



Farmers' perception and adoption of groundnut production technologies in Udupi district

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Abstract

The present study was conducted in Udupi district of Karnataka state during the year 2018-19 to assess the farmers' perception and adoption of groundnut production technologies. Three taluks having highest area under groundnut cultivation were selected. Four villages from each taluks were selected and from each village ten farmers were randomly selected. Thus, the sample size of the study comprises of 120 farmers. The data collection had been done with the help of a structured interview schedule. The study revealed that 65.83 per cent of farmers had high perception about groundnut production technologies. In case of adoption 75.00 per cent of the farmers had high adoption level regarding the recommended groundnut production technologies. Hence, SAU, KVKs, RSKs and concerned agriculture department should provide ample training and information to motivate the farmers in order to improve their perception level and to adopt the recommended technologies.

Keywords: perception, adoption, groundnut, production and technologies

Introduction

Groundnut (*Arachis hypogaea*) botanically belongs to family fabaceae. It is known as the 'king of oilseed' crops. Groundnut is also called as the wonder nut and poor man's cashew. It is one of the most important oilseed crop in the world containing 48-50% of oil and 26-28% of protein and is a rich source of dietary fiber, minerals and vitamins.

In India, groundnut is grown on an average area of 6.6 million hectares with a production of 4.7 million tones of pods per annum. The average productivity of groundnut in India is about 1,400 kg ha⁻¹ (Anon., 2016a) against the world's average yield of 1,600 kg ha⁻¹ (Anon., 2015). Of the total gross cropped area (GCA) in India, three per cent is under groundnut cultivation of which 19 per cent is irrigated. In India, 70 per cent of the groundnut area and 75 per cent of the production is concentrated in the states of Gujarat, Tamil Nadu, Andhra Pradesh, Maharashtra, Rajasthan and Karnataka. Gujarat is the leading producer contributing 29.63 per cent to the total production followed by Tamil Nadu (20.78 %), Andhra Pradesh (15.23 %), Maharashtra (8.23 %), Rajasthan (8.23 %) and Karnataka (7.82 %).

Importance of the study

In Karnataka, groundnut is grown in an area of 0.82 million ha with a production of 0.51 million tonnes and a productivity of 626 kg ha⁻¹ (Anon., 2016b). Udupi is one of the districts where groundnut is being grown in rabi season after the harvest of paddy in kharif. As the district area falls under Coastal Zone with assured residual moisture during the cropping season of Groundnut, normal area under groundnut is 1990 hectares with a production of 4012 tones and productivity 2100 kg/ha. Productivity of groundnut in Udupi district is 10 qt/acre which is

more compared to state and national average. Since no study has been conducted for assessing the adoption of groundnut production technologies by the farmers in this district, hence this study has significance for further studies.

Considering the above aspects of groundnut cultivation among farmers, the study was conceived to understand the farmer's views about groundnut production practices which will go a long way in appropriate policy interventions to increase the productivity and acreage of the crop.

Objectives

1. To know the farmers' perception about groundnut production technologies
2. To assess adoption of groundnut production technologies by the growers

Review of Literature

Adoption

Chavda (2007) ^[5] stated that 72.00, 17.00 and 11.00 percent of big farmers had medium, high and low level of adoption of improved groundnut post-harvest technologies, respectively. In case of small farmers, it was found 70.00, 16.00 and 14.00 per cent level of adoption respectively about improved groundnut post-harvest technologies.

Phuge *et al.* (2011) ^[8] showed that the majority of rice farmers (66.33%) had medium adoption level of saline rice production technology while 20 and 16.67 percent had low and high adoption level respectively.

Prasad *et al.* (2017) ^[9] indicated that majority (61.88%) of them had medium level of adoption about recommended groundnut production technology, whereas 19.37 and 18.75 per cent of them had low and high level of adoption, respectively.

Perception

Kataria *et al.* (2008) [6] reported that the highest index value of 88.2 has been perceived by rice-wheat growers for the statement 'the problem of declining water table can mainly be attributed to rice wheat rotation' indicating thereby farmers' perception with the fact that the predominance of rice-wheat rotation was the major cause of the problem of declining water table in Punjab.

