Environment & Ecology 27 (2A) : 820—822, 2009
 ISSN 0970-0420

Association of Attributes of Potato Growers Towards Potato Farming

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Abstract

Studies on the association between independent variables i.e. age, education with dependent variable i.e. knowledge and altitude of potato growers (improved variety) and potato non-growers (local variety), show that age has no impact on the knowledge of growers about improved variety of potato farming, whereas education was associated with knowledge about improved variety of potato farming than less educated growers. It was also found that age has no effect on altitude of potato growers, whereas educated growers have more favorable altitude towards improved variety of potato farming than less educated growers.

Key words : Attributes, Potato growers, Potato farming.

Agriculture in India has been the back bone of the national economy since ages. As the largest private enterprise in India, agriculture contributes about 22% of the national GDP and sustains livelihood of about 72% of the population. As such, the role of agriculture is crucial for improving the well being of the rural communities. Through the update of modern agricultural technologies, India has moved from an era of chronic food shortages during 1960s to food self-sufficiency and even food exports. This has been possible through the adoption of modern technologies in almost all the sectors of agriculture. However, these technologies have also created many problems like social and agricultural unsustainability (1—4). Hence, technology led sustainable growth is crucial for making agriculture viable, particularly for small and marginal farmers. The rising population and per capita income are pushing up the demand for food, which needs to be met through enhanced productivity per unit area and time. In this context, importance of potato is noteworthy for several reasons. Potato crop produces more edible energy and protein per unit area and time than many other food crops. For the small and marginal farmers, potato fits well into multiple cropping systems prevalent in tropical and sub-tropical agro-climatic conditions. The high profitability of potato as a cash crop has made it a viable commercial enterprise. Rapid technological advances in varietial improvement, agro-techniques, plant protection, storage and processing and the like have led to expansion of potato production even in non-traditional environments. The study was made to assess the present knowledge of the farmers towards the improved variety of potato and steps to be taken to increase the knowledge of the farmers. With this background data were subjected to statistical analysis to find out the association between independent and dependent variables.

Methods

Out of total 14 districts of Jammu and Kashmir state, potato is cultivated in ten districts, but in commercial level it is cultivated in Kashmir division in Baramulla, Budgam, Srinagar and Anantnag. Budgam district was selected purpositively as it has highest area of a bout 80% under potato cultivation. The block Chadoora was selected purposively as this block has large area under potato cultivation and comprises good number of villages under potato cultivation with its farmers having good experience and knowledge about potato cultivation. A list of the villages of the selected block was taken from the BDO office where the cultivation of the potato is practiced. Only those villages were considered as the potato growers who have cultivated more than 10% of the total cultivated area. The villages were divided into two groups on the basis of potato cultivation i.e. growers villages and non-growers villages ; the growers villages were again listed out in ascending orders of their culti-

vated area of potato crop. Then five villages were selected randomly. A complete list of all farmers who cultivated the potato crops were obtained from the respective village heads. Only those respondents were considered as a potato growers who are cultivating potato crop on more than 10% of their cultivated holdings. The potato grower respondents were classified into two groups on the basis of improved potato growers and local variety of potato growers in all the five randomly selected villages. Then 20% of improved variety of potato growers were selected randomly in all the five villages. These improved variety of potato growers were 50 in number and the same number of the farmers were also selected as a local variety growers in all the five randomly selected villages. Thus, a total number of 100 farmers constituted the sample for the purpose of this study.

Z Test. Z test was used to find out if there was any significant difference between knowledge and attitude of potato growers and non-growers.

To test hypothesis *Z* test was used because of large sample size.

$$Z = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{\delta_1^2}{n_1} + \frac{\delta_2^2}{n_2}}}$$

where $\bar{X}$ = The mean score of first sample, $\bar{Y}$ = The mean score of second sample, δ_1^2 = Square of standard deviation of first sample, δ_2^2 = Square of standard deviation of second sample, n_1 = Number of observations in first sample, n_2 = Number of observations in second sample, Standard normal variant = 1.96.

