

FACTORS AFFECTING KNOWLEDGE LEVEL OF CHICKPEA GROWERS ABOUT RECOMMENDED CHICKPEA PRODUCTION TECHNOLOGY

K. D. Tankodara¹, G. R. Gohil² and P. K. Sharma³

1 Subject Matter Specialist (Extension Education), Krishi Vigyan Kendra- Kheda-387210 Gujarat, India

2 Extension Educationist, Directorate of Extension Education, J.A.U., Junagadh-362001 Gujarat, India

3 Senior Scientist & Head, Krishi Vigyan Kendra- Kheda-387210 Gujarat, India

Email: ktankodara@gmail.com

ABSTRACT

Chickpea is one of the most important legume crops of Gujarat state. In Gujarat, Saurashtra region is one of the most remarkable regions for chickpea cultivation and production. Junagadh district is very good producer district of Saurashtra region and due to consider its importance, the present study was conducted to study the relationship between profile of chickpea growers and their knowledge about chickpea production technology. Four talukas; Maliya, Keshod, Mendarda and Junagadh of Junagadh district were purposively selected for the research. Total three villages were randomly selected from each selected taluka and 10 farmers were randomly selected from each village. Thus, total sample size was 120 farmers. The relationship was studied by statistical tool coefficient of correlation. The study revealed that out of total 14 independent variables, two variables, i.e. extension participation and yield index were positively and highly significantly associated with knowledge level. Age and size of land holding were the variables which non- significantly associated, while remaining all variables i.e. education, farm experience, social participation, annual income, mass media exposure, innovativeness, scientific orientation, risk orientation, irrigation potentiality and cropping intensity had positive and significant association with chickpea growers' knowledge about chickpea production technology.

Keywords: chickpea growers, level of knowledge, chickpea production technology, relationship, coefficient of correlation

INTRODUCTION

Chickpea is one of the most important legume crops of Gujarat state. In Gujarat, Saurashtra region is one of the most remarkable regions for chickpea cultivation and production. Junagadh district is very good producer district of Saurashtra region. The area under the cultivation of chickpea is increasing every year due to its qualitative as well as quantitative importance. Though, the average yield of chickpea in Gujarat was 1253 kg/ha in year 2017-18 (Anon., 2018a) which was much lower than the average of the yields (1700 kg/ha for rain fed chickpea and 2450 kg/ha for irrigated chickpea) obtained from various varieties at demonstration plot and research station (Anon., 2018b). This might be due to lack of knowledge of chickpea growers about recommended chickpea production technology. Therefore, it was high time to assess the factors affecting the level of knowledge of the chickpea growers about recommended chickpea production technology.

OBJECTIVE

To study the association between the selected characteristics of chickpea growers and their level of knowledge about recommended chickpea production technology

METHODOLOGY

Ex-post facto research design was adopted for the study. The present investigation was conducted in Junagadh district of Gujarat state. Junagadh district is one of the leading chickpea growing districts of South Saurashtra Agro-climatic zone of Gujarat State. Out of 9 talukas of Junagadh district, 4 talukas viz. Maliya, Keshod, Mendarda and Junagadh were selected purposively for the study due to favorable area of production for chickpea crop and familiar area for researcher. Three villages were selected randomly from the each selected talukas. Thus, total 12 villages were selected for the study. A random sampling procedure was followed for the selection of the respondents and accordingly ten chickpea growers from each village were selected as respondents. Thus, 120 chickpea growers were selected for the study. The data were collected with the help of well structured, pre-tested schedule through personal contact and then they were compiled, tabulated and analyzed to draw valid conclusion. To find out the relationship between independent variables of chickpea growers and their level of knowledge, the Pearson's product method suggested by Chandel (1974) was used as a statistical tool namely coefficient of correlation.

RESULTS AND DISCUSSION

Relationship between the selected characteristics of the chickpea growers and their level of knowledge about recommended chickpea production technology is presented in table 1.

