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Extent of knowledge level of groundnut growers on recommended groundnut cultivation technologies in Salem district

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Abstract
Groundnut is called as the king of oil seeds. It plays an important role in oil seed economy of India. Groundnut oil is mainly used as cooking oil and also used for manufacturing soaps, cosmetics, shaving creams and lubricants. Groundnut is cultivated both as rainfed and irrigated crop. Increased productivity greatly depends on available technologies and extent of adoption by farmers. Keeping these in view, the objective of the study to analyse the knowledge level of groundnut growers. The present study was conducted in Tharamangalam block of Salem district. Proportionate random sampling technique was used to select 120 groundnut from cultivating farmers selected six villages namely Karukkalvadi, Konagapadi, Desavilakku, Pappampatti, Elavampatti and Selavadai. Fourteen independent variables were selected for studying the profile of respondents. Thirty one knowledge items were selected for studying the knowledge level of respondents. The results of the respondents, had medium level of knowledge on recommended groundnut technologies.

Keywords: Knowledge level, groundnut growers and technologies

Introduction
India is one of the largest producers of oilseeds in the world and occupies an important position in the Indian economy. In India, groundnut was cultivated in 45.69 lakh hectares with a production of 48.45 lakh tonnes in 2014-2015, which was less then 12.00 per cent in area and 25.00 per cent in production respectively when compared to previous year. The major growing states are Gujarat, Andhra Pradesh, Tamil Nadu, Rajasthan, Karnataka, Madhya Pradesh and Maharashtra. In order to meet the needs of increasing population, production targets have to go up. It would be possible only by adopting the improved production technologies in groundnut cultivation. Knowledge is the important pre-requisite for adoption. Keeping these in view, the present study was formulated with the following specific objectives of to study the extent of knowledge level of groundnut growers on recommended groundnut cultivation technologies.

Methodology
The present study was conducted in Tharamangalam block of Salem district. Proportionate random sampling procedure was used to select 120 respondents from six selected villages namely Karukkalvadi, Konagapadi, Desavilakku, Pappampatti, Elavampatti and Selavadai. Thirty one knowledge items were selected for studying the knowledge level of respondents. The test included 31 items covering all twelve selected groundnut cultivation practices. Each item of knowledge test was dichotomised into correct and incorrect responses. Every correct response was assigned 'two' score, while the incorrect response received 'one' score. The total score obtained by the respondent against 31 items formed the respondent's knowledge score. The possible range of score in this test was 31-62. Maximum score would reveal high knowledge, while the minimum score would indicate low knowledge. Based on the scores obtained, the respondents were classified into low, medium and high categories using cumulative frequency method.

Findings and Discussion
Overall knowledge level on recommended groundnut cultivation technologies
To assess the overall knowledge level of the respondents on groundnut cultivation technologies, necessary data were collected and are furnished in Table 1.

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Table 1: Distribution of respondents according to their overall knowledge level on recommended groundnut cultivation technologies

(n=120)

S. No	Category	Number	Per cent
1.	Low	15	12.50
2.	Medium	75	62.50
3.	High	30	25.00
	Total	**120**	**100.00**

The data in Table 1, indicated that nearly two – third the respondents (62.50 per cent) had medium level of knowledge level followed by high (25.00 per cent) and low (12.50 per cent) levels of knowledge. Hence, it could be concluded that

87.50 per cent of the respondents had medium to high level of the knowledge. Majority of the respondents were found to be medium in their characteristics viz., social participation, scientific orientation and extension agency contact. This would have motivated them to gain more knowledge on the groundnut cultivation practices. This is in line with the findings of Veerasami (2009) [3] who reported that majority of the respondents belonged to medium knowledge level category.

Practice wise knowledge level of the respondents
In order to have an in depth understanding about the knowledge level of the farmers, practice wise knowledge level was also worked out and the results are given Table 2.

Table 2: Distribution of the respondents according to their practice wise knowledge level

(n=120)

