

Research Article

Extent of adoption of ajwain production technology by the farmers

■ G.B. MORE, S.U. MOKHALE AND N.J. CHIKHALE

ARTICLE CHRONICLE :

Received :

26.07.2014;

Revised :

24.08.2014;

Accepted :

09.09.2014

SUMMARY : The present research study was conducted on 100 ajwain growers from 10 villages comprising 5 villages each from Akot and Telhara tahasils of Akola district of Vidarbha region of Maharashtra state to ascertain the adoption level of farmers about recommended cultivation practices of ajwain. The results revealed that majority of respondent (85.0%) were included under medium level of adoption. As regard to finding of relational analysis revealed that out of ten characteristics studied age, education, area under ajwain crop, irrigation facilities, social participation, sources of information and scientific orientation, were positively and significantly correlated with adoption, whereas, land holding and annual income were non - significantly correlated with adoption.

How to cite this article : More, G.B., Mokhale, S.U. and Chikhale, N.J. (2014). Extent of adoption of ajwain production technology by the farmers. *Agric. Update*, 9(4): 476-479.

KEY WORDS:

Adoption,
Ajwain, Production
technology,
Correlation

BACKGROUND AND OBJECTIVES

India is one of the richest floristic regions of the world and is well-known for its ancient heritage regarding medicinal plant and plant drugs. India has 16 agro-climatic zones, 45000 different plant species, out of which 15,000 are medicinal plants. The Indian system of medicine has identified 1,500 medicinal plants, out of which 500 species are mostly used in preparation of drugs. (Meena *et al.*, 2006). Another use of seed spices are for flavouring, seasoning and imparting aroma in variety of food items and beverages. There are about 20 seed spices grown in India, therefore, India is known as 'land of spices'. The seed spices classified in two categories that are major seed spices and minor seed spices according to that ajwain under the minor categories. The main cultivation areas today are Persia and India as well as Iran, Afghanistan and Iraq.

The current productivity of ajwain crop is 619 kg/ha. (Meena *et al.*, 2009). It is widely cultivated in Rajasthan and Gujarat state.

In Maharashtra, apart from the Kokan area,

seed spices are not commercially grown. As per the estimate of state department of Agriculture, it comes more than 3527 acres in Vidarbha with the average productivity of 10-12 quintal per hectare. As far as the soil and climate of Vidarbha region is concerned, cultivation of ajwain have a potential to increase the area in Vidarbha.

RESOURCES AND METHODS

An exploratory design of social research was used for the present investigation. There are seven tahasil in Akola district out of them Akot and Telhara tahasil were purposively selected for the study on the basis of maximum area under the ajwain cultivation and farmers experience.

Samples of 100 ajwain growers were selected randomly from the ten villages of two tahasil. The farmers who were having experience of three years or more than three years of ajwain cultivation were taken into consideration. Thus, 10 villages were selected on the basis of maximum number of ajwain growers; five villages from each tahasils were purposively selected. The data were collected by

Author for correspondence :

G.B. MORE

College of Horticulture
Dr. Panjabrao Deshmukh
Krishi Vidhyapeeth,
AKOLA (M.S.) INDIA

See end of the article for
authors' affiliations

personally interviewing. The statistical method like arithmetic mean, standard deviation and co-efficient of correlation was used for analysis of the data.

OBSERVATIONS AND ANALYSIS

The result obtained from the present investigation has

Table 1 : Distribution of the farmer according to their adoption level of ajwain cultivation practices (n=100)

Sr. No.	Category	Respondent	
		Frequency	Percentage
1.	Low	7	7.00
2.	Medium	85	85.00
3.	High	8	8.00

Table 2: Co-efficient of correlation of independent variables with their adoption level

Sr. No.	Variables	'r' values	't' value
1.	Age	0.2272*	2.30
2.	Education	0.2988*	3.03
3.	Annual income	0.1911 ^{NS}	1.82
4.	Land holding	0.1737 ^{NS}	1.75
5.	Area under ajwain crop	0.3849*	4.12
6.	Irrigation facilities	0.3232*	3.38
7.	Social participation	0.2062*	2.08
8.	Economic motivation	0.3254**	3.40
9.	Sources of information	0.3999**	4.31
10.	Scientific orientation	0.2217*	2.25

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

NS = Non - significant

Table 3 : Distribution of respondents according to practice wise adoption of recommended practices of ajwain cultivation

