



Research Article

KNOWLEDGE LEVEL OF COTTON GROWERS ABOUT CRISIS MANAGEMENT FOR COTTON CULTIVATION

GOHIL G.R.¹, NAKUM P.B.², KALSARIYA B.N.³ AND PATEL R.I..⁴

^{1,4}Office of Directorate of Extension Education, College of Agriculture, Junagadh Agricultural University, Junagadh, Gujarat 362001

^{2,3}Department of Agricultural Extension, College of Agriculture, Junagadh Agricultural University, Junagadh, Gujarat 362001

*Corresponding Author: Email-grgohil@jau.in

Received: April 10, 2016; Revised: April 21, 2016; Accepted: April 22, 2016; Published: July 21, 2016

Abstract- India has needed to increase production and area of important crops to secure the fiber production as well as fiber security for the people. Despite, technological advancement, there is a wide gap exists between the know-how already attained and their application in the farmers' fields. The study was conducted in South Saurashtra Agro-Climatic Zone and district of Gujarat state on total sample size of 200 respondents of cotton cultivation, which were selected randomly from two talukas viz; Rajula of Amreli district and Mahuva of Bhavnagar district for the study. Majority of the cotton growers (80.50 per cent) had medium level of knowledge about crisis management practices; whereas 12.00 per cent and 7.50 per cent cotton growers had low and high level of knowledge about crisis management practices, respectively.

Keywords- Cotton grower, Knowledge, Crisis management

Citation: Gohil G.R., et al., (2016) Knowledge Level of Cotton Growers about Crisis Management for Cotton Cultivation. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 8, Issue 25, pp.-1503-1505.

Copyright: Copyright©2016 Gohil G.R., et al., This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Academic Editor / Reviewer: P.R. Kanani

Introduction

Cotton is one of the most important commercial fiber crops of India. Besides food and housing, clothing is one of the primary need of the human being. Cotton had provided most versatile and till today, it continues to rule as the "King of Apparel Fiber". It is playing a key role in economic, political and social affairs of the world. Due to its importance in agricultural as well as industrial economy, it is also called as "White gold". Cotton is cultivated in about 60 countries of the world. India grows all the four species of cultivated cotton. The states of Punjab, Haryana and Rajasthan, Cotton is predominantly cultivated under dry land conditions throughout the country. Cotton plays a major role in India's economy. Crisis management is considered as kind of activities carries out by the cotton growers to survive against various crisis as and when faced by them during their earlier period or existing span of experience of cotton cultivation. Cotton is also cash crop and there are sufficient scopes to generate higher income as compare to other crops. However, it is experienced that if proper care is not taken to manage various crisis involved in the cultivation of cotton crop in terms of natural problems of insects-pests, disease and other input related problems, there are chances to face miserable situations. The adoption of crisis management practices is understood as very important in the cultivation of cotton crops for higher yield as well as good quality cotton. It is believable that to motivate farmers to adopt crisis management practices positivism of farmers in terms of their skill and knowledge towards crisis management practices for sustainable agriculture development is very much essential. The final decision of farmers to their knowledge of new practice and attitude. Therefore, it was felt necessary to study knowledge of farmers regarding crisis management for for sustainable agriculture.

Materials and Methods

In order to achieve the objectives, the study was undertaken particularly in cotton-grown area in South Saurashtra agro-Climatic Zone of Gujarat State. The present study was carried out in Amreli and Bhavnagar district in South Saurashtra Agro-Climatic Zone of Gujarat State. A random sampling procedure was followed for the selection of the respondents and accordingly 20 cotton growers from each of the selected villages were selected as respondents. Ultimately, a total of 200 cotton growers were selected for the study.

The respondents were grouped into three levels of knowledge viz; Low level of knowledge (Below Mean-SD), Medium level of knowledge (Between Mean± SD) and High level of knowledge Above (Mean + SD) by using mean and standard deviation.

Results and Discussion

Systematic knowledge, planning and adoption of some of the important crisis management practices can help farmers to find out suitable ways to survive during situations of crisis. The crisis management is the ability of the farmers to adopt certain practices to stand against the crisis induced by concentrated period of climate, weather and other men created factors.

The low level of awareness and adoption of important crisis management practices in cotton can be resulted into low level of production. It is therefore, to study the crisis management adopted by the cotton growers in cotton cultivation was thought essential to understand existing pattern of adoption of crisis management practices to manage high risk during crisis in cotton cultivation. Such information is essential in planning and implementing the various developmental efforts made by different agencies involved in the development of cotton cultivation.

Practice wise knowledge of crisis management practices by cotton growers.