Ashwini and Narayana Swamy (2010) [4] revealed that, majority (51.44%) of APMC Secretaries had medium level of perception towards ICTs followed by high (31.42%) and low (17.14%) levels.

Oladeji (2011) [7] opined that 66.4 per cent of the farmers' perception was favourably disposed to advertising. This showed that, the perception of the farmers towards agricultural advertisements is high.

Methodology

Study was conducted in Udupi district of Karnataka state because the district area falls under Coastal Zone with assured residual moisture during the cropping season of Groundnut. Three taluks having highest area under groundnut cultivation namely Byndoor, Udupi and Kundapura were selected for the study. Four villages from each taluks were selected based on the highest area under groundnut. Ten respondents were selected from each village those who were cultivating groundnut for more than 10 years. Thus, the sample size of the study comprises of 120 respondents and data was collected from the respondents through personal interview method by using structured interview schedule.

Result and Discussion

The results obtained from the analysis of the data collected have been discussed in detail as follows:

1. Overall level of perception of groundnut growing farmers.

The results pertaining to the overall level of perception in Table 1 indicated that majority of the respondents (65.83 %) belonged to high level of perception category, followed by 22.50 per cent belonged to medium level of perception category and only 11.67 per cent of the farmers belonged to low level of perception category. This reveals that farmers had high sensation of production technology aspects of groundnut. These findings are in line with Oladeji (2011) [7].

2. Perception level of groundnut growing farmers

Farmers' perception is highest as the following practices provide economic yield and benefit to the farmers that is why they have been perceived as best practices for groundnut production. Table 2 revealed the perception level of farmers as follows.

2.1 Pre sowing phase

In the pre-sowing phase majority (62.58 %) of the farmers had agreed to the pre sowing practices. Followed by 22.67 per cent of the farmers were having neutral perception. Followed by 9.92 and 4.83 per cent of the farmers had disagreed and strongly agreed to the pre sowing practices. The reason for this might be due to the fact that Udupi being the second highest literate district in the state, all the farmers are well aware of the groundnut production technologies like well drained sandy loam soil is best for groundnut cultivation as it promotes pegging and better pod development. As groundnut is a legume crop the nitrogen requirement is not high due to biological nitrogen fixation

therefore only starter dose of 10 kg/acre is required. Due to the efforts made by the extension workers the farmers in this district are having a good awareness about the recommended technologies like fertilizer dosage, application of gypsum and soil preparation.

2.2 Sowing phase

In sowing phase, majority (46.94 %) of the farmers had agreed to the sowing practices. Whereas 29.07 per cent of the farmers had strongly agreed, followed by 18.43 per cent of the farmers had neutral perception. Followed by 3.89 and 1.67 per cent of the farmers had disagreed and strongly disagreed respectively to the sowing practices. The reason for this type of result might be due to the fact that the farmers are having good extension participation due to which the farmers gets awareness from the results demonstrations like use of viable and disease free seeds, selection of variety for sowing, sowing depth at 2.5 to 4.5 cm, spacing at 12x4 inches, seed rate at 45 kg/acre and use of improved seed drills, all these promote better germination, good yield and maximum profit. The sowing during the second fortnight of December to second fortnight of January is best for sowing rabi groundnut. Only few of the farmers perceived seed treatment with thirum/ mancozeb or carbendazim for controlling seed borne diseases as there is not much seed borne infections are seen in this area due to proper care by the farmers.

2.3 After/post sowing phase

In the post sowing phase, majority (34.09 %) of the farmers had agreed to the post sowing practices. Whereas 32.88 per cent of the farmers had agreed, followed by 20.45 per cent of the farmers had disagreed to the post sowing practices. Followed by 12.35 and 0.23 per cent of the farmers had strongly agreed and strongly disagreed respectively to the post sowing practices. The reason for this type of result might be that most of the farmers were having a very good perception about the practices like the critical period of crop – weed competition is between 15 and 45 days after sowing, no inter cultivation should be done after pegging has commenced and weed infestation in groundnut is one of the main factors for loss in yields. Whereas pre emergence application of alachlor, earthing up can be done to facilitate maximum penetration of pegs and pest and disease management practices are not taken up by the farmers due to their less utility in the fields of Udupi district. The information about all the above practices has been made available to the farmers by the efforts made by the extension agents working in KVKs, RSKs and SAUs through method and result demonstrations.