Table 1: Correlation between selected characteristics of the chickpea growers with their level of knowledge regarding recommended chickpea production technology (n = 120)

Sr. No.	Independent variables	'r' value
X ₁	Age	0.0860 ^{NS}
X ₂	Education	0.2284*
X ₃	Farm Experience	0.1957*
X ₄	Social participation	0.2264*
X ₅	Size of land holding	0.0775 ^{NS}
X ₆	Annual income	0.2132*
X ₇	Extension participation	0.2591**
X ₈	Mass media exposure	0.2273*
X ₉	Innovativeness	0.2266*
X ₁₀	Scientific orientation	0.2009*
X ₁₁	Risk orientation	0.2163*
X ₁₂	Irrigation potentiality	0.2204*
X ₁₃	Cropping intensity	0.1974*
X ₁₄	Yield index	0.3567**

* = Significant at 0.05 level,

** = Highly Significant at 0.01 level, NS= Non significant

Relationship between individual independent variable of chickpea growers and their level of adoption about recommended chickpea production technology is described as below;

(1) Age and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.0860$) was found positive and non-significant at 0.05 level. It means there was not found any relation between age of chickpea growers and their level of knowledge of recommended chickpea production technology. This might be due to the fact that irrespective age's chickpea growers were having with knowledge about recommended chickpea production technology. This finding is in line with the findings of Singh (2007), Rajput (2010), Lohare (2017), Raviya (2017) and Vinaya and Shivamurthy (2021).

(2) Education and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2284$) was found positive and significant at 0.05 level. It means level of knowledge of chickpea growers increased significantly with increased their education. The probable reason might be that educated farmers generally have high extension participation, high innovativeness and high scientific orientation and also have progressive behaviour and rational thinking. Thus, they understand the importance of recommended practices of chickpea and having with more knowledge. This result is in line with the findings of Dalsaniya (2010), Rajput (2010), Lohare (2017) and Raviya (2017).

(3) Farm experience and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.1957$) was found positive and significant at 0.05 level. It can be inferred that level of knowledge of chickpea growers increased significantly with increased their farm experience. The probable reason might be that experienced farmers have always tried to find out the solution of chickpea farming related problems and at that time they got various information regarding problems. Hence their knowledge about chickpea production technology increased during their farming experience. This result is supported by the findings of Patel *et al.* (2002), Patel *et al.* (2003), Sangeetha *et al.* (2009) and Lohare (2017).

(4) Social participation and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2264$) was found positive and significant at 0.05 level. This indicates that social participation influenced the level of knowledge of chickpea production technology. This might be due to fact that chickpea growers who have participated in the programmes organized by various organizations might have in close contact with various sources of information as well as various people who are directly or indirectly related with farming. These organizations might have facilitated them for getting latest information about recommended chickpea production technology. This finding is in line with the findings of Dalsaniya (2010), Rajput (2010), Humbal (2012) and Lohare (2017).

(5) Size of land holding and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.0775$) was found positive and non-significant at 0.05 level. It means level of knowledge of chickpea growers was not related

with the size of land holding they had. This might be due to the fact that the chickpea growers with irrespective size of land holding were having with knowledge of recommended chickpea production technology and due to that there was non-significant association developed. This finding is in line with the findings of Dalsaniya (2010) and Raviya (2017).

(6) Annual income and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2132$) was found positive and significant at 0.05 level. It can be inferred that level of knowledge of chickpea growers increased significantly with increased their annual income. The probable reason might be that due to increase in annual income, majority of the chickpea growers became self-motivated to get more knowledge about recommended chickpea production technology. This finding is supported by findings of Lohare (2017).

(7) Extension participation and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2591$) was found positive and highly significant at 0.01 level. It means level of knowledge of chickpea growers increased highly significantly with increased their active extension participation. This might be due to fact that the chickpea growers who participated in various extension activities might acquire higher knowledge and better understanding about chickpea production practices which improved their knowledge. This finding is in conformity with the findings of Humbal (2012), Hadiya (2013) and Raviya (2017).

