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Correlation analysis of the summer groundnut growers regarding knowledge and adoption of recommended package of practices

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Abstract
The groundnut crop is cultivated as a major edible oilseed crop in India. It finds extensive use as a cooking medium, both as refined oil and as vanaspati ghee. The Groundnut is the single largest source of edible oils in India and constitutes roughly about 50 percent of the total oilseed production. India occupies the first place in acreage and second in production of groundnut. In India, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Tamil Nadu, and Maharashtra are the important groundnut-growing states. The list of summer groundnut growing villages includes Rahuri, Sangamner, Akole, Rahata, Newasa and Shrirampur tehsils were obtained from Taluka Krishi Adhikari (Taluka Agriculture Officer). Two villages from each tehsil that is total 12 villages were selected for the study on the basis of area under summer groundnut crop. A total of 10 summer groundnut growers from each village were selected randomly on the basis of the summer groundnut crop's area. Hence, in 6 tehsils, 12 villages and 120 respondents were selected for the study. The data from the respondents was personally collected by interviewing them with the help of a well-structured interview schedule. Thus, data was collected and appropriated for statistical analysis. In the correlation analysis regarding the knowledge and adoption it is evident that, amongst personal, socio-economic, communicational and psychological characteristics age, size of family, size of land holding and social participation of respondents were negative and significantly correlated with knowledge and adoption at 0.01 level of probability. While, education was positively and significant relationship with knowledge and adoption of recommended cultivation practices of summer groundnut. While, area under summer groundnut cultivation, annual income, source of information and risk orientation were exhibited non-significant relationship with knowledge and adoption.

Keywords: Summer groundnut, growers regarding, package of practices

Introduction
The Groundnut (*Arachis hypogaea*), also known as peanuts, or monkey nuts, are the edible seeds of a legume plant that grow to maturity in the ground. The 'nuts' are high in edible oil content (40-50 %) and protein content (25 %), as well as a good source of a variety of essential vitamins and minerals. Every part of the peanut plant is used in some way: kernels for human consumption, vines as fodder for cattle, and nitrogen fixed from its roots as nutrients for the soil. The Groundnut, a native of Brazil, is grown in more than 100 countries in the world. The China is the largest producer of groundnut followed by India. In our country is gifted with a wide range of agro-climatic conditions which enables the production of groundnut throughout the year for maintaining a continuous supply of fresh groundnuts. These off season groundnuts are in great demand in home market as well as in the neighboring gulf countries. Groundnut is the single largest source of edible oils in India and constitutes roughly about 50 per cent of the total oilseeds production. Summer groundnut cultivation being labour intensive can substantially increase employment avenues too. The sizeable increase in groundnut production over the years was possible through extension efforts of ICAR and State Department of Agriculture. In order to bring groundnut production to the forefront and to achieve even higher level of production, frontline demonstrations play the most pivotal role in terms of providing viable technological inputs.

Methodology
The study was conducted with purposively selected Ahmednagar district of Maharashtra state. The Ahmednagar district was selected as it has the largest area among the districts of Maharashtra state. In Ahmednagar district, there are a total of 14 tahsils.

In regard to the geographical situation of Ahmednagar district, it is observed that the following six tahsils have better irrigation facilities as compared to the rest of the tahsils. Hence these six tahsils, namely Rahuri, Sangamner, Akole, Rahata, Newasa and Shrirampur were purposively selected for the study. The list of summer groundnut growing villages includes Rahuri, Sangamner, Akole, Rahata, Newasa and Shrirampur tehsils were obtained from Taluka Krishi Adhikari (Taluka Agriculture Officer). Two villages from each tehsil that is total 12 villages were selected for the study on the basis of area under summer groundnut crop. A total of 10 summer groundnut growers from each village were selected randomly on the basis of the summer groundnut crop's area. Hence, in 6 tehsils, 12 villages and 120 respondents were selected for the study. The data from the respondents was personally collected by interviewing them with the help of a well-structured interview schedule. Thus, data was collected and appropriated for statistical analysis.

