Gujarat Journal of Extension Education Vol. 36 : Issue 2 : December 23 *https://doi.org/10.56572/gjoee.2023.36.2.0024*

KNOWLEDGE LEVEL OF TRIBAL AND NON-TRIBAL FARMERS ABOUT IMPROVED PRODUCTION TECHNOLOGY OF AJWAIN

Surbhi Jangir[1], B. S. Badhala[2] and Saurabh Pandey[3]

1 Research Scholar, Dept. of Extension Education, Sri Karan Narendra Agriculture University, Jobner Jaipur - 303328
2 Asst. Professor Dept.of Extension Education, Sri Karan Narendra Agriculture University, Jobner, Jaipur - 303328
3 Research Scholar, Dept. of Agril. Ext. & Communication, B. A. College of Agriculture, AAU, Anand - 388110
Email : jangirsurbhi95@gamil.com

ABSTRACT

The present study which was conducted to find out the difference in the knowledge levels of the tribal and non tribal farmers of Rajasthan about improved production technology of Ajwain. 130 respondents (65 tribal and 65 no tribal farmers) were selected randomly. Data was collected using interview schedules. From the study it was concluded that majority of tribal and non tribal framers had medium knowledge level about improved production technology of Ajwain. More number of non tribal famers had higher knowledge level as compared to tribal farmers. It was found that the tribal farmers possessed maximum knowledge regarding "Harvesting" (81.54 MPS) and least knowledge regarding "Fertilizer application" (54.36 MPS) of improved production technology of Ajwain. While, non-tribal farmers possessed maximum knowledge regarding "Time of sowing" (91.15 MPS), and least knowledge regarding "Plant protection measures" (61.31 MPS) of improved production technology of Ajwain.

Keywords *: ajwain, comparative study, improved production technology, knowledge level, tribal farmer*s

INTRODUCTION

Ajwain is an annual herbaceous plant belonging to the highly valued medicinally important family, Apiaceae. The origin of Ajwain is Mediterranean region in Egypt. Ajwain is widely distributed and cultivated in various countries in the world such as India, Iran, Egypt and Afghanistan. Ajwain is categorized under minor seed spices and cultivated mainly for its seed and volatile oil and is widely grown in arid and semi-arid regions. In India, Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh, Punjab, Haryana, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu are are major seed spices cultivating states. In, Rajasthan Ajwain is mainly cultivated in Chittorgarh, Udaipur, Jhalawar, Baran, Rajsamand, Pratapgarh, Bhilwara and Kota. It has multiple uses- it not only improves the taste of vegetable but also enhances its digestibility. Besides vegetables, Ajwain is also used in various Ayurvedic medicines.

OBJECTIVE

To know the knowledge level of tribal and non-tribal farmers about Improved production technology of Ajwain

METHODOLOGY

Pratapgarh and Chittorgarh districts were selected purposively as they had area and production of Ajwain among all tribal and non-tribal districts of Rajasthan, respectively. One tehsil from each of the selected districts was selected purposively for the study where large area is under Ajwain cultivation. 5 villages from each tehsils were selected randomly using simple random sampling method thus making a total of 10 villages. Out of these 10 villages 5 were tribal villages and 5 were non- tribal villages. From each village 13 farmers were selected randomly in this way 65 tribal and 65 non- tribal farmers were selected thus making a total of 130 respondents.

RESULTS AND DISCUSSION

Distribution of respondents based on their personal profile

Majority of tribal farmers were middle aged (70.77 per cent) and illiterate (44.62 per cent) living in joint family (69.23 per cent), marginal land holding (38.46 per cent), medium level of annual income (64.62 per cent), medium extension contacts (58.46 per cent) and medium social participation(78.46 per cent).

While, majority of non tribal farmers belonged to middle age group (73.85 per cent) with secondary education (29.23 per cent), joint family type (61.54 per cent), semi-

medium land holding (36.92 per cent), medium level of annual income (66.15 per cent), medium extension contacts (63.08 per cent) and medium social participation (81.54 per cent)

Distribution of tribal and non-tribal farmers according to their knowledge level about improved production technology of Ajwain

Table 1 : Distribution of tribal and non-tribal farmers according to their knowledge level (n=130)

Sr. No.	Knowledge Level	Tribal Farmers (n_1 =65)		Knowledge Level	Non-tribal Farmers (n_2 = 65)	
		F	%		F	%
1	**Low** (less than 50.69 score)	13	20.00	Low (less than 58.65 score)	09	13.85
2	**Medium** (from 50.69 to 58.47 score)	44	67.69	Medium (from 58.65- 65.53 score)	46	70.77
3	**High** (more than 58.47 score)	08	12.31	High (more than 65.53 score)	10	15.38
Mean= 54.58, SD = 3.89				Mean= 62.09, SD = 3.44		

The knowledge level of farmers about improved production technology Ajwain was assessed by divided tribal and non tribal farmers into three knowledge level groups on the basis of mean and standard deviation. The data related to the knowledge level of both the category of farmers i.e., tribal and non-tribal. The lowest knowledge score being 48 and the highest 69 out of the total maximum possible score 82. Table 1 indicated that the majority of tribal farmers 44(67.69 per cent) were having medium knowledge level followed by 13 (20.00 per cent) tribal farmers having low knowledge level and 08(12.31 per cent) tribal having high knowledge level about improved production technology of Ajwain.