The cotton growers had knowledge about the crisis management practices related to seed parameters were: measures to be safe from mixed seeds (93.40 per cent),

to be safe from less productive varieties (93.16 per cent), to prevent low germination rate (92.20 per cent), to avail sufficient quantity and low cost of seeds (91.00 per cent) and to be safe from duplicate seeds (90.00 per cent).

Table-1 Distribution of Cotton Growers According To Their Level of Knowledge about Crisis Management Practices**N=200**

Sr. No.	Practices	Expert score	Knowledge Score	Per cent
1. Seeds:				91.61
1.	To be safe from duplicate seeds.	3.85	3.45	89.61
2.	To be safe from mixed seeds.	2.12	1.98	93.40
3.	To prevent low germination rate.	2.18	2.01	92.20
4.	To avail sufficient and low cost of seeds.	2.32	2.09	90.09
5.	To be safe from less production of varieties.	1.90	1.77	93.16
2. soil preparation:				82.37
6.	For deep ploughing in summer before cotton season	1.77	1.67	94.35
7.	To be safe from preparation in problematic condition of soil during land preparation.	2.62	2.18	83.21
8.	To be safe from soil erosion.	0.47	0.38	80.85
9.	To be safe against the fungal diseases in soil.	2.72	1.81	66.54
10.	For providing the required nutrients for crop growth.	1.83	1.59	86.89
3. Weather condition:				86.33
11.	An early onset of monsoon.	1.73	1.59	91.91
12.	Timely onset of monsoon but immediate dry spell after sowing.	1.63	1.51	92.64
13.	Timely onset of monsoon but dry spell and mid drought during crop period.	2.18	1.94	88.99
14.	No rain during late spell of rainy season.	2.40	2.20	91.67
15.	Late onset of monsoon.	1.60	1.40	87.50
16.	Low or high temperature situation during crop period.	1.13	0.82	72.57
17.	To be safe from high wind velocity and cyclone situation.	1.62	1.28	79.01
4. Sowing:				81.48
18.	To follow appropriate distance between two lines and two plants.	1.90	1.74	91.58
19.	To follow proper depth sowing.	1.05	0.94	89.52
20.	To follow sowing at proper moisture condition.	1.20	0.99	82.50
21.	To adopt recommended seed rate.	1.90	1.71	90.00
22.	To adopt recommended seed treatment at sowing time.	1.90	0.78	41.05
23.	To fill up gaps in crop.	1.90	1.79	94.21
5. Fertilizer:				78.81
24.	To adopt recommended dose of fertilizers.	2.40	2.15	89.58
25.	For timely application of proper dose of fertilizers.	5.03	4.40	87.48
26.	To apply fertilizers during proper moist condition in soil.	1.09	0.92	84.40
27.	To use recommended FYM/bio-fertilizer/green manuring.	1.19	0.64	53.78
6. Water management:				85.40
28.	To apply recommended irrigations at the sudden break in monsoon and critical stages of crop.	4.06	3.85	89.75
29.	To use rain water for irrigation purpose after storage.	1.06	0.77	72.64
30.	To use of normal water and apply in proper quantity.	2.78	2.33	83.81
7. Plant protection:				72.28
31.	To save crop from pests like heliothis, spotted boll worm and leaf eating caterpillar.	2.50	2.26	90.40
32.	To save crop from Sucking pest.	1.90	1.71	90.00
33.	To save from Termites.	0.40	0.24	59.16
34.	To save from Mealy bugs.	2.33	1.99	85.41
35.	To save crop from Mantis.	0.40	0.17	42.50
36.	To save Chrysopa, Lady bird beetle, Ichneumonidae and Syrphid.	0.74	0.44	59.46
37.	To save the crop from Black arm/ Bacterial blight/Angular leaf sport disease.	2.06	1.66	79.58
38.	To save crop from root rot.	0.77	0.46	59.74
39.	To save crop from Alternaria leaf spots.	1.26	0.67	53.17
40.	To use of recommended doses and proper quantity of insecticide/fungicides.	0.86	0.61	70.93
41.	To adopt the recommended method to apply the pesticides/ fungicides.	0.80	0.69	86.25
42.	For timely application of pesticides/fungicides.	1.00	0.8	80.00
43.	To spray pesticides/fungicides at proper wind velocity.	0.69	0.56	81.16
8. Weeding:				85.41
44.	To remove of weeds by mechanical methods.	4.83	4.58	86.44
45.	To use of weedicides to remove of weeds.	3.41	2.54	83.39
9. Labour scarcity:				87.63
46.	Against labour scarcity to follow timely land preparation, timely fertilizer application and seed treatment.	2.60	2.31	88.85
47.	Against labour scarcity to follow proper recent methods of irrigation.	1.80	1.61	89.44
48.	Against labour scarcity to follow timely plant protection.	2.00	1.63	81.50
49.	Against labour scarcity to follow timely weeding and timely harvesting.	1.62	1.47	90.74
10. Harvesting:				86.58
50.	For timely harvesting.	4.00	3.47	86.75
51.	To follow proper method of grading, packing and transporting.	2.50	2.16	86.40

The cotton growers had knowledge about the crisis management practices related to soil preparation parameter were: measures for deep ploughing in summer before cotton season (94.35 per cent) and measures for providing the required nutrients for crop growth (86.89 per cent).

