

Analysis of Knowledge Status of Improved Technologies by Groundnut farmers

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ABSTRACT: The research study was conducted in Yadagiri district of hyderbad Karnataka during 2011-13 with the sample size of 120 respondents. The ex-post-facto research design was used for the study. The findings revealed that, more than half of the respondents had partial knowledge on land preparation, spacing, organic manures. Full knowledge noticed on varieties (65%), Intercultivation (66%), followed by seed rate and land preparation. Whereas less knowledge observed in seed treatment with bio-agents (68%) followed by disease management (67%) & organic manures (35%). Around forty percent of farmers with lower education coupled with low experience in both risk orientation and scientific orientation. The below average extension contact is being maintained by groundnut farmers. Correlation analysis revealed that, education, management orientation, achievement orientation and extension contact of groundnut farmers showed positive and significant relationship with their knowledge level of improved technologies at 1 percent level of probability. Whereas farming experience, risk orientation, innovative proneness of groundnut farmers exhibited positive and significant relationship with 5 per cent level of probability.

Key words: Knowledge status, Improved Technologies, farmers & Relationship

INTRODUCTION

Groundnut is one of the main oilseed crop of India. Unlike many oilseeds, Groundnut can be consumed directly in various farms and hence now it is also being considered a supplementary food crops. In India groundnut is grown in an area of about 6.5 hectares with a production of about 7 million tones of pods per annum (2007). It is one of the few crops that can be cultivated even on marginal lands under low input conditions. Unfortunately average productivity of groundnut in India is quite low (1000kg) compared to (USA-3000 kg/ha, China- 2600 kg/ha, Argentina-2100 kg/ha and Indonesia-1550 kg/ha). A decade ago, India was one of the major exporter of groundnut in the world, now it has lost that position to China. The USA & Argentina are the other competitors. Many new technologies were developed at university and research stations and tested mainly through verification trails and demonstrations in the farmers field before they are released tom the farmers for adoption. But the research results revealed that wide gaps existed between yield on the farmers' field and those recorded at research stations. This indicates the existence of considerable untapped yield potential.

With this in Raichur district, Groundnut crop area is being replaced with Bt-cotton, Paddy, Chilli, and sunflower due to delayed in Kharif monsoon and non-availability of quality seeds of new verities, lack of knowledge about pest and disease management, non-availability of timely production technologies to combat operational problems. In spite of availability of drought tolerant, water and input use efficient varieties are available. Hence, there is an urgent need to study the knowledge domain of respondents towards improved technologies in groundnut cultivation & analyze the relationship of independent variables of the respondents with their dependent variable.

METHODOLOGY

The Research study was conducted in Yadagiri district of Hyderabad Karnataka, two taluks like Yadgiri and Sorapu taluks were selected for the study based on maximum area under groundnut cultivation in the district. Three villages from each selected taluks were randomly chosen, in-turn each village 20 groundnut farmers were selected randomly. This constitutes the total sample size of 120 farmers.

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RESULTS & DISCUSSION

With regard to education (Table 1) it was found that, 37.50 percent of the groundnut farmers were educated up to primary school followed by illiterate (31.66%), middle school (24.16), secondary school (4.16%) and collegiate (2.50%). Ground nut growers had low literacy rate because majority growers comes in both illiterate and primary school. With respect to farming experience, it was observed that (Table 1) about half of the respondents (49.17%) possessed low experience followed by medium experience (31.67%) and high experience (19.17%) category. Table 1 shows that, about half the (48.33%) ground nut growers belonged to Semi-medium farmers followed by Small farmers (23.33%), Medium farmers (13.33%), Marginal farmers (10.00%) and big farmers (5.00%). This could be attributed to inheritance of land from their ancestors who might have transformed from generation to generation. Regarding risk orientation (Table 1) of the Groundnut farmers low level of risk orientation was noticed in (45.00%), While medium risk orientation was 35.00 percent followed by high risk orientation (20.00%) category. Nearly half of the respondents possessed lower level of scientific orientation (50.83%) followed by medium (36.67%) and High (12.50%) scientific orientation category. Scientific orientation is the orientation of farmer to adopt new technologies in scientific way. The nature of extension contact revealed (Table 2) that, AAO was known to 76.67 per cent of respondents, around 32 percent of the respondents were found to contact AAO whenever problem arises followed by once in a year (20.00%) and once in a month (9.17%). Amongst 23.33 percent of the respondents who were aware of ADA and very meager percent of respondents were being contacted with ADA. The SMS of the Department of Agriculture was known to 8.33 per cent and respondents were contacted whenever problem arises (5.83%). The scientist of university were known to 28.33 per cent of the respondents, of which 20.00 per cent of respondents contacted scientist whenever problem arises followed by once in year (9.17%). The field officer of the banking sector was known to 65.00 percent of respondents, of which 53.33 per cent of respondents contacted once in a year followed by once in a month (26.67%). About 74 per cent respondents were known to other extension agencies like Private agriculture input agencies, dealers, Private consultancy, NGOs, etc, of which 31.67 per cent of respondents contacted once in year followed once in month (26.67%).