2.4 Harvesting phase

In the harvesting phase, majority (56.16 %) of the farmers had agreed to the harvesting practices. Whereas, 26.17 per cent of the farmers had strongly agreed, followed by 9.00 per cent of the farmers had neutral perception. Followed by 8.67 per cent of the farmers had disagreed to the post harvesting practices. The reason for this might be that the farmers in Udupi district use bunch type of groundnut variety for sowing, majority of them harvest by hand pulling instead of using groundnut digger. By experience the farmers knew when their crops were going to be harvested by seeing symptoms like yellowing of leaves, shedding of older leaves, development of proper colour of testa, a dark tint inside shell and by maturity time also. As some progressive farmers and

custom hiring centres provides multipurpose thresher to other farmers they use it for separating pods from vines.

2.5 Post harvesting phase

In post harvesting phase, majority (68.67 %) of the farmers had agreed to the post harvesting practices. Whereas, 21.33 per cent of the farmers had strongly disagreed, followed by 6.67 per cent of them had neutral perception. Followed by 8.67 per cent of the farmers had disagreed with to the post harvesting practices. The reason for this might be that majority of the farmers are having good perception about the post harvesting practices as they are aware of the aflatoxin contamination while storage due to improper drying of pods and due to less information provided on

groundnut in regulated markets, majority of the farmers market their produce immediately after drying of the produce. The above-mentioned result is in line with the findings of Oladeji (2011) [7].

Table 1: Overall level of perception of groundnut growing farmers

Particulars	Criteria	Respondents (#)	
		Frequency	Per cent
Low	< (Mean - SD)	14	11.67
Medium	(Mean ± SD)	27	22.50
High	> (Mean + SD)	79	65.83
		Mean = 147.08 S. D=5.13	

Number of respondents is 120

Table 2: Perception level of Groundnut growers (#)

Sl.no	Practices	SA	A	N	DA	SDA
		F (%)	F (%)	F (%)	F (%)	F (%)
I	Pre sowing phase	58 (4.83)	751 (62.58)	272 (22.67)	119 (9.92)	0 (0.00)
II	Sowing phase	314 (29.07)	507 (46.94)	199 (18.43)	42 (3.89)	18 (1.67)
III	After/post sowing phase	163 (12.35)	434 (32.88)	450 (34.09)	270 (20.45)	3 (0.23)
IV	Harvesting phase	157 (26.17)	337 (56.16)	54 (9.00)	52 (8.67)	0 (0.00)
V	Post harvesting phase	128 (21.33)	412 (68.67)	40 (6.67)	20 (3.33)	0 (0.00)

Number of respondents is 120

* Figures in parenthesis indicate percentage

The values in the table includes total number of farmers expressed their opinion under different questions for each phase

F – Frequency

SA- Strongly agree A- Agree N- Neutral DA- Disagree SDA- Strongly disagree

3. Overall level of adoption of groundnut growing farmers

The perusal of data in Table 4 indicated that majority of the respondents (75.00%) came under high adoption group followed by 14.17 per cent of the respondents belonged to medium adoption group and least percentage of respondents (10.83%) belonged to low adoption group of groundnuts growing farmers. The reason for this could be due to the fact that in coastal alluvial soils where the groundnut is being cultivated is highly suitable for paddy during kharif and followed by groundnut during rainy season almost all the paddy fields will be submerged during heavy rainy days. There is no commercial crop to the farmers other than groundnut. Therefore, the farmers belonged to high adoption level. The findings of this study are in contrast with Chavda (2007) [5].