Results and Discussion

Null Hypothesis (H_0)

There was no association between age and knowledge of imporved variety of potato growers. Table 1 shows that the calculated value of X^2 (67.37) is greater than table value of X^2 (5.991) for 2 degrees of freedom at 5% level of significance. So the null hypothesis is not accepted and research hypothesis that there was association between age and knowledge of improved variety of potato growers is accepted. Hence it can be concluded that age has no impact on the knowledge of growers about improved variety of potato farming.

Table 1. Association between age and education with knowledge of improved variety of potato growers.

	Particulars	Category of attributes	Knowledge Medium	High	Total
1.	Age	Upto 45	5	30	35
		Above 45	5	10	15
		Total	10	40	50
2.	Education	Illiterate	4	3	7
		Literate	6	37	43
		Total	10	40	50
Age = X^2 Cal =67.37 X^2 Tab = 5.991 df = 2 at 5% significant			Education X^2 cal = 6.37 X^2 Tab = 5.991 df = 2 at 5% significant		

Similarly, there was no association between education and knowledge of improved variety of potato growers. The calculated value of X^2 (6.37) was greater than table value of δ^2 (5.991) for 2 degrees of freedom at 5% level of significance. So the null hypothesis is not accepted and research hypothesis is that there was association between education and knowledge of improved variety of potato growers is accepted. Hence it can be said that education was associated with knowledge, educated growers have more knowledge about improved variety of potato farming than less educated growers.

There was no association between age and attitude of improved variety of potato. Table 2 shows that the calculated value of X^2 (0.43) is lesser than

Table 2. Association between age and education with attitude of improve variety of potato growers.

	Particulars	Category of attributes	Knowledge Less favorable	Favourable	More favorable	Total
1.	Age	Upto 45	-	3	20	23
		About 45	-	2	25	27
		Total	-	5	45	50
2.	Education	Illiterate	-	3	4	7
		Literate	-	2	41	43
		Total	-	5	45	50
Age = X^2 Cal = 0.43 X^2 Tab = 5.991 df = 2 at 5% Non-significant				Education X^2 cal = 9.74 X^2 Tab = 5.991 df =2 at 5% significant		

table value of X^2 (5.991) for 2 degrees of freedom at 5% level of significance, so the null hypothesis is accepted and research hypothesis that there was association between age and attitude of improved variety of potato growers is not accepted. Hence it can be said that age has no effect on attitude of potato growers. Similarly there was no association between education and attitude of improved variety of potato. The calculated value of X^2 (9.74) is greater than table value of X^2 (5.991) for 2 degrees of freedom at 5% level of significance, so the null hypothesis is not accepted and research hypothesis that there was association between education and attitude of improved variety of potato growers is accepted. Hence, it can be said that educated growers have more favorable attitude towards improved variety of potato farming than less educated growers.

Conclusion

Thus it can be concluded that age has no impact on the knowledge of growers about improved variety of potato farming, whereas education was associated with knowledge, educated growers have more knowledge about improved variety of potato farming than less educated growers. The age has no effect on attitude of potato growers, whereas educated growers have more favorable attitude towards improved variety of potato farming than less educated growers.

References

1. Amara N., N. Traore, R. Landry and R. Romain. 1999. Technical efficiency and farmers attitudes towards technological innovation ; the case of the potato farmers in Quebec. Canadian J. Agric. Econ. 47 : 31—43.
2. Heim N. 1978. Contract farming problems of drawing up the contract DLG. Mitteilungen 93 : 1081—1086.
3. Sukhpal S. and S. Singh. 2000. Contract farming for agricultural diversification in the Indian Punjab : A study of performance and problems. India J. Agric. Econ. 55 : 283—294.
4. Thomas S. 1989. Adoption of recommended potato production technology College, Laguna, Philippines.