(8) Mass media exposure and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2273$) was found positive and significant at 0.05 level. It means level of knowledge of chickpea growers increased significantly with increased their mass media exposure. The probable reason might be that due to more exposure of mass media, the chickpea growers could get more knowledge and information about new production technology. This finding is in conformity with the findings of Dalsaniya (2010), Gorfad (2012) and Lohare (2017).

(9) Innovativeness and knowledge

The data presented in in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2266$) was found positive and significant at 0.05 level. It means level of knowledge of chickpea growers increased significantly with an increase in their innovativeness. The probable reason might be that innovative chickpea growers tried innovative

and recommended practices for more yields which developed significant relationship between innovativeness and knowledge. This finding is in conformity with the findings of Chauhan (2008), Satasiya (2008), Kumbhani (2009), Rajput (2010) and Salunkhe *et al.*, (2020).

(10) Scientific orientation and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2009$) was found positive and significant at 0.05 level. It means level of knowledge of chickpea growers increased significantly with increased their scientific orientation. The probable reason might be that chickpea growers who were having scientific oriented nature tried to get more information and knowledge about recommended chickpea production technology. This finding is in conformity with the findings of Preethi *et al.*, (2015), Lohare (2017) and Raviya (2017).

(11) Risk orientation and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2163$) was found positive and significant at 0.05 level. It means level of knowledge of chickpea growers increased significantly with increased their risk orientation. The probable reason might be that the chickpea growers who were having with more risk oriented nature took more calculated risk and faced the challenges to get maximum returns and try to get knowledge about new or recommended chickpea production technology. This finding is in conformity with the findings of Datta (2018).

(12) Irrigation potentiality and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.2204$) was found positive and significant at 0.05 level. It means level of knowledge of chickpea growers increased significantly with increased their irrigation potentiality. The probable reason might be that chickpea growers with good irrigation potentiality became self-motivated to get more knowledge about new and recommended production technology. This finding is in conformity with the findings of Dalsaniya (2010), Humbal (2012) and Raviya (2017).

(13) Cropping intensity and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.1974$) was found positive and significant at 0.05 level. It means level of knowledge of chickpea growers increased significantly with increased their cropping intensity. The probable reason for this result might be that increasing in cropping intensity

motivated chickpea growers to acquire more knowledge about improved production technology.

This finding is in conformity with the findings of Satasiya (2008) and Dalsaniya (2010).

(14) Yield index and knowledge

The data presented in table 1 reveals that the calculated co-efficient of correlation value ($r = 0.3567$) was found positive and highly significant at 0.01 level. It means level of knowledge of chickpea growers increased highly significantly with increased their yield index. This might be due to the fact that with increase in yield from crop production, motivated the chickpea growers to acquire more knowledge about new and recommended production technology. This finding is in conformity with the findings of Raviya (2017) and Datta (2018).

CONCLUSION

On the basis of entire study, it can be concluded that out of total 14 independent variables, two variables, i.e. extension participation and yield index were positively and highly significantly associated with knowledge level of chickpea growers about chickpea production technology. Age and size of land holding were the variables which non- significantly associated, while remaining all variables i.e. education, farm experience, social participation, annual income, mass media exposure, innovativeness, scientific orientation, risk orientation, irrigation potentiality and cropping intensity had positive and significant association with chickpea growers' knowledge about chickpea production technology.

REFERENCES

Anonymous. (2018a). Gram: State-wise yield. Agricultural statistics at a glance 2018. Directorate of economics and statistics. Pp. 162. Available: <http://agricoop.gov.in/sites/default/files/agristatglance2018.pdf>.

Anonymous. (2018b). Characteristics of various varieties of chickpea studied by pulse research station, Junagadh Agricultural University – Junagadh. Available: http://www.jau.in/index.php/resources/research-stations-top/south-saurashtra/pulses_research-station-junagadh.

Chandel, R. S. (1974). A hand book of Agricultural Statistics. Achal prakashan, Bombay.

Chauhan, N. B. 2008. Capacity building of farmers through training on organic farming practices in Surendranagar district of Gujarat. M.Sc. (Agri).