Sr. No.	Practices	Extent of adoption					
		Full adoption		Partial adoption		Non -adoption	
		Freq.	%	Freq.	%	Freq.	%
1.	Soil type : (Well drain, heavy to medium avoid sandy soil)	85	85.0	15	15.0	0	00.0
2.	Varieties : Recommended (AA-01-19) or (Local, RA-1-80, AA-09-61, GA-01)	6	6.0	12	12.0	82	82.0
3.	Seed rate and type of sowing : By seed drilling method 2.5 to 3.5 kg/ha. By dibbling method 1.5 to 2 kg/ha.	37	37.0	45	45.0	18	18.0
4.	Seed treatment : Use of <i>Azotobacter</i> It should be treated with bavistin or captan or thiram @ 2.0 – 2.5 g/kg	3	3.0	12	12.0	85	85.0
5.	Sowing time : From the first week of Oct. to last week of Nov.	88	88.0	12	12.0	00	0.00
6.	Spacing : For row to row 60 – 90cm. by seed drilling For ridged and furrow 45 x 45 by dibbling.	55	55.0	35	35.0	15	15.0
7.	Fertilizer application : (40:20:00 NPK nitrogen in split dose <i>i.e.</i> 30 DAS) as well as soil testing report of fertility status.	2	2.0	18	18.0	80	80.0
8.	Irrigation schedule / protected irrigation : (In rainfed condition mainly at the time of flowering time means 70 – 85 DAS. Protected irrigation is required. In irrigated production system about 5 irrigation are required depending on climate and soil type at the interval of 15 – 25 days.)	18	18.0	4.0	4.0	78	78.0
9.	Weed management / Intercultural operation : (A total of 2-3 manual weeding and hoeing are required and chemically controlled by a pre-emergence application of pendimethaline @ 1kg/ha after sowing.)	7	7.0	47	47.0	46	46.0
10.	Plant protection : Pest control: (Aphids: Spray diamethoate 30 EC 10ml/10 lt. of water) Diseases control: (Powdery mildew: Dusting with sulphur 20 – 25 kg/ha or spraying wetablekarathen/ sulphur (0.1%) twice at flowering stage at 15 days interval.	22	22.0	11	11.0	67	67.0
11.	Harvesting : (160 -180 DAS. At maturity stage flowering seed begin develop and become brown in umbles. Harvested with manually, threshed to separate the fruits by beating with sticks)	81	81.0	19	19.0	00	0.00

been discussed in the following sub head:

Adoption index :

The distributions of respondent according to level of adoption in Table 1 revealed that majority of the farmers 85.00 per cent were included under medium category of adoption of ajwain cultivation practices. Whereas, 7.00 per cent and 8.00 per cent in low and high adoption category, respectively. Similar findings were reported by Desai *et al.* (1999); Singh (2005) and Ganeshprasad *et al.* (2010).

Relational analysis :

In order to find out the relationship of the selected characteristics of the respondents with their adoption, correlation co-efficients were worked out. The results obtained from the relational analysis have been presented in Table 2.

Co-efficient of correlation :

It is observed from the Table 2, that among selected variables age, education, area under ajwain crop, irrigation facilities, social participation and scientific orientation were positively and significantly correlated with adoption at 0.01 level of probability. Whereas, economic motivation and sources of information were positively and significantly correlated with adoption at 0.05 level of probability. It was also observed that annual income and land holding had non-significant correlation with the adoption.

Practice wise adoption about recommended ajwain cultivation practices :

It is evident from the distribution in Table 3 that, the majority of the farmers adopted some ajwain cultivation practices like soil type (85.00%), recommended sowing time (88.00%) and time of harvesting (81.0%), However, it is noted that majority of respondents were not adopted recommended variety (82.0%), seed treatment (85.0%) and fertilizer application (80.0%) as per recommended practices. Majority of respondent were not followed the irrigation schedule (78.0%). Non - adoption of chemically weed control and plant protection were 46.0 per cent and 67.0 per cent of respondent, respectively.

Authors' affiliations :

S.U. MOKHALE, Department Extension Education, Shri Shivaji Agriculture College, AMRAVATI (M.S.) INDIA

N.J. CHIKHALE, Shri Shivaji Agriculture College, AMRAVATI (M.S.) INDIA

REFERENCES

Ankulwar, B.N., Jondhale, S.G. and Rangari, P.V. (2001). Extent of adoption of recommended package of practices of sunflower by farmers. *Maharashtra J. Extn. Edu.*, **21** : 63-65.

Anonymous (2012). Economic analysis of ajwain production in Akola district. RRC Report Department of Agriculture Economics and Statistics, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, M.S. (INDIA).