Results and Discussions

Relationship between profile of summer groundnut growers with their knowledge and adoption of recommended package of practices of summer groundnut

A) Relationship between profile of summer groundnut growers with their knowledge of recommended package of practices of summer groundnut

Age and knowledge

The person from young age being more active and enthusiastic they are likely to be more educated, knowledgeable, more information seekers, capable to face any situation and able to take more risk. The Karl Pearson correlation coefficient (r = - 0.392) indicated that there was negative and significant relationship between the summer groundnut growers age and their knowledge about recommended package of practices of summer groundnut. These indicate that the knowledge was influenced by the age of respondents. Thus the hypothesis of age is related with knowledge is accepted.

Education and knowledge

The correlation coefficient (r = 0.581) indicated that there is positive and significant relationship between respondents education and their knowledge. Education makes man to believe in science and technology and thereby rationalize his way of thinking and acting. This indicates that higher education makes farmer to change and accept innovative ideas more quickly. They have greater desire for gaining knowledge. Thus, it is concluded that the higher educated respondents were having high knowledge about recommended package of practices of summer groundnut. Thus the hypothesis of education is related with knowledge is accepted.

Size of land holding and knowledge

The correlation coefficient (r = - 0.206) indicated that the relationship between size of land holding and knowledge of the summer groundnut growers was negatively significant. The correlation between total land holding and knowledge about recommended package of practices was found negatively significant thereby meaning that decrease in land holding size of the respondents, increase in knowledge of recommended package of practices of summer groundnut growers. Thus the hypothesis of size of land holding is related with knowledge is accepted.

Area under summer groundnut and knowledge

The correlation coefficient (r = 0.103) indicated that relationship between area under summer groundnut cultivation and knowledge was non- significant. It was observed that there was no relation of knowledge and area under summer groundnut cultivation means knowledge was not influenced by the area under summer groundnut cultivation. Thus the hypothesis of area under summer groundnut is related with knowledge is rejected.

Annual income and knowledge

The correlation coefficient (r = 0.045) indicated that relationship between annual gross income and knowledge level of the respondents was non-significant. It was observed that there was no relation the correlation between total annual gross income and knowledge about recommended package of practices of summer groundnut was found non-significant means knowledge was not influenced by the annual income. Thus the hypothesis of annual income is related with knowledge is accepted.

Social participation and knowledge

The correlation coefficient (r = - 0.189) indicated that relationship between social participation and knowledge level of the respondents was negatively significant. Social participation was found to be negative and significantly related with knowledge. Thus, it could be said that, higher the social participation, lower the knowledge. Thus the hypothesis of social participation is related with knowledge is accepted.

Sources of information and knowledge

The correlation coefficient (r = 0.116) indicate that relationship between the source of information and knowledge of recommended package of practices of summer groundnut was non-significant. Thus the hypothesis of sources of information is related with knowledge is rejected.

Risk orientation and Knowledge

The farmer who used to take more risk have sound social and economic background, seek more information, more knowledge, have greater ability to face situation by solving the problems faced. It was therefore assumed that farmers of higher risk orientation having more knowledge than the farmers with less risk orientation. Level of risk orientation of the summer groundnut growers and overall knowledge in summer groundnut production was non-significantly correlated (r = 0.030). It is observed that, knowledge of the summer groundnut growers about recommended package of practices of summer groundnut established non-significant relationship with extent of knowledge level. Thus the hypothesis of risk orientation is related with knowledge is accepted.

Table 1: Relationship between profile of summer groundnut growers with their knowledge of recommended package of practices of summer groundnut

Sr. No.	Independent variables	Correlation coefficient (r)
1.	Age	- 0.392**
2.	Education	0.581**
3.	Size of family	- 0.319**
4.	Size of land holding	- 0.206*
5.	Area under summer groundnut	0.103NS
6.	Annual income	0.045NS
7.	Social participation	- 0.189*
8.	Source of information	0.116NS
9.	Risk orientation	0.030NS

* Significant at 0.05 level of probability ** Significant at 0.01 level of probability
NS - Non significant

B) Relationship between profile of summer groundnut growers with their adoption of recommended package of practices of summer groundnut

Age and adoption

The person from young age being more active and enthusiastic they are likely to be more educated, knowledgeable, more information seekers, capable to face any situation and able to take more risk. The Karl Pearson correlation coefficient (r = - 0.480) indicated that there was negative and significant relationship between the summer groundnut growers age and their adoption about recommended package of practices of summer groundnut. These indicate that the adoption was influenced by the age of respondents. Thus the hypothesis of age is related with adoption is accepted.