4. Practice wise adoption of groundnut production technology

A cursory look at the results in Table 5 showed practice wise adoption of groundnut production technology as follows:

4.1 Land preparation

In adoption of land preparation practices, cent per cent of the farmers have adopted the following practices viz., soil prepared to good tilth after removing the previous crop residues and deep summer ploughing with soil exposure to sun’s heat. Followed by 80.83 per cent of the farmers have adopted application of FYM/compost @4ton /acre. Lastly none of the farmers have adopted application of phorate 10-G @ 10kg/ha for the control of white grub infestation. This type of result might be due to the fact groundnut being cultivated as a rabi/summer crop that to under purely residual moisture conditions. Soil preparation, deep summer ploughing and application of FYM are good practices

recommended under dry land technologies. In order to retain moisture, the above field practices are very important for groundnut cultivation during rabi season. Since it is eco-friendly technology, high numbers of farmers have adopted these technologies under land preparation practices. Whereas application of phorate 10-g @10kg/ha for the control of white grub infestation none of the farmers have adopted this technology, it may be due to the fact that white grub problem may not be a major problem in that area. Further Udupi district farmers are reluctant to use agricultural chemicals unless it is a major threat to the crop.

4.2 Sowing

In adoption of sowing practices, cent per cent of the farmers have adopted selecting viable and disease-free seeds. From selection of groundnut variety, majority (56.67 %) of the farmers have adopted TMV-2 variety, followed by 28.33 per cent of the farmers have adopted GPBD-4 and lastly 15 per cent of the farmers have adopted G2-52 groundnut variety. Nearly 87.50 per cent of the farmers have adopted seed treatment with rhizobium culture @150 gm/acre. The least adopted practices are seed treatment with thiram/ Bavistin or Mencozeb3 gm/kg seed and seed treatment with Chlorpyrifos @ 15 ml/kg seed before sowing by 35.83 and 17.50 per cent of farmers respectively. The reason for this type of result might be due to fact that all the farmers are aware of using viable and disease-free seeds for sowing so that they can attain maximum germination leading to higher yield, this is the reason for cent per cent adoption of this technology by the farmers. Majority of the farmers undertake seed treatment with rhizobium culture @150 gm/acre as this technology help in nitrogen fixation in the soil providing

nourishment to the growing crops. As selection of good groundnut variety is most is most crucial for farmers willing to get higher yield and maximum profit, majority of the farmers have adopted TMV-2 groundnut variety followed by GPBD-4 and the least adopted G2-52 because of the efforts made by extension personnel for disseminating the knowledge and benefits of these varieties. And lastly seed treatment with chlorpyrifos @ 15 ml/kg seed before sowing in the least adopted sowing practice, the reason for this might be the farmers may not be aware of this technology.

4.3 Nutrient management

In adoption of nutrient management practices, cent per cent of the farmers have adopted practices viz., application of 10 kg N₂O, 20 kg P₂O₅ and 10kg K/acre MOP or 40 kg DAP and 30 kg MOP in furrow before sowing, seed rate for bunch type of groundnut is 45 kg/acre and sowing time- Early Rabi or Late Rabi. Followed by majority (80 %) of the farmers have adopted application of gypsum @ 400 to 500 kg/ha at the time of flowering, followed 61.67 per cent of the farmers have adopted application of Boron @ 3kg/acre. The least adopted practices are application of ZnSO₄ @ 5 kg/acre at every 2 to 3 years interval and sowing of bunch type at 12×4 inches spacing by 38.33 and 37.50 per cent of the farmers respectively. Lastly no farmer has adopted using of Ammonium Sulphate and SSP instead of Urea and DAP. The reason for this type of result might be due to the fact that the recommended technology of application of 10 kg N₂O, 20 kg P₂O₅ and 10 kg MOP or 40 kg DAP and 30 kg MOP is suitable for coastal alluvial soil of Udupi district. Almost all the farmers in Udupi sow the groundnut in early rabi or late rabi with 45 kg/acre of seed rate for bunch type of groundnut. Majority of farmers apply gypsum @ 400-500kg/ha and boron @ 3kg/acre at the time of flowering helps in nourishing the crops which helps in development of pegs and pods. Very less farmers have adopted application of ZnSO₄ @ 5kg/acre at every 2-3-year interval as they may be of the view that this practice is not much necessary as they are getting good yield without its application. Only a few farmers have adopted the recommended spacing for bunch type groundnut as the farmers according to their experience and consultation with their fellow farmers practice spacing which they think is better for them to grow the crop. Mostly all the farmers use urea and DAP therefore no farmer has adopted the use of ammonium sulphate and SSP instead of urea and DAP.