Further, indicated that the majority of non-tribal farmers 46 (70.77 per cent) were having medium knowledge level followed by 10 (15.38 per cent) non-tribal farmers having high knowledge level and 09 (13.85 per cent) having low knowledge level.

The findings are in conformity with the findings obtained by Meena (2009), Meena (2010) and Chandhana (2020).

Package of practice-wise knowledge level of tribal and non-tribal farmers about improved production technology of Ajwain

Table 2 : Package of practice-wise knowledge level of tribal and non-tribal farmers about improved production technology of Ajwain (n=130)

Sr. No.	Package of practices	Tribal Farmers (n_1 =65)		Non-tribal Farmers (n_2 = 65)	
		MPS	Rank	MPS	Rank
1	**Field preparation**	77.54	4	89.54	2
2	**Improved varieties**	64.34	8	75.10	8
3	**Seed treatment**	67.38	6	76.92	7
4	**Time of sowing**	80.58	2	91.15	1
5	**Seed rate & spacing**	79.23	3	87.18	4
6	**Fertilizer application**	54.36	10	64.36	9
7	**Irrigation management**	68.31	5	77.54	6
8	**Weed management**	66.67	7	78.46	5
9	**Plant protection measures**	55.23	9	61.31	10
10	**Harvesting**	81.54	1	88.31	3
	Overall	69.52		78.99	

** = Significant at 1 per cent level $r_s = 0.89^{**}$ t = 5.55

The knowledge level of tribal and non-tribal farmers with regard to package of practices of Improver production technology of Ajwain were measured in terms of Mean Percent Score (MPS). As many as 10 packages of practices

of improved production technology of Ajwain included in the study to assess the knowledge level. The data in Table 2 show that majority tribal farmers possessed high knowledge about "harvesting" with 81.54 MPS; hence, it was ranked first. The second highest knowledge of the tribal farmers was towards "time of sowing" with 80.58 MPS respectively. This was followed by "seed rate and spacing", "field preparation", "irrigation management" and "seed treatment" which were ranked third, fourth, fifth and sixth with MPS 79.23, 77.54, 68.31 and 67.38 respectively..

The table further shows that, the practices like "weed management" and "improved varieties" were moderately known by the tribal farmers to the extent of MPS 66.67 and 64.34. Thus, ranked seventh and eight respectively. In use of "Plant protection measures" and "fertilizer application" they possessed least Knowledge with 55.23 and 54.36 MPS were ranked ninth and tenth in positions respectively.

Further, it was noticeably found that non-tribal farmers possessed high knowledge about "time of sowing" with 91.15 MPS; hence, it was ranked first. The second highest knowledge of the tribal farmers was towards "field preparation" with 89.54 MPS was rank second. This followed by "harvesting", "seed rate and spacing", "weed management" and "irrigation management" which were ranked third, fourth, fifth and sixth with 88.31, 87.18, 78.46 and 77.54 MPS respectively.

The table further shows that, the practices like "seed treatment" and "improved varieties" were moderately known by the non-tribal farmers to the extent of MPS 76.92 and 75.10. Thus, ranked seventh and eight respectively. They had least knowledge towards practices of great concern like "fertilizer application" and "plant protection measures" with 64.36 and 61.31 MPS and stood ninth and tenth ranked in position respectively

An effort was also made to find out the rank order correlation between knowledge level of both categories i.e., tribal and non-tribal farmers about improved production technology of Ajwain. The value of rank order correlation (r_s) was 0.89 which shows positive correlation between tribal farmers knowledge level and non-tribal farmers knowledge level, the significance of r_s was tested by 't' test and it was observed that 't' calculated value (5.55) was higher than its table value. This leads to conclusion that there is correlation in ranking of knowledge possessed by tribal and non-tribal farmers with respect to improved production technology of Ajwain. Though there is significant correlation in between ranking of tribal and non- tribal farmers because similar trends of knowledge level between tribal and non-tribal farmers. Similar findings were obtained by Meena (2009), Meena (2010) and Yadav (2021).