Education and adoption

The correlation coefficient (r = 0.702) indicated that there is positive and significant relationship between respondents education and their knowledge. It means the adoption level increases with an increase in the level of formal education of the respondents. This may be the case that the educated people could read the relevant literature and grasp modern techniques of agriculture. The level of education also helps to an individual to get him acquainted with the skills that are required for exercising the modern techniques of summer groundnut crop. The might have resulted in establishing a positive and significant relationship of education with adoption level. Thus the hypothesis of education is related with adoption is accepted.

Size of family and adoption

The correlation coefficient (r = - 0.398) indicated that the relationship between the size of family and adoption of the respondents was negatively significant. Thus the hypothesis of size of family is related with adoption is accepted.

Size of land holding and adoption

The correlation coefficient (r = - 0.279) indicated that the relationship between size of land holding and adoption was negative significant. Thus the hypothesis of size of land holding is related with adoption is accepted.

Area under summer groundnut and adoption

There was non-significant relationship between (r = 0.025) area under summer groundnut cultivation and adoption was non-significant. It was observed that there was no relation of adoption and area under summer groundnut cultivation means adoption was not influenced by the area under summer groundnut cultivation. Thus the hypothesis of area under summer groundnut is related with adoption is rejected.

Annual income and adoption

The correlation coefficient (r = - 0.035) indicated that relationship between annual gross income and adoption level of the respondents was non-significant. The correlation between total annual gross income and adoption about recommended package of practices was found non-significant means adoption is not influenced by the annual income. Thus the hypothesis of annual income is related with adoption is rejected.

Social participation and adoption

The correlation coefficient (r = - 0.231) indicated that relationship between social participation and adoption level of the respondents was non-significant. Thus, it could be said that, the social participation has not influence on adoption of recommended package of practices of summer groundnut. Thus the hypothesis of social participation is related with adoption is accepted.

Sources of information and adoption

The correlation coefficient (r = 0.091) indicate that relationship between the source of information and adoption of the respondents about recommended package of practices of summer groundnut was negative and significant. Thus the hypothesis of source of information is related with adoption is rejected.

Risk orientation and adoption

The relationship between risk orientation and adoption level of the respondents was found to be non-significant (r = 0.014).

This indicates that adoption is not influenced by risk orientation. Thus the hypothesis of risk orientation is related with adoption is rejected.

Table 2: Relationship between profile of summer groundnut growers with their adoption of recommended package of practices of summer groundnut

Sr. No.	Independent variables	Correlation coefficient (r)
1.	Age	- 0.480**
2.	Education	0.702**
3.	Size of family	- 0.398**
4.	Size of land holding	- 0.279**
5.	Area under summer groundnut	0.025NS
6.	Annual income	- 0.035NS
7.	Social participation	- 0.231*
8.	Source of information	0.091NS
9.	Risk orientation	0.014NS

* Significant at 0.05 level of probability ** Significant at 0.01 level of probability
NS - Non significant

Conclusion

The finding concluded that, based on the correlation analysis regarding knowledge and adoption, it is evident that, among personal, socio-economic, communicational, and psychological characteristics, age, size of family, size of land holding, and social participation of respondents were negative and significantly correlated with knowledge and adoption at the 0.01 level of probability. While, education had positively and significant relationship with knowledge and the adoption

of recommended cultivation practices of summer groundnut. While, area under summer groundnut cultivation, annual income, source of information, and risk orientation were exhibited non-significant relationship with knowledge and adoption.

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