Knowledge Status of groundnut growers about improved technologies

More than half (Table 3) of the respondents had (53.33%) partial knowledge about land preparation followed by full knowledge (25.83%) and around 20 percent of ground nut growers had no knowledge at all. It is due to lack of contact with extension officers of department of agriculture and scientists of Agricultural Universities and exposure to TOT system. About 55 percent of ground nut growers had full knowledge about recommended varieties like TMV-2, R-2001-03 followed by partial knowledge category (42.50%). The possible reason why majority of beneficiaries knowledge ranges from partial knowledge to full knowledge. Since seed is basic input, that has being influenced growers to know the knowledge about varieties and source of availability and their rates and available subsidies and its comparison to existing market rates. The results are in line with the findings of [1] & [2].

Around half of growers had partial knowledge about spacing (54.16%) followed by full knowledge 28.16% and no knowledge category consists of 17.50 percent growers. Majority of ground nut growers belong to partial to full knowledge category related to seed rate is concerned, this could be due to bulkiness of seed nature, costly seeds and consulting AAO's during purchase of seed material through subsidies. More than half of ground nut growers (60%) had partial knowledge of organic manures followed by no knowledge category (35.00%) and full knowledge category consists of only 5 percentage. Partial knowledge level on land preparation, spacing, seed rate & organic manure, may be due to fact that, these simple practice requires no additional cost. In spite of above reason the results are inconformity with findings of [1] & [3] & [4]. This points out that, a large number of ground nut growers still lack of information about biofertilizers, vermicompost, composting and other organic manures. The possible reason for these situations might be low risk orientation; less contact with extension agencies and poor dissemination system. Majority of ground nut growers (68.33%) belonged to no knowledge category followed by partial knowledge (26.00%) and full knowledge category of 5 percent. This points out that, a large number of ground nut growers still lack of knowledge about seed treatment particularly biofertilizers like Rhizobium, Trichoderma, and PSB etc. Two third portions of ground nut growers had partial knowledge of fertilizer management followed by no knowledge (19.16%) and full knowledge

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Table 1
Situational attributes of ground nut farmers

(n=120)

Sl. No.	Situational attributes	Frequency	Percentage
1.	Education level		
1.	Illiterate (nil)	38	31.66
2.	Primary (up to 5 years)	45	37.50
3.	Middle (up to 10 years)	29	24.16
4.	Secondary (up to 12 years)	05	4.16
5.	Collegiate (>12 years)	03	2.50
2.	Farming experience		
1.	High (> 34.3)	23	19.17
2.	Medium (12.83-34.43)	38	31.67
3.	Low (<12.83)	59	49.17
3.	Land holding		
1.	Marginal farmers (Up to 2.5 acers)	12	10.00
2.	Small farmers (2.5 to 5.00 acers)	28	23.33
3.	Semi-medium farmers (5.00 to 10 acers)	58	48.33
4.	Medium farmers (10 to 25 acers)	16	13.33
5.	Big farmers (>25 acers)	06	05.00
4.	Risk orientation		
1.	High (> 8.73)	24	20.00
2.	Medium (6.11 -8.73)	42	35.00
3.	Low (<6.11)	54	45.00
5.	Scientific orientation		
1.	High (> 10.59)	15	12.50
2.	Medium (8.01-10.59)	44	36.67
3.	Low (<8.01)	61	50.83

Table 2
Distribution of Groundnut growers according to their Extension contact (n=120)