4.4 Aftercare

In adoption of after care practices, all (100.00 %) the farmers have adopted maintaining the crop weed free for 45 days after sowing. Followed by majority (58.33 %) of the farmers have adopted use of chemical weed control spray Alachlor @ 1lit/acre as pre emergence, followed by 37.50 per cent of the farmers have adopted supplementary irrigation at critical stages i.e. flowering, pegging and pod development stages. A few (22.50 %) farmers have adopted gap filling done in (+ or -) 10 days after sowing. The reason for this might be that cent per cent of the farmers maintain the crop weed free for 45 days after sowing as this is the most critical period for weed infestation. Spraying Alachlor @ 1lit/acre as pre emergence for weed control is adopted by only little more than 50 per cent of the farmers as the remaining farmers don't want to use chemical sprays on their crops. Due to the availability of residual moisture in the soil, the farmers don't

need to provide irrigation at all but also supplementary irrigation at critical stages like flowering, pegging and pod development stages may be provided by a few farmers for better pod development and easy harvesting. Gap filling @ 10 days after sowing is not necessarily done in this area, only a few farmers take up this practice as almost all the time germination is good in the farmers' field.

4.5 Plant protection

In adoption of plant protection practices, using of Celphos @ 3 gm tablet/40 kg bag for fumigation to control groundnut pod borer was perfectly adopted by all the farmers. Followed by majority (77.50 %) of them have adopted drying the pods to 7-8 per cent moisture level to control groundnut pod borer. A few farmers have adopted practices like spray chlorothalonil 75 WP (Kavach) @ 3 gm/lit just after rust and leaf spots appears (21.67 %) and applying Chlorpyrifos @ 4 lit /ha with irrigation in 10 lit of water for the control of white grub in the standing crop (12.50 %). The following farmers have not adopted any practices viz. Spraying Dichlorvos 0.05% or Carbaril 50% WP 0.02% or Monochrotophos 0.05% in 10 lit of water for the control of leaf miner, Spraying Dimethoate 0.03% (10 ml) or Imedachloprid 17.8% SL (3 ml) in 10 lit of water for the control of jassid, aphid and thrips and Spraying of Carbaryl 50% WP, 40 gm or Chlorpyrifos 20% EC, 20 ml in 10 lit of water for the control of white Grub. The reason for this might be that almost all the farmers use celphos tablet @ 3gm/40kg bag for fumigation to control groundnut pod borer as all the farmers store their produce for some time till they get good price in the market, at this time of storage to protect their produce from pod borer celphos tablet is used by all the farmers. Followed by majority of farmers dry their produce to 7 to 8 per cent moisture level so that at the time of storage it can be protected from groundnut pod borer. Only a few farmers spray chlorothalonil 75WP @ 3gm/lit and chlorpyrifos @ 4lit/ha with irrigation in 10lit of water for the control of foliar diseases and white grubs respectively as only few farmers use chemical sprays for their crop and there is not much infestations of white grubs in the Udupi district. The following plant protection practices like spraying of Dichlorvos 0.05% or Carbaril 50% WP 0.02% or Monochrotophos 0.05% in 10 lit of water for the control of leafminer, Dimethoate 0.03% (10 ml) or Imedachloprid 17.8% SL (3 ml) in 10 lit of water for the control of jassid, aphid and thrips and Spraying of Carbaryl 50% WP, 40 gm or Chlorpyrifos 20% EC, 20 ml in 10 lit of water for the control of white Grub have not been adopted by any farmers majorly due to the fact that the farmers in the Udupi district take up animal husbandry practice as well so as to feed their cattle they use the left over crop after the harvest as fodder, therefore the don't wish to use chemical sprays on their crops.

4.6 Harvesting

In adoption of harvesting practices, the following practices have been fully adopted by the farmers viz., harvesting at right maturity (blackening of inner surface of shell) and harvesting by hand pulling. Followed by 92.00 per cent of the farmers have adopted using thresher for threshing after proper drying of pods. The reason for this might be that the farmers in the Udupi district use bunch type of groundnut variety for sowing, as all the farmers harvest their produce at the right maturity time by hand pulling of the bunch type of groundnut by cent per cent of the farmers.

