Relationship Between Knowledge Level with Characteristics of Pulses Seed Growers

S. Janani[1], A. Palaniswamy[2] and M. Balarubini[3]

ABSTRACT

The study was undertaken to study the relationship between knowledge level and profile characteristics of pulses seed growers. A sample of 90 pulses seed growing farmers was selected from 3 blocks of Coimbatore district in Tamil Nadu. The blocks were Kinathukadavu, Thondamuthur and Karamadai. For the study 30 farmers from each of the three blocks, where the highest number of farmers cultivating pulses for seed production were selected by employing simple random sampling technique in each block. Collection of data was done with the help of semi structured interview schedule. The study revealed that experience in seed production, social participation, urban contact and information seeking behaviour would increase the knowledge level of seed growers. The variables experience in seed production was contributing more than 75 per cent of the variation in the knowledge level.

The seed industry in India has been making great strides since Independence. The Indian seed industry is well placed to serve both domestic and international markets. The seed industry is now in a position to meet the demand of diverse agro-climatic conditions and intensive cropping systems. The ever-increasing demand for agriculture products can only be met by sustained increase in production and productivity to which quality seeds of new and improved varieties contribute to a greater extent. The Indian seed industry is now in a better position to face such challenges by investing more in research and developmental programmes, use of biotechnology, collaborations with like minded research companies to bring synergy, addition of new range of crops, products and technologies and also value-addition to the existing crops by traditional methods. Given the growth of the seed sector in recent years, India has the potential to become the foremost player in the seed export business in the developing world with prospective markets in Asia, Africa and South America.

The seed industry has made impressive strides from a modest beginning in seed production and the quality seed distributed increased from 1.83 lakh quintal in 1953-54 to 190 lakh quintal in 2008-09. (Policy Note, Agriculture, 2010-11). Making quality seeds available is the biggest challenge before the seed sector. Thus, keeping in view the above said factors the study was undertaken to find out the relationship between knowledge and profile characteristics of pulses seed growers.

METHODOLOGY

The study was conducted in 3 blocks of

1&3 Ph. D Scholar, Department of Agricultural Extension and Rural Sociology and 2 - Professor, Directorate of Extension Education, Training Division, Tamil Nadu Agricultural University, Coimbatore – 3.

Coimbatore district in Tamil Nadu. The blocks were Kinathukadavu, Thondamuthur and Karamadai. For the study 30 farmers from each of the three blocks, where the highest number of farmers cultivating pulses for seed production were selected. Accordingly 90 pulses seed growing farmers were chosen by employing simple random sampling technique. Data were collected by using semi structured and pre tested interview schedule. Simple correlation and multiple linear regression analysis were used to analyse the data.

FINDINGS AND DISCUSSION

The nature and degree of association between the characteristics and the knowledge level of pulses seed growers was worked out and the results are presented in the Table 1. For studying the association and contribution, simple correlation and multiple regression analyses were used. The variables which exhibited only positive or negative relationship have been taken into consideration for discussion in detail and the variables which exhibited no significant relationship are not analysed.

Table 1.
Simple Correlation Analysis of Knowledge Level
with Profile Characteristics of Pulses Seed Growers   **(n= 90)**

Variable No.	Variables	'r' values
X_1	Age	- 0.546**
X_2	Educational status	0.018 NS
X_3	Occupational status	- 0.295**
X_4	Farm size	0.021 NS
X_5	Crops grown	- 0.180 NS
X_6	Area under seed production	- 0.190 NS
X_7	Experience in seed production	0.759**
X_8	Annual income	0.150 NS
X_9	Social participation	0.525**
X_{10}	Urban contact	0.330**
X_{11}	Information seeking behaviour	0.430**
X_{12}	Economic motivation	0.204 NS
X_{13}	Scientific orientation	0.016 NS
X_{14}	Risk orientation	0.122 NS
X_{15}	Decision making ability	0.193 NS

** - Significant at 1 per cent level
* - Significant at 5 per cent level
NS -   Non – Significant

It could be seen from Table 1 that out of the 15 independent variables studied, four variables had shown positive and significant association with knowledge level of pulses seed growers. The variables namely experience in seed production (X_7), social participation (X_9), urban contact (X_{10}) and information seeking behaviour (X_{11}) had shown positive and significant association with knowledge level at one per cent level of probability. The variables namely age (X_1), occupational status (X_3) showed negative and highly significant relationship with the knowledge level at one per cent level. The variables like educational status (X_2), farm size (X_4). crops grown (X_5), area under seed production (X_6), annual income (X_8), economic motivation (X_{12}), scientific orientation (X_{13}), risk orientation (X_{14}) and decision making ability (X_{15}) did not show any significant association with knowledge.

Age (X_1) had negative and significant relationship with knowledge level of the respondents. This may be due to, as years pass by, a farmer accumulates experiences that are mostly successful in nature along with occasional failure in crop production, crop management etc., layer by layer. Whenever situation demands, he recalls those experiences with the present conflict problem to be resolved on his own. If this strategy fails to give the answer then he will seek the opinion from his friends and relatives in tune with recommendation offered by the officials. Hence age is not a deciding variable with respect to knowledge level.