SlNo	Type of contact	Frequency of Contact				
		Awareness	Once in month	Once in year	Whenever prob. arises	Never
1	AAO	92 (76.67)	11(9.17)	24(20.00)	38(31.67)	32(26.67)
2	ADA	28(23.33)	00(00)	04(3.33)	06(5.00)	95(79.17)
3	Subject Matter Specialist	10(8.33)	00	00	07(5.83)	62(51.67)
4	Scientist of University	34(28.33)	04(3.33)	11(9.17)	24(20.00)	89(74.17)
6	Bank Officers	78(65.00)	28(23.33)	64(53.3)	10(00)	28(23.33)
7	Others like Private Extn. worker, Input agencies, & Consultancy	88(73.3)	32(26.67)	38(31.6)	12(10)	10(8.33)

Table 3
Knowledge Status of groundnut growers about improved technologies

(n=120)

Sl No	Technologies	Knowledge status					
		FK	%	PK	%	NK	%
1	Land Preparation	31	25.83	64	53.33	25	20.83
2	Varieties	65	54.16	51	42.50	04	03.30
3	Seed rate	34	28.33	65	54.16	21	17.50
4	Organic manure	06	5.00	72	60.00	42	35.00
5	Seed treatment (bio-agents)	06	5.00	32	26.00	82	68.33
6	Fertilizer management	12	10.00	85	70.83	23	19.16
7	Spacing	31	25.83	78	65.00	11	9.16
8	Inter cultivation	66	55.00	54	45.00	00	0.00
9	Pest Management	08	06.67	38	31.67	70	58.33
10	Disease Management	05	04.16	34	28.33	81	67.50

Note: FK-Full Knowledge, PK-Partial Knowledge, NK-No knowledge

Table 4
Correlation coefficients of independent variables of Ground nut farmers with their knowledge level of Improved Technologies

(n=120)

Sl. No.	Independent variables	Correlation coefficients (r) with knowledge level of Improved Technologies
1.	Age	0.068NS
2.	Education	0.477**
3.	Land holding	0.142 NS
4.	Farming experience	0.257*
5.	Risk orientation	0.240*
6.	Scientific orientation	0.134 NS
7.	Management orientation	0.326**
8.	Achievement motivation	0.398**
9.	Innovative proneness	0.256*
10.	Extension contact	0.349**
11.	Organizational participation	0.068 NS
12.	Annual income	0.026 NS

* - Significance at 5% level of probability

** - Significance at 1% level of probability

category of (10.00%). Regarding spacing and intercultivation around half of the respondents belonged to partial knowledge category followed by full and no knowledge category. With respect to pest management, around half of the respondents belonged to no knowledge category followed by partial knowledge category (31.67%) and full knowledge category constitute only (6.67%) percent. Similarly disease management more than half of the respondents belonged to no knowledge category followed by partial knowledge category (28.33%) and full knowledge category (28.33%)

The possible reason for the higher use of chemical measures of pests due to the fact that farmers are more rely on pesticides because of its efficiency in controlling pests and its quick in pest control than biological agents, mechanical tool and other ITK's. In spite of conducting training programmes, demonstrations on IPM practice like use of bioagents, collection and destruction of affected plants and other eco-friendly tools were not known to majority of ground nut growers, because the farmers might not have understood the concepts due to low literacy rates, lower extension contact, lower risk orientation, lower scientific orientation and little area coverage by these programmes. The findings of the study are disagreement with the findings of [2] & [3]. Correlation analysis revealed that, education, management orientation, achievement orientation and extension contact of Groundnut farmers showed positive and significant relationship with their knowledge level of improved technologies at 1 percent level of probability. Whereas farming

experience, risk orientation, innovative proneness of groundnut farmers exhibited positive and significant relationship with 5 per cent level of probability.

CONCLUSION

It can be concluded that more than half of the respondents had partial knowledge, which indicates that groundnut growers were in take-off stage regarding knowledge level of improved technologies. It was observed that, majority of respondents found higher knowledge with respect to land preparation; whereas lower knowledge was noticed in pest & disease management, Bio-fertilizers & seed treatment with bio-agents. Effective linkage between research, extension and farmers should help in identifying the problems faced by farmers in the adoption of improved technologies, ultimately arriving at the most appropriated solutions through on-farm research and on-farm trials.

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