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Knowledge and adoption level of farmers on recommended groundnut production technologies in Odisha

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Abstract

A study entitled "knowledge and adoption level of farmers on recommended groundnut production technologies in Odisha" was undertaken with an aim to analyse the socio-economic profile, knowledge and adoption level of groundnut farmers on recommended groundnut production technologies. Both purposive and random sampling procedure well followed for selection of the district, blocks, gram panchayat, villages and respondents of the study. The total sample size of the study was 100 groundnut producing farmers. The findings of the study revealed that majority of the respondents belonged to medium (cv=4.5%) and low (cv=3.30%) socio economic status in comparison to high (cv=9.23%) category status. Among the respondents majority (75%) belong to medium knowledge category followed by high (13%) and low (12%). Majority (68%) of the respondents were categorised under medium adoption level category followed by 23 percent low and 9 percent belonged to high adoption level categories.

Keywords: adoption, knowledge, scientific groundnut production technologies, training

Introduction

Groundnut (*Arachis hypogaea* L.) is an important oilseed crop which play a very vital role in agricultural economy of India. Among the different oilseed crop, Groundnut is one of the most excellent source of high quality protein and edible oil meeting the requirement of both protein and edible oil. Groundnut is cultivated for its kernel that is rich in oil and protein. Groundnut is also of value as a rotation crop being a legume with root nodules, it can synthesize atmospheric nitrogen and improve the soil fertility. Groundnut is used for edible and non-edible purposes. About 81.6% of the total production is crushed and used for edible purpose and remaining production goes for seed (12%), feed (5.3%) and exports (1.1%). Under oil seed mission of Govt. Of India major focus is given for Groundnut production in Odisha with other oilseed crops. Under this mission up to date viable improved Groundnut production technologies disseminated to the farmers to upgrade their level of knowledge and adoption of up to date technologies to boost Groundnut production in the state. An attempt has been made in the study the socio-economic profile of the groundnut cultivators and their knowledge and adoption level of the farmers in the state of Odisha.

Research Methodology

The study was conducted in Jajpur district of Odisha in the year 2018-19, selected purposively as it contributes a major share to Groundnut production of the state. Both purposive and random sampling procedures were followed for selection of district, block, gram panchayat, village and respondents of the study. Total sample size of the study was 100. The response was obtained from each individual of selected groundnut cultivators through a pre- tested interview schedule. The data collected, tabulated and analysed with the help of suitable statistical tools and techniques.

Result and Discussion

The findings of the study were presented as per the objectives outline with the help of suitable tables systematically as mentioned in Table 1.

As revealed from the above Table that Age (25.152%), Membership of Social organization (23.861%), Extent of Social contact (14.750%), Cosmopolitaness (16.212%), Media exposure (13.335%), Housing pattern (13.492%) and Scientific Aspiration (15.567%) of the respondents had higher consistency than other socio-economic variables of the respondents. At the same time Education, Membership of Social organization, land holding size, occupation, farm power possession, and annual income of the respondents had greater variability.

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Table 1: Covariance analysis of socio-economic variables

Sl. No.	Variables	Mean	S.D.	S.E.	CV%
1	Age	2.210	0.556	0.056	25.152
2	Education	3.390	1.163	0.116	34.292
3	Family type	1.610	0.490	0.049	30.448
4	Membership of Social organization	10.100	2.410	0.241	23.861
5	Extent of Social contact	13.300	1.962	0.196	14.750
6	Cosmopolitaness	13.070	2.119	0.212	16.212
7	Media exposure	30.890	4.119	0.412	13.335
8	Housing pattern	3.170	0.428	0.043	13.492
9	Land holding size	1.780	0.746	0.075	41.935
10	Occupation	1.200	0.402	0.040	33.501
11	Farm power possession	4.160	1.204	0.120	28.935
12	Average annual Income	1.690	0.662	0.066	39.173
13	Scientific Aspiration	15.580	2.425	0.243	15.567

Table 2: Categorization of socio-economic variables according to their CV%

Sl. No.	Category	Mean	S.D.	S.E.	CV%
1	Low	82.16	2.71	1.10	3.30
2	Medium	99.68	4.52	0.49	4.53
3	High	131.63	12.15	3.66	9.23

The above Table revealed that majority of the respondents belong to medium (CV% 4.53%) and low (CV% 3.30) socio economic status in comparison to high (CV% 9.23) category of status.

Table 3: Categorization of respondents according to their knowledge level

Category	Frequency	Percentage (%)
Low	12	12
Medium	75	75
High	13	13

Mean = 18.92, S.D. = 1.228, N = 100

The above Table indicated that among the respondents majority (75%) belonged to medium knowledge level

category followed by high (13%) and low (12%). It was observed that the knowledge level of maximum number of farmers is not satisfactory for which care should be taken by the extension functionaries to enrich their knowledge level on scientific recommended production technologies.