S. No.	Technologies	Number	Per cent
1.	**Varieties** Recommended groundnut variety (TMV 2,TMV 7, TMV 10, VRI 2,)	120	100.00
2.	**Sowing season** (Kharif- Nov-Dec) (Rabi- May- June)	120	100.00
3.	**Seed rate** Recommended of seed rate (use 120 kg/ha of kernals, and 175 kg/ha of kernals for bold seeded varieties)	115	95.83
4.	**Field preparation** Recommended number of ploughings 3-4 times with country plough. Apply FYM 12.5 t/ha.	115	95.83
5.	**Seed treatment** Seed treatment with fungicide (Thiram or carbandazim)	90	75.00
	Recommended quantity of the fungicide (Thiram @ 4g/kg or carbandazim @ 2g/kg)	80	66.66
	Seed treatment with bio fertilizer (Rhizobium)	60	50.00
	Seed treatment with bio control agent (Trichodermaviride and Pseudomonas fluorescens)	60	50.00
	Mean percentage		60.41
6.	**Method of sowing** Sowing method by using machine or manually Use kovai seed drill/gorru to sow the seeds in lines. Put one seed in each hole and protect the seeds from crows and squirrels.	115	95.83
	Meanpercentage		95.83
7.	**Irrigation** Optimum time for life irrigation Pre-flowering phase-1 to 25 days	90	75.00
	Optimum time for first irrigation Flowering phase -20 to 60 days	80	66.66
	Optimum interval between irrigation Maturity phase – 61 to 105 days	70	58.33
	Meanpercentage		66.66
8.	**Manures and fertilizer application** FYM application @ 12.5 t/ha	100	83.33
	NPK application @ 25:50:75 kg/ha	90	75.00
	Gypsum application @400 kg/ha.	80	66.66
	Meanpercentage		84.21
9.	**Weed management** Hand weeding (use first hand weeding)	110	91.66
	Intervals for weeding (35 to 40 Days)	90	75.00
	Recommended herbicide application (fluchloralin)	70	58.33
	Quantity of herbicide (fluchloralin @ at 2.0 l/ha)	80	66.66
	Time for application pre-sowing – soil applied and incorporated, (or)pre-emergence - applied with through flat fan nozzle	60	50.00
	Meanpercentage		68.33
10.	**Micro nutrient application** Recommended micro nutrient (Zinc and Boron)	60	50.00
	Quantity of micro nutrient (Zinc 25 kg and Borax 10 kg/ha)	50	41.66
	Time of application (45th day after sowing)	42	35.00
	Method of application (Foliar spray and soil application)	40	33.33
	Meanpercentage		39.99
11.	**Plant protection measures**		
	Pesticide recommended for groundnut to control RHC and pod borer (Phosalone and Chloropyriphos)	90	75.00

S. No.	Technologies	Number	Per cent
	Quantity of pesticide per acre (control of RHC-Phosalone 35 EC 750ml/ha in 375 *l* of water and for pod borer controlchloropyriphos 1250 ml/ ha	60	50.00
	Time of application	50	41.66
	Recommended fungicide to control Tikk leaf spot and Rust (Carbendazim and Mancozebsz)	90	75.00
	Quantity of fungicide per acre(Leaf spot control-Carbendazim @ 500g/ha, and rust control-Mancozeb @ 1000g/ha	70	58.33
	Time of application	50	41.66
	Meanpercentage		59.94
12.	**Harvesting**		
	Harvest the crop at right time Index: Drying and yellowing of the older leaves	120	100.00
	Meanpercentage		100.00

It could be observed from Table 2, that cent per cent of the respondents (100.00 per cent) possessed knowledge about recommended groundnut varieties, sowing season and correct time of harvest.

It is also observed that an overwhelming majority of the respondents possessed knowledge on seed rate (95.83 per cent), field preparation (95.83 per cent) and method of sowing (95.83 per cent). Further more than four- fifth of the respondents had knowledge on manures and fertilizer (84.21 per cent), weed management (68.33 per cent), irrigation (66.66 per cent), seed treatment (60.41 per cent) and plant protection (59.94 per cent). Knowledge on micro nutrient application was possessed by 39.99 per cent of the respondents. This might be due to the lack of awareness about micro nutrient application. In general it could be concluded that as all these practices are important for obtaining better yield, which in turn would have enabled them to acquire adequate knowledge.

Selection of variety
It could be observed from the Table 2, that all the respondents (100.00 per cent) had knowledge the recommended groundnut varieties. This might be due to availability of seeds of recommended groundnut varieties. (TMV 2, TMV 7, TMV 10, VRI 2,)

Sowing season
The recommended season of sowing is kharif season (Nov-Dec) and rabi season (May-June). Season of sowing was found to be adopted by cent percent of the respondents.

Seed rate
Seed rate is important to get higher yield. Use of 120 kg/ha of kernals and 175 kg/ha of karnels for bold seeded varieties is the recommended seed rate. Majority of the respondents (95.83 per cent) had knowledge of the recommended seed rate.

Field preparation
An overwhelming majority (95.83 per cent) of the respondents had knowledge on recommended number of ploughings for groundnut cultivation. The recommended numbers of ploughings is 3-4. Majority of the respondents had high level of knowledge about field preparation to get higher yield.