Followed by majority of the farmers use thresher for threshing after proper drying of pods, as threshing helps to separate the pods from the crop easily.

4.7 Post harvesting

In adoption of post harvesting practices, storing the pods in clean gunny bags was adopted by 100 per cent of the farmers. Followed by 85.00 per cent of the farmers have adopted grading by removal of insect or mechanically damaged pods and 80.83 per cent have adopted drying the pods until rattling sound is produce on shaking a handful of pods. The reason for this might be due to the fact that cent per cent of the farmers store the pods in clean gunny bags till they get good price in the market. Followed by majority of the farmers remove insects and mechanically damaged pods by grading as it provides good price for the graded produce in the market. Followed by drying the pods until the rattling sound is produced on shaking the handful of pods is done by the farmers so as to avoid the aflatoxin contamination in the pods.

4.8 Storage

In adoption of storage practices, storing the bags in a well ventilated and covered space have been fully adopted by all the farmers. Followed by 77.50 per cent of the farmers have adopted stacking the bags on wooden boards keeping one-meter gap from the walls. Lastly no farmer has adopted fumigate with phosphine to prevent insect damage to the pods during storage. The reason for this type of study is due to fact that all the farmers store the bags in a well ventilated and covered space so as to protect their produce from moisture, aflatoxin contamination in the pods and to store their produce for a long time.

Followed by majority of the farmers Stack the bags on wooden boards keeping one-meter gap from the walls so as to protect their produce from insects’ pests. None of the farmers fumigate with the bags with phosphine to prevent insect damage to the pods during storage as most of the farmers use celphos tablet to fumigate their produce.

The above-mentioned result is in contrary with Prasad *et al.* (2017)^[9]

Table 3: Overall adoption level of groundnut growing farmers

Particulars	Criteria	Respondents (#)	
		Frequency	Percentage
Low	< (Mean - SD)	13	10.83
Medium	(Mean ± SD)	17	14.17
High	> (Mean + SD)	90	75.00
		Mean = 18.81 S. D=3.97	

Number of respondents is 120

Table 4: Practice wise adoption of groundnut production technologies by the growers (#)

No.	Practice	Adopted		Partially Adopted		Not adopted	
		F	%	F	%	F	%
I. Land Preparation							
1	Soil prepared to good tilth after removing the previous crops residues.	120	100.00	0	0	0	0
2	Deep summer ploughing with soil exposure to sun’s heat.	120	100.00	0	0	0	0
3	Application of FYM/compost @4ton /acre.	97	80.83	13	10.84	10	8.33
4	Application of phorate 10-G @ 10kg/ha for the control of white grub infestation.	0	0	0	0	120	100.00
II. Sowing							
5	Selection of groundnut variety:						
	i. TMV-2	68	56.67	30	25.00	22	18.33
	ii. GPBD-4	34	28.33	41	34.17	45	37.50
	iii. G2-52	18	15.00	12	10.00	90	75.00
6	Selecting of viable and disease-free seeds.	120	100.00	0	0	0	0
7	Seed treatment with thiram/ Bavistin or Mencozeb 3gm/kg seed.	43	35.83	37	30.84	40	33.33
8	Seed treatment with Rhizobium culture @150 gm/acre.	105	87.50	4	3.33	11	9.17
9	Seed treatment with Chlorpyriphos @ 15 ml/kg seed before sowing.	21	17.50	42	35.00	57	47.50
III. Nutrient Management							
10	Application of 10 kg N2O, 20 kg P2O5 and 10kg /acre MOP or 40 kg DAP and 30 kg MOP in furrow before sowing.	120	100.00	0	0	0	0
11	Use Ammonium Sulphate and SSP instead of Urea and DAP.	0	0	0	0	120	100.00
12	Apply Gypsum @ 400-500 kg/ha at the time of flowering.	96	80.00	10	8.33	14	11.67
13	Application of Boron @3kg/acre	74	61.67	12	10.00	34	28.33
14	Application of ZnSO4 @5 kg/acre at every 2- 3 years interval.	46	38.33	23	19.17	51	42.50
15	Sowing of bunch type at 12x4 inches spacing.	45	37.50	20	16.67	55	45.83
16	Seed rate for bunch type of groundnut is 45 kg/acre.	120	100.00	0	0	0	0
17	Sowing time- Early Rabi or Late Rabi.	120	100.00	0	0	0	0
IV. After Care							
18	Gap filling is done in (+ or -)10 days after sowing.	27	22.50	18	15.00	75	62.50
19	Maintain the crop weed free for 45 days after sowing.	120	100.00	0	0	0	0
20	For chemical weed control spray Alachlor @ 1lit/acre as pre emergence.	70	58.34	13	10.83	37	30.83
21	Supplementary irrigation at critical stages i.e. flowering, pegging and pod development stages.	45	37.50	12	10.00	63	52.50