Level of adoption of the farmers regarding recommended groundnut production technologies

Adoption is the process of acceptance and full utilization of the innovation. Hence to study the level of adoption, an effort was made to sort out the groundnut production technologies into 7 broad areas from the 17 production technologies of the interview schedule.

Table 4: Adoption level of farmers on major areas of groundnut production technologies

Sl. No.	Major areas of adoption	Fully adopted (3)		Partially adopted (2)		Not adopted (1)		Mean score	Gap%	Rank
		f	%	f	%	f	%			
1	Soil and land preparation	88	88.0	12	12.0	0	0	2.88	4.00	VI
2	Variety	9	9.0	91	91.0	0	0	2.09	30.33	I
3	Planting	11	11.0	89	89.0	0	0	2.11	29.67	II
4	Intercultural operations	80	80.0	20	20.0	0	0	2.80	6.67	V
5	Nutrient management	24	24.0	76	76.0	0	0	2.24	25.33	IV
6	Plant protection measures	92	92.0	8	8.0	0	0	2.92	2.67	VII
7	Harvesting and post-harvest	23	23.0	77	77.0	0	0	2.23	25.67	III

N = 100

Examining the above Table, it was revealed that the respondent farmers had an adoption gap of 30.33 percent in case of use of proper potato varieties which ranked 1st, followed by a gap of 29.67 percent (2nd), 25.67 percent (3rd), 25.33 percent (4th), 6.67 percent (5th), 4.00 percent (6th) and

2.67 percent (7th) in the areas of adoption of planting, harvesting & post-harvest, nutrient management, intercultural operations, soil & land preparation and plant protection measures.

Table 5: Categorization of farmers according to their adoption level

Category	Frequency	Percentage (%)
Low	23	23
Medium	68	68
High	09	09

Mean = 2.467, S.D. = 0.351

The above Table revealed that majority (68%) of the respondents categorized under medium adoption level

category, followed by 23 percent low and 9 percent belonged to high adoption level categories in groundnut production

technologies. Majority of the respondents belonged to medium adoption level category, owing to the reasons of poor socio-economic condition, medium knowledge level and

perceived constraints faced by the farmers in groundnut production.

Table 6: Descriptive statistics of adoption

Sl. No.	Broad areas of production technology	Mean	S.D.	S.E.	CV%
1	Soil & Land preparation	2.880	0.327	0.033	11.340
2	Variety	2.090	0.288	0.029	13.762
3	Planting	2.110	0.314	0.031	14.904
4	Intercultural Operations	2.800	0.402	0.040	14.358
5	Nutrient Management	2.240	0.429	0.043	19.162
6	Plant Protection measures	2.920	0.273	0.027	9.338
7	Harvesting and Post-harvest	2.230	0.423	0.042	18.966

The above Table depicted that adoption of plant protection measures (CV 9.338%), and Soil & land preparation (CV 11.34%) of the respondents had higher consistency than other 5 major practices such as: variety, planting, intercultural operation, harvesting & post-harvest and nutrient management respectively, which showed greater variability. The findings of the Table concluded that plant protection measures followed by soil & land preparation were the 2 important practices which may be taken into account for increasing level of adoption.

Recommendations

To increase the knowledge and adoption level of groundnut cultivators, the following recommendations given:

1. New production technologies should be demonstrated through method and result demonstrations by the state extension functionaries.
2. Vocational training on value addition should be provided to the young groundnut growers as per their interest.
3. There should be timely supervision by the grass root level extension functionaries and kvk scientists.
4. The groundnut cultivators should be well trained and that should be timely supply of production inputs.
5. The farmers interest groups (FIGS) should be strengthen and farmer should sell their produce through cooperative society.
6. More number of, godowns and ware houses are required to be constructed in all panchayats/blocks.
7. Crop insurance should be provided to the groundnut cultivators.
8. The marketing channels are to be strengthened to fetch remunerative price.

Conclusion

There is great demand of groundnut, groundnut oil and their byproducts in the country. There is a wide gap in between present production and consumption level of groundnut in our state Odisha. In order to fulfill the requirement of the consumers of the state and to fetch groundnut producers a remunerative price, the policy makers, planners, scientists may take necessary steps to train, motivate and enhance the knowledge and adoption level of the cultivators regarding modern groundnut production technologies in order to bring desirable change in the groundnut scenario of our state. Thus development of the socio-economic condition of the groundnut cultivators can be achieved and Odisha can be self-sufficient in groundnut production.

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