Package of practice-wise comparison of knowledge level between tribal and non-tribal farmers about improved production technology of Ajwain

Table 3 : Package of practice-wise comparison of knowledge level between tribal and non-tribal farmers about improved production technology of Ajwain (n=130)

Sr. No.	Package of practices	Tribal Farmers (n_1 =65)		Non-tribal Farmers (n_2 = 65)		'Z' value
		Mean	S.D.	Mean	S.D.	
1	**Field preparation**	3.88	0.71	4.48	0.64	5.07**
2	**Improved varieties**	7.08	0.95	8.26	1.27	6.03**
3	**Seed treatment**	3.37	1.39	3.85	1.19	2.10*
4	**Time of sowing**	6.45	1.01	7.29	0.63	5.75**
5	**Seed rate & spacing**	4.75	0.86	5.23	0.46	3.95**
6	**Fertilizer application**	6.52	1.01	7.72	0.77	7.60**
7	**Irrigation management**	3.42	0.84	3.88	0.98	2.88**
8	**Weed management**	4.00	1.15	4.71	1.19	3.45**
9	**Plant protection measures**	11.05	2.61	12.26	2.12	2.91**
10	**Harvesting**	4.08	0.81	4.42	0.49	2.88**
	Overall	**5.46**		**6.21**		**4.26****

**Significant at 1 per cent level of significance, *Significant at 5 per cent level of significance

The data related to knowledge level of both tribal and non-tribal farmers incorporated in Table 3 shows that calculated 'Z' value was higher than the tabulated value at 5 per cent level of significance in "Seed treatment". While, the calculated 'Z' value was higher than the tabulated value at 1 per cent level of significance in rest of nine packages

of practices about improved production technology of Ajwain. Thus rejection of null hypothesis and acceptance of alternative hypothesis leading to conclusion that there is significant difference in knowledge level of tribal and non-tribal farmers with regard to 10 package of practices of improved production technology of Ajwain. In other words, there is significant difference between the knowledge level of tribal and non-tribal farmers about improved production technology of Ajwain.

The overall calculated 'z' value was also greater than that of its tabulated value at 1 per cent level of significance. This indicates that there was a significant difference between the overall Knowledge of improved production technology of Ajwain between tribal and non- tribal farmers. There is significant difference between tribal and non- tribal farmers about the knowledge of improved production technology of Ajwain. These findings are in the line of finding of Meena (2010) and Macwan et al. (2021), Yadav (2021).

CONCLUSION

The comparative study to assess the difference in the knowledge level of tribal and non ribal farmers in adoption of improved production technology of Ajwain by farmers of Rajasthan revealed that majority 44 (67.69 per cent) tribal and 46 (70.77 per cent) non-tribal farmers fallen in medium level of knowledge group followed by low and high knowledge group, respectively. Tribal farmers possessed maximum knowledge regarding "Harvesting" (81.54 MPS) and least knowledge regarding "Fertilizer application" (54.36 MPS) of improved production technology of Ajwain. While, non-tribal farmers possessed maximum knowledge regarding "Time of sowing" (91.15 MPS), and least knowledge regarding "Plant protection measures" (61.31 MPS) of improved production technology of Ajwain. There were practice wise as well as overall significant differences in existing knowledge of tribal and non-tribal respondents about improved production technology of Ajwain.

CONFLICT OF INTEREST

All authors declare that they have no conflict of interest

REFERENCES

Chandhana, B., Kumar, G.D., and Sengar, R.S. (2020). Development of test and measurement of knowledge level of Sunflower Farmers. *Indian journal of extension education,* 58(4), 81-85.

Macwan, Jignesh and Zala, Y. C. (2021) Poverty and its determinants in tribal and non-tribal area. *Guj. J. Ext. Edu.* 32(2):49-56.

Meena, D.K. (2010). Knowledge and Adoption of Coriander (*Coriandrum sativum* L.) Production Technology by the Tribal and Non-Tribal Farmers in Jhalawar District of Rajasthan. M.Sc.(Ag.) Thesis (Unpublished) College of Agriculture Swami Keshwanand Rajasthan Agricultural University, Bikaner.

Meena, R., Sharma, C. and Bhimawat, B.S., (2009). Knowledge of Ajwain production technology by the farmers of Dungla Tehsil in Chittorgarh district of Rajasthan. *Indian Journal of Social Research, 50(1): 23-30.*

Yadav, S. (2021). Knowledge and adoption of front line demonstration about improved barley production technology by the farmers of Jaipur region of Rajasthan. M.Sc. (Ag.) Thesis (unpublished), S.K.N. Agriculture University, Jobner.

Received : October 2023 : Accepted : December 2023