Thesis (Unpublished). J.A.U., Junagadh.

Dalsaniya, A. M. (2010). Knowledge and adoption of *kharif* sesame growers about recommended *kharif* sesame production technology. M.Sc. (Agri). Thesis (Unpublished). J.A.U., Junagadh.

Datta, K. (2018). Knowledge and adoption of farmers about pomegranate production practices in Saurashtra region. M.Sc. (Agri). Thesis (Unpublished). J.A.U., Junagadh.

Gorfad, P. S. (2012). Farmers' perception and adoption of groundnut production technology. Ph.D. (Agri). Thesis (Unpublished). J.A.U., Junagadh.

Hadiya, B. B. (2013). Knowledge and adoption of recommended practices of *kharif* groundnut in South Saurashtra zone of Gujarat state. M.Sc. (Agri). Thesis (Unpublished). J.A.U., Junagadh.

Humbal, U. N. (2012). Knowledge and adoption of castor as intercrop with groundnut in South Saurashtra agro climatic zone of Gujarat. M.Sc. (Agri). Thesis (Unpublished). J.A.U., Junagadh.

Kumbhani, S. R. (2009). Knowledge and adoption of coriander production technology. M.Sc. (Agri). Thesis (Unpublished). J.A.U., Junagadh.

Lohare, R. (2017). A study on knowledge and adoption of chickpea production technology among the farmers in Tirla block of Dhar district. M.Sc. (Agri). Thesis (Unpublished). R.V.S.K.V.V., Gwalior.

Patel, M. M.; Khatediya, R.S. and Chatterjee. 2002. Correlates of knowledge of sugarcane production technology. *Gujarat Journal of Extension Education* XII & XIII: 18-21.

Patel, R. C.; Chauhan, N. B. and Patel, D. J. 2003. Adoption behaviour of hybrid tobacco growers in Kheda and Anand district of Gujarat state paper presented in National Symposium on Tobacco in January 23-25, 2003 at Guntur (A.P.).

Preethi, Yashodhara. B., Vinaya Kumar, H. M. and Chandrashekar, S. Vaster (2015). Personal and socio-psychological factors influencing the knowledge level of Agro-met Advisory Service (AAS) farmers. *Annals of Plant and Soil Research*. 17: 106-109.

Rajput, Y. S. (2010). A study on knowledge and adoption behaviour of chickpea growers in Sehore district of Madhya Pradesh. M.Sc. (Agri). Thesis

- (Unpublished). R.A.K.C.O.A., Sehore.
- Raviya, P. B. (2017). Knowledge and adoption of farmers about cotton production practices recommended by GAU and JAU in Junagadh district. M.Sc. (Agri). Thesis (Unpublished). J.A.U., Junagadh.
- Sangeetha V.; Prasad, S. V. and Venkatesh, M. 2009. Knowledge of cotton growers in the recommended package of practices of cotton cultivation. *Indian Journal of Extension Education*, 45(3&4): 7-10.
- Salunkhe, S. R., Patel, Nital N. and Timbadia C. K. (2020) Knowledge and adoption of green gram growers about green gram production technology. *Guj. J. Ext. Edu.* 31(1):79-80.
- Satasiya, S. D. 2008. Impact of front line demonstration of castor production technology on the knowledge and adoption level of castor growers in Junagadh district of Gujarat State. M.Sc. (Agri). Thesis (Unpublished). J.A.U., Junagadh.
- Singh, B. 2007. Knowledge and adoption of tobacco growers about recommended tobacco production technology in Anand district of Gujarat state. M.Sc. (Agri). Thesis (Unpublished). A.A.U., Anand.
- Vinaya Kumar H. M., and Shivamurthy, M. (2021) Factor influencing fishery-based farmers' perception and their response to climate-induced crisis management. *Environ. Dev. Sustain.*, 23, 11766–11791. Springer, <https://doi.org/10.1007/s10668-020-01141-x>

Received : July 2021 : Accepted : September 2021