Seed treatment
The mean knowledge percentage of seed treatment was 60.41 per cent. Among the sub –items under seed treatment, seed treatment with fungicide *(Thiramor Carbandazim)* was known to 75.00 per cent of the respondents. Recommended quantity of fungicide *(Thiram 4g/kg or Carbandazim @ 2g/kg)* was known to 66.66 per cent of the respondents, seed treatment with bio–fertilizers and bio control agent *(Rhizobium and Trichodermaviride and Pseudomonas flurescens)* was known to 50.00per cent of the respondents. This finding is in line with the findings of Sasikumar (2008) [2].

Method of sowing
Proper method of sowing the seeds in field is known to 95.83 percent. Sowing behind country plough method and the use of kovai seed drill and gorru to sow the seeds in lines was known to majority of the respondents.

Irrigation
The mean knowledge percentage of irrigation practices was 66.66 per cent. The respondents had knowledge on optimum time for life irrigation (75.00 per cent) followed by optimum time for first irrigation (66.66 per cent) and optimum interval between irrigation (58.33 per cent). The non-adoption might be due to irregular power supply and low water table. This finding is in line with the findings of Venkattakumar and Padmaiah (2010) [4].

Manures and fertilizer application
The mean percentage of knowledge on manures and fertilizer application was 84.21 per cent. Among the sub – items under manures and fertilizers, application of recommended quantity of FYM (12.5 t/ha) application of recommended quantity of N,P,K (25:50:75 kg/ha) and application of gypsum were known to 83.33 per cent, 75.00 per cent and 66.66 per cent of the respondents respectively. *Gypsum 400kg/ha* is recommended for groundnut crop to enhance better pod formation and to achieve uniform size of kernels. The reason for higher knowledge of fertilizers may due to the fact that the respondents believed that correct dosage of fertilizes application would influence the yield of crop.

Weed management
The mean knowledge percentage under weed management was 68.33 per cent. Among the sub – items, 91.66 per cent of the respondents had good knowledge about the hand weeding practices. Intervals between weeding was known to 75.00per cent of the respondents. Recommended herbicide application *(fluchloralin),* quantity (@ *at 2.0 l/ha)* and time of application were known to 66.66 per cent. and 58.33 per cent and 50.00 per cent of the respondents respectively. This finding is in line with findings of Pratheepkumar (2012) [1].

Micro nutrient application
The mean knowledge percentage for micro nutrient

application was 39.99 per cent. Among the sub-items under this practice, recommended micro nutrient was known to 50.00 per cent, quantity of the micro nutrient application was known to 41.66 per cent, time of the application was known to 35.00 per cent of the respondents and method of micro nutrient application was known to 33.33 per cent of the respondents.

Plant protection measures
The mean knowledge percentage for plant protection measures was 59.94 per cent. Among the sub – items of plant protection measures, most of the respondents (75.00per cent) had knowledge of the recommended pesticide to control Red Hairy Catterpillar (RHC) and pod borer, Quantity of pesticide and time of application was known to 50.00 per cent and 41.66 per cent of the respondents respectively.
Regarding disease management, recommended fungicideto control tikka leaf spot and rust was known to 75.00 per cent of the respondents, quantity of fungicide per acre was known to 58.33 per cent and time of application was known to 41.66per cent of the respondents.

Harvesting
It could be observed from the Table 2 that cent percent of the respondents had knowledge about the harvesting of the groundnut crop at right time. This might be due to the fact that farmers by their experience were well aware of the fact that harvesting at correct time influences the yield level.

Conclusion
Majority of the respondents were found under medium level of knowledge. Since knowledge is the pre-requisite for adoption, it is suggested that the extension functionaries may make more and frequent contacts for increasing the knowledge level of the respondents. The knowledge may be imparted to the respondents by conducting campaign, regular training programmes and group discussion with experts.

Reference
1. Pratheebkumar B. Training needs of gingelly growers of Cuddalore district, Unpublished M.Sc., (Ag.). Thesis. Annamalai University, Annamalai Nager, 2012.
2. Sasikumar M. Adoption behaviour of rainfed groundnut farmers in Dharmapuri district. Unpublished M.Sc. (Ag.), Thesis, Annamalai University, Annamalai Nagar, 2008.
3. Veerasami S. An analysis on knowledge and adoption behaviour of banana growers. Unpublished M.Sc. (Ag.) Thesis, Annamalai University, Annamalai Nagar, 2009.
4. Venkattakumar R, Padmaiah M. Adoption behaviour of oilseed growers in India. Indian research journal of extension education. 2010; 10(3):75-81