Agriculture is the primary occupation of the respondents (85.00 per cent). The pulses seed production is mostly guided by AO/ASO. They involved themselves with the farmers right from sowing to harvesting operations. Due to buy back arrangements and need for seed multiplication. There is continuous demand for supply of pulses throughout the year. However, it is not matched with supply, creating a short supply of seeds which is not understood by the seed growers properly. Only few innovative and progressive farmers are willing to raise the pulse crop other than summer season under irrigated condition by consulting University scientists and dealers. Hence at present, a negative relationship has been found.

Experience in seed production, social participation and information seeking behaviour had showed positive and highly significant relationship with the knowledge level. This shows that knowledge is *sine-qua-non*. Farmers gain experience in cultivation by trial and error method, before seeking advice and guidance with respect to agriculture and allied activities. Seed production being a specialized and technical nature would have made the farmers to develop positive attitude towards extension agency contact, greater mass media exposure and information seeking behaviour etc. All these above factors contributed to the positive relationship with the knowledge level.

Social participation had high significant relationship with knowledge level of the respondents. This indicates that when the social participation increases, the knowledge level correspondingly increases. This positive correlation is at one per cent level. Social

Table 2.
Multiple Regression Analysis of Characteristics of Seed Growers
with their Knowledge Level

Variable No.	Variables	Regression coefficient	Standard error	't' value
X_1	Age	-3.222	0.920	-3.503*
X_2	Educational status	-0.624	0.639	-0.977 NS
X_3	Occupational status	0.382	1.836	0.208 NS
X_4	Farm size	0.979	1.604	0.610 NS
X_5	Crops grown	-0.980	0.505	-1.939*
X_6	Area under seed production	-0.084	1.067	-0.079 NS
X_7	Experience in seed production	7.946	1.502	5.289**
X_8	Annual income	1.662	1.325	1.254 NS
X_9	Social participation	0.113	0.133	0.848 NS
X_{10}	Urban contact	-0.116	0.309	-0.374 NS
X_{11}	Information seeking behaviour	-0.005	0.009	-0.542 NS
X_{12}	Economic motivation	-0.010	0.456	-0.021 NS
X_{13}	Scientific orientation	-0.026	0.193	-0.137 NS
X_{14}	Risk orientation	-0.121	0.516	-0.235 NS
X_{15}	Decision making ability	0.265	0.395	0.672 NS

R^2 = 0.689   ** - Significant at 1per cent level
a = 33.502   * - Significant at 5per cent level
F = 10.928 **   NS - Non – significant

participation includes the participation as a member or office bearer in village panchayat, panchayat union, co-op society and FDG. The participation in these organizations increases the interaction among the members and correspondingly the knowledge level increases. By way of becoming a member in many organizations, a lot of opportunities are provided in participating skill and knowledge oriented trainings, study visits, organization of exhibitions and similar knowledge upgrading extension activities over period of time. Hence, the reported finding.

Information seeking behaviour had shown a positive and highly significant relationship with knowledge level gained. More knowledge could have provided more possibilities to interact with various kinds of people, which could have helped them to acquire more knowledge on the pulses seed production technologies.

This finding is similar to the findings of Deepa (2003), Jayalakshmi (2004) and Elakkia (2007).

The multiple regression analysis was performed to find out the extent of contribution of each independent variable towards the knowledge level of pulses seed growers.

Table 2 indicates that the R^2 value was 0.689 which revealed that 68.90 per cent of variation in the knowledge level was explained by the 15 independent variables selected for the study.

Since the 'F' value was significant at one per cent level of probability the prediction equation was fitted for knowledge level of the respondents as given below.

$Y_1 = 33.502 - 3.222_{X1} - 0.624_{X2} + 0.382_{X3} + 0.979_{X4} - 0.980_{X5} - 0.084_{X6} + 7.946_{X7} + 1.662_{X8} + 0.113_{X9} - 0.116_{X10} - 0.005_{X11} - 0.010_{x12} - 0.026_{x13} - 0.121_{x14} + 0265x_{15}$

It could be seen from the above equation that the regression coefficient of one variable namely experience in seed production (X_7) was found to be positive and significant with the knowledge level of pulses seed growers at one per cent of probability. Age (X_1) and crops grown (X_5) had negative and significant association with the knowledge level of pulses seed growers at five per cent level of probability.

The strength of contribution of these variables can be explained as **ceteris paribus**, i.e., one unit increase in experience in seed production (X_7) would bring 7.946 units increase in knowledge gain respectively. From the study it could be concluded that experience in seed production (X_7), age (X_1) and crops grown (X_5) were the three variables significantly contributing for the knowledge.

CONCLUSION

It could be concluded that the variables experience in seed production, social participation, urban contact and information seeking behaviour were significantly and positively correlated with the knowledge level of pulses seed growers. Further, it could be concluded that the variable experience in seed production was found to be influential on knowledge level of pulses seed growers. The study would indicate the direction for the planners, administrators and extension experts to modernise the training strategy.

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