Table 4: Practice wise adoption of groundnut production technologies by the growers (#) (Contd...)

No.	Practice	Adopted		Partially Adopted		Not adopted	
		F	%	F	%	F	%
V	Plant Protection						
22	Spray Dichlorvos 0.05% or Carbaril 50% WP 0.02% or Monochrotophos 0.05% in 10 lit of water for the control of leaf miner	0	0	0	0	120	100.00
23	Spray Dimethoate 0.03% (10 ml) or Imedachlopid 17.8% SL (3 ml) in 10 lit of water for the control of jassid, aphid and thrips.	0	0	0	0	120	100.00
24	Spraying of Carbaryl 50% WP, 40 gm or Chlorpyriphos 20% EC, 20 ml in 10 lit of water for the control of white Grub.	0	0	0	0	120	100.00
25	Apply Chlorpyriphos @ 4 lit /ha with irrigation in 10 lit of water for the control of white grub in the standing crop.	15	12.50	22	18.33	83	69.17
26	Drying the pods to 7-8 % moisture level to control groundnut pod borer.	93	77.50	7	5.83	20	16.67
27	Use Celphos tablet @ 3 gm /40 kg bag for fumigation to control groundnut pod borer	120	100.00	0	0	0	0
28	Spray chlorothalonil 75 WP (Kavach) @ 3 gm/lit just after rust and leafspots appears.	26	21.67	15	12.50	79	65.83
VI	Harvesting						
29	Harvesting at right maturity (blackening of inner surface of shell).	120	100.00	0	0	0	0
30	Harvesting by hand pulling.	120	100.00	0	0	0	0
31	Use thresher for threshing after proper drying of pods.	92	76.67	18	15.00	10	8.33
VII	Post Harvesting						
32	Grading by removal of insect or mechanically damaged pods.	102	85.00	6	5.00	12	10.00
33	Storing the pods in clean gunny bags.	120	100.00	0	0	0	0
34	Drying the pods until rattling sound is produce on shaking a handful of pods.	97	80.84	13	10.83	10	8.33
VIII	Storage						
35	Stacking the bags on wooden boards keeping one-meter gap from the walls.	93	77.50	6	5.00	21	17.5
36	Storing the bags in a well ventilated and covered space.	120	100.00	0	0	0	0
37	Fumigate with phosphine to prevent insect damage to the pods during storage.	0	0	0	0	120	100.00

#Number of respondents is 120

Conclusion

Results of the research study revealed that the groundnut growing farmers of Udupi district had sufficient perception about most of the groundnut production technologies like soil preparation, nutrient requirement, varieties selection, seed depth, seed rate, weed management, harvesting and post-harvest operations. However, the farmers had limited perception about seed borne disease management, time of irrigation, use of weedicides and insect pest management. Hence, concerned authority should sensitize the farmers by disseminating relevant information to the farmers at right time to enhance their level of perception on above aspects through appropriate extension methods.

The farmers have adopted recommended groundnut production technologies such as land preparation, sowing, nutrient management, harvesting, post harvesting and storage practices. While some of the farmers have not adopted the practices like plant protection measures. Hence State Agricultural Universities, Agricultural departments and RSKs have the responsibility to motivate the farmers to adopt the practices mentioned above.

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