The cotton growers had knowledge about the crisis management practices related to weather condition parameter were: measures against different weather condition such as timely onset of monsoon but immediate dry spell after sowing (92.64 per cent), an early onset of monsoon (91.91 per cent), no rain during late spell of rainy season (91.67 per cent), with timely onset of monsoon but dry spell and mid drought during crop period (88.99 per cent) and late onset of monsoon (87.50 per cent).

The cotton growers had knowledge about measures the crisis management practices related to sowing parameter were: measures to fill up gaps in crop (94.21 per cent), to follow appropriate distance between two lines and two plants (91.58 per cent) and to adopt recommended seed rate (90.00 per cent), and to follow proper depth sowing (89.52 per cent).

The cotton growers had knowledge about the crisis management practices related to fertilizer parameter were weather condition to adopt recommended dose of fertilizers (89.58 per cent) and for timely application of proper dose of fertilizers (87.48 per cent).

The cotton growers had knowledge about the crisis management practices related to water management parameter were: measures to apply recommended irrigations at the sudden break in monsoon and critical stages of crop (89.75 per cent).

The cotton growers had knowledge about the crisis management practices related to plant protection parameter were: measures to save crop from pests like heliothis, spotted boll worm and leaf eating caterpillar (90.40 per cent), to be safe from sucking pest (90.00 per cent), to adopt the recommended method to apply the pesticides/ fungicides (86.25 per cent) and to be safe from mealy bugs (85.41 per cent).

The cotton growers had knowledge about the crisis management practices related to weed parameter were: measures to remove of weeds by mechanical methods (86.44 per cent).

The cotton growers had knowledge about the crisis management practices related to labour scarcity parameter were: measures against labour scarcity to follow timely weeding and timely harvesting (90.74 per cent), measures against labour scarcity to follow proper recent methods of irrigation (89.44 per cent) and labour scarcity to follow timely land preparation, timely fertilizer application and seed treatment (88.85 per cent).

The cotton growers had knowledge about the crisis management practices related to harvesting parameters were measures for timely harvesting (86.75 per cent) and to follow proper method of grading, packing and transport (86.40 per cent).

Overall knowledge about crisis management practices

The knowledge is a prerequisite for adoption. In order to measure the knowledge of cotton growers pertaining to the crisis management practices a teacher made knowledge test was used. Knowledge score for all the respondents were calculated as sum of the correct response and categorized into their categories based on mean and standard deviation. The data in this regard, are presented in [Table-2].

Table-2 Distribution of cotton growers according to their knowledge about crisis management practices **N=200**

Sr. No.	Category	Frequency	Per Cent
1.	Low knowledge (up to 10.58)	24	12.00
2.	Medium knowledge (10.59 to 17.88)	161	80.50
3.	High knowledge (above 17.88)	15	07.50
X = 84.84		S.D=8.84	

The persuasion of the data given in [Table-2] showed that majority (80.50 per cent) of the respondents had a medium knowledge level of crisis management

practices; whereas 12.00 and 7.50 per cent of respondents had low and high level of knowledge about crisis management practices, respectively.

It can be summarized that majority of respondents had medium level of knowledge about crisis management practices in cotton cultivation.

This finding was in conformity with the findings of Baidiyavadra (1993), Patel (1995) and Trivedi (2009) [1-3].

Conclusion

Majority of the cotton growers (80.50 per cent) had medium level of knowledge about crisis management practices; whereas 12.00 per cent and 7.50 per cent cotton growers had low and high level of knowledge about crisis management practices, respectively.

Conflict of Interest: None declared

References

- [1] Baidiyavadra D.A. (1993) Knowledge, technological gap and constraints of groundnut growers. M.Sc. (Agri.) Thesis (Unpublished), Gujarat Agricultural University, Sardar Krushinagar.
- [2] Trivedi M.K. (2009) Crisis management practices adopted in cumin cultivation by the farmers of north Gujarat. Ph.D. Thesis (Unpublished), The School of Agricultural Sciences, Yashwantrao Chavan Maharashtra Open University, Nashik, Maharashtra.
- [3] Patel B.M. (1995) Impact of frontline demonstration on groundnut grower's knowledge, adoption and yield with respect to groundnut production technology. Ph.D. Thesis (Unpublished), Gujarat Agricultural University, Sardar Krushinagar.