Choudhary, Rohit and Punjabi, N.K. (2012). Knowledge of farmers about coriander production technology. *Rajasthan J. Extn. Edu.*, **20**: 233-237.

Desai, C.P., Patil, M.R. and Patil, A.A. (1999) Association between motives and characteristics of cumin grower. *Maharashtra J. Extn. Edu.*, **17**: 88-91.

Deshmukh, N.D. (2005). Impact of soybean front line demonstration on demonstration and non-demonstrator farmers. M.Sc. Thesis, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, M.S. (INDIA).

Ganeshprasad, T.S., Manjunath, B.N. and Nataraju, M.S. (2010). Adoption behaviour of turmeric growers. *Mysore J. Agric. Sci.*, **44** (2): 396-401.

Goudappa, S.B., Biradar, G.S. and Bairathi, Rajeev (2012). Technological gap in chilli cultivation perceived by farmers. *Rajasthan J. Extn. Edu.*, **20**: 171-174.

Harish and Sangwan, S.S. (2011). Knowledge and adoption of farmers about barley cultivation in Haryana. *Ann. Agri. Bio. Res.*, **16**(2): 165-168.

Jaiswal, A.N. (2001). Extent of adoption of soybean technology. M.Sc. Thesis, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, M.S. (INDIA).

Kanwat, M., Meena, B.L., Suresh, Kumar P. and Chargoitra, M. (2012). Impact of socio-economic factors on adoption of farmers towards cultivation of medicinal plants in Udaipur division of Rajasthan state in India. *J. Agric. Sci.*, **4** (2): 49-56.

Kardak, V.N. (2003). Technology adoption status of *Kharif* sorghum grower. M.Sc. Thesis, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, M.S. (INDIA).

Kubde, V.R., Tekade, V.S. and Bhopale, R.S. (1999). Knowledge and adoption of soybean production technology by farmers. *Maharashtra J. Extn. Edu.*, **18** : 185-186.

Mamathalakshmi, N. and Nagabhushanm, K. (2011). Adoption behaviour of chrysanthemum growers in Mandya district of Karnataka. *Mysore J. Agric. Sci.*, **45** (2): 403-406.

Meena, R.P., Sharma, C., Sharma, V.P. and Bhimawat, B.S. (2009). Knowledge of ajwain (*Trachyspermum ammi* L.) production technology by the farmers of Dungla tehsils in Chittorgarh district of Rajasthan India. *Indian J. Soc. Res.*, **50** (1) : 23-30.

Meena, R.P., Sharma, C., Sharma, V.P., Bhimawat, B.S. and Dadheech, B.S. (2006). Adoption of improved ajwain production practices among the farmers of Dungla tehsil in Chittorgarh district of Rajasthan. *Rajasthan J. Extn. Edu.*, **14** : 47-51.

Pandya, R.D. and Vekari, R.S. (1994). Knowledge and adoption behaviour of horticulture growers. *Maharashtra J. Extn. Edu.*, **13**: 289-290.

Sharma, L.K. and Gupta, Vinod (2009-10). Knowledge and constraints in scientific cultivation of chilli among the farmers. *Rajasthan J. Extn. Edu.*, **17 & 18** : 60-64.

Singh, Bhagwan (2005). Adoption of cumin (*Cuminum cyminum* L.) production technology in arid zone of Rajasthan. *J. Spices & Aromatic Crops*, **14** (2):148-151.

Singh, Bhagwan (2007). Constraints in adoption of production technologies in cumin. *J. Spices & Aromatic Crops*, **16** (1): 42-45.

Singh, Bhagwan and Chauhan, T.R. (2010). Adoption of mungbean production technology in arid zone of Rajasthan. *Indian Res. J. Extn. Edu.*, **10** (2):73-77.

Singh, B.K., Singh, Dhiraj Kumar, V.P.S., Yadav and Singh, Lotan (2010). Adoption behaviour of commercial potato grower in district Ghaziabad (U.P.). *Indian Res. J. Ext. Edu.*, **10** (3): 5-9.

Singh, Bhagwan, Singh, Raj and Chauhan, K.N.K. (2003). Adoption and constrain of Moath bean production technology in the arid zone of Rajasthan. *Advances in arid legumes research. Jodhpur (RAJASTHAN) INDIA.*

Singh, P.K., Barman, K.K. and Varshney, Jay G. (2011). Adoption behaviour of vegetable growers towards improved technologies. *Indian Res. J. Extn. Edu.*, **11** (1): 62-65.

★ ★ ★ ★ ★ of Excellence ★ ★ ★ ★ ★
9th Year