaskantha district of Gujarat state. Among the twelve talukas of Banaskantha District, four taluka viz., Deesa, Kankrej, Dhanera and Dantiwada were selected purposively as those taluka having large area under cultivation of potato, wheat and cumin crops. From selected talukas the list of villages was prepared and five villages from each taluka were selected on the basis of highest area under potato, cumin and wheat crop. Thus, total 20 villages were selected for the study. From selected villages, the list of farmers was prepared village wise and six farmers from each villages were selected by random sampling technique. Total 120 respondents were selected for the study. Ex-post facto research design was used for the study.

To measure the knowledge of the respondents about recommended weed management practices, a teacher made test was developed. The test consisted of items, the items were enlisted based on recommended weed management practices. The score one was assigned to correct answer and zero to incorrect answer. The knowledge index was calculated. The respondents were grouped into three levels of knowledge on the basis of their knowledge index viz., low, medium and high. The extent of adoption is the degree to which a person actually adopts practice on full scale using the procedure suggested by Sengupta (1967). The adoption quotient for each respondent was calculated to measure his adoption of recommended weed management practices. The respondents were classified in to three categories, low, medium and high level of adoption.

**RESULTS AND DISCISSION**

An attempt has also been made to assess the knowledge level of respondents about the recommended weed management practices are presented in Table.1

**Table 1 : Distributions of the respondents according to their level of knowledge** n=120

Sr. No	Category	Number	Frequency
1	Low (Up to 31.00 score)	24	20.00
2	Medium (31.00 to 52.00 score)	73	60.83
3	High (above 52.00 score)	23	19.67

Mean=41.71

S.D=10.55

The data presented in Table.1 depicted that majority of the respondents (60.83 per cent) were having medium level of knowledge, followed by low level of knowledge (20.00 per cent) and high level of adoption (19.67 per cent) respectively.

The majority of the respondents having medium level of knowledge might be due to their interaction with personnel of GAU, Depts. of Agril/Research centre. Similar finding were reported by Patil etal (1999) and Pandya (2004).

The “adoption process” is the mental process through which an individual passes from first hearing about an innovation to its final adoption while, “adoption” is a decision to continue full use of innovation. The data for the adoption of recommended weed management practices are presented in Table: 2.

**Table 2: Distributions of the respondents according to their level of adoption** n=120

Sr. No	Category	Number	Frequency
1	Low (Up to 30.00 score)	23	19.18
2	Medium (31.00 to 48.00 score)	77	64.16
3	High (above 48.00 score)	20	16.66

Mean = 39.15

S.D = 9.090

The data presented in Table.2 indicates that majority (64.16 per cent) of the respondents had medium level of adoption, followed by low level of adoption (19.18 per cent) and high level of adoption (16.66 per cent) respectively.

The probable reason might be due to medium level of adoption are respondents having higher education, good extension contact and middle to young age. Similar finding were reported by vasava (1997) and Pandya (2004).

The adoption of recommended technology largely depends on personal, socio-economic, communicational, situational and psychological characteristics of the respondents, which play an important role in decision making

process. The relationship between selected characteristics of the respondents with extent of adoption are presented in Table.3

**Table 3 : Relationships Between Selected Characteristics Of Respondents With Their Extent Of Adoption Of Recommended Weed Management Practices**

n=120

Sr. No.	Variables	Correlation coefficient ('r')
1	Age	-0.1832*
2	Education	0.1471 <sup>NS</sup>
3	Caste	-0.0638*
4	Size of family	0.0049 <sup>NS</sup>
5	Social participation	0.0565*
6	Occupation	0.0409*
7	Land holding	0.0169 <sup>NS</sup>
8	Annual income	-0.0613 <sup>NS</sup>
9	Herd size	0.0662 <sup>NS</sup>
10	Extension contact	0.1874*
11	Irrigation method	-0.0642*
12	Previous rabi crop	-0.1549*
13	Methods of sowing	0.1125 <sup>NS</sup>
14	Scientific orientation	-0.1505*
15	Risk preference	-0.0621*
16	Knowledge level	0.2200**

\* Significant at 0.05 level probability

\*\* significant at 0.01 level probability

NS = Non significant

The data presented in Table.3 indicates that, among various personal, socio-economic, communicational, situational and psychological characteristics of the respondents, education (0.1471), size of family (0.0049), land holding (0.0169), annual income (0.0613), herd size (0.0662) and methods of sowing (0.1125) had no relationship with extent of adoption, where as age (-0.1832), caste (-0.0638), social participation (-0.0565), occupation (-0.0409), irrigation method (-0.0642), previous rabi crop (-0.1549), scientific orientation (-0.1505) and risk preference (-0.0621) were negatively significant with their extent of adoption. While only extension contact (0.1874) was positively

significant relationship with their extent of adoption of weed management practices. Where as only knowledge level (0.2200) was positively highly significant relationship with their extent of adoption of weed management practices.

### CONCLUSION

Majority of the respondents were having medium level of knowledge, followed by low level of knowledge and high level of adoption. In case of adoption, majority of the respondents had medium level of adoption, followed by low level of adoption and high level of adoption. Among various personal, socio-economic, communicational, situational and psychological characteristics of the respondents, education, size of family, land holding, annual income, herd size and methods of sowing had no relationship with extent of adoption, where as age, caste, social participation, occupation, irrigation method, previous rabi crop, scientific orientation and risk preference were negatively significant with their extent of adoption. While only extension contact was positively significant relationship with their extent of adoption of weed management practices, where as only knowledge level was positively highly significant relationship with their extent of adoption of weed management practices.

### REFERENCES

- Pandya.S.P.(2004). Extent of adoption of date palm cultivation technology by the farmers of Kachchh District of Gujarat State. M.Sc.(Agri.) Thesis(Unpublished), Submitted to Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar.
- Sengupta, T. (1967). A simple adoption scale used for farmers for high yielding varieties programme in rice. *Indian J.Ext.Edn.* 3:107-115.
- Vasava,N.M (1997). To study the knowledge and adoption of recommended cultivation practices of mango and tomato among the farmers of tribal and non-tribal areas of valsad district of South Gujarat. M.Sc. (Agri.) Thesis(Unpublished), Submitted to Gujarat Agricultural University, Anand.