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RESEARCH ARTICLE :

Socio-economic study about recommended package of practices of summer groundnut

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SUMMARY : Groundnut oil is an edible oil. It finds extensive use as a cooking medium both as refine oil and vanaspati *Ghee*. It is used in soap making and in manufacturing cosmetics and lubricants, olein, stearin and the raw, roasted or sweetened kernels are also consumed. It expected that the study provide a feedback to the concerned scientist working in Agricultural Universities, extension functionaries and policy makers of development departments associated with rural development programmes. The present study will also help to extension workers those who are working with the summer groundnut growers in general and plan and transfer of messages about sustainable cultivation. Present study was carried out in 12 villages of Rahuri, Sangamner, Akole, Rahata, Newasa and ShrirampurTahasils of Ahmednagar The list of summer groundnut growing villages of was obtained from Taluka Krishi Adhikari. Two villages from each tehsil that is 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 area under summer groundnut crop. Hence, in 6 tehsils, 12 villages and 120 respondents were selected for the present study. A majority of the summer groundnut growers were in medium knowledge level about recommended cultivation practices and medium adoption about recommended package of practices. Farmers have lack of knowledge about plant protection (68.33 %). So need based training programme should arrange by Agriculture Department, Agriculture Universities and NGO's for the summer groundnut to improve their knowledge and skill.

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BACKGROUND AND OBJECTIVES

Groundnut oil is an edible oil. It finds extensive use as a cooking medium both as refine oil and vanaspati ghee .it is used in soap making and in manufacturing cosmetics and lubricants, olein, stearin and the raw, roasted or sweetened kernels are also consumed. It is consumed as a confectionery product. The cake can be used for manufacturing artificial fibre. The hauls (plant stalks) are fed (green, dried or silage) to livestock. Groundnut shell is used as fuel manufacturing coarse boards and coarse substitutes. In India, groundnut is grown over an area of 6.41 million hectares with total production of 9.36 million tonnes. From 5 million tonnes in the year 1980-81 the

production has increased to 8.06 million tonnes during the year 1994-95 and the production in the year 2007-08 was 9.36 million tonnes. The area under groundnut was 4.49 million ha during 1950-51 which has increased to 6.41 million ha in 2007-08. The research main focused on to knowledge and adoption of farmers regarding the recommended package of practices and their problems in adopting such practices. It expected that the study provide a feedback to the concerned scientist working in Agricultural Universities, extension functionaries and policy makers of development departments associated with rural development programmes. The present study will also help to extension workers those who are working with the summer groundnut growers in general and plan and transfer of messages about sustainable cultivation.

RESOURCES AND METHODS

Present study was carried out in 12 villages of Rahuri, Sangamner, Akole, Rahata, Newasa and Shrirampur Tahasils of Ahmednagar. The list of summer groundnut growing villages of was obtained from Taluka Krishi Adhikari. Two villages from each tehsil that is 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 area under summer groundnut crop. Hence, in 6 tehsils, 12 villages and 120 respondents were selected for the present study.

OBSERVATIONS AND ANALYSIS

From Table 1 it is observed that 60.84 per cent respondents had medium knowledge level, followed by 22.50 per cent respondents had low knowledge level and 16.66 per cent respondent summer groundnut growers had high knowledge level.

Table 1 : Distribution of the respondents by their knowledge level

Sr. No.	Knowledge level	No. of respondents (n=120)	Percentage
1.	Low (upto 51 scores)	27	22.50
2.	Medium (52 to 58 scores)	73	60.84
3.	High (59 and above scores)	20	16.66
	Total	120	100.00

Table 2 : Distribution of the respondents by Practicewise knowledge about recommended package of practices of summer groundnut

Sr. No.	Statement	Knowledge					
		Complete		Partial		No	
		Freqency	Per cent	Freqency	Per cent	Freqency	Per cent
1.	**Soil**						
	Medium	73	60.84	47	39.16	0	00.00
	Light textured loose and friable	91	75.84	25	20.83	4	3.33
	Well drained having moderate calcium and organic matter	65	54.17	38	31.66	17	14.17
2.	**Cultivation practices**						
	One ploughing followed by 2-3 harrowing	120	100	-	-	-	-
	In terrace and flat land of high rainfall areas, raise beds of 10-15 cm height are to be prepared to avoid water lodging problems	23	19.16	60	50.00	37	30.83
3.	**Sowing time**						
	Summer : 15 Jan – 15 Feb	120	100	-	-	-	-
4.	**Seed rate**						
	100 kg : SB-XI, TAG-24, TG-26, JL-501, Phule 6021	75	62.50	32	26.66	13	10.84
	120-125 kg : Phule pragati, Phule vyas,TPG=41. Phule unnati	78	65.00	27	22.50	15	12.50
5.	**Seed treatment**						
	To avoid seed and soil born diseases the 1 kg seed is treated with 5 g Thirum or 2 g Carbendazim or 3 g Moncozeb or 5 g tricoderma	60	50.00	45	37.50	15	12.50
	After that 25 g Rhozobium and 25 g PSB mix to make slurry put it on 1 kg seed and dry under shade before sowing	18	15.00	37	30.84	65	54.16

Table 2: Contd….

Table 2: Contd……..

6.	**Planting distance**						
	30 cm between rows and 10 cm between plants	85	70.83	35	29.17	-	-
7.	**Intercropping**						
	In groundnut, soybean, sunflower, sesamum, green gram, pigeon pea in 6:2 ratio	43	35.83	47	39.16	30	25.00
	Groundnut + Jowar 1:1 ratio	75	62.50	30	25.00	15	12.50
	Groundnut + Cotton 1:1 ratio	62	51.66	38	31.67	20	16.67
8.	**Improved varieties**						
	SB-XI	85	70.84	27	22.50	8	6.66
	TAG-24	87	72.50	28	23.34	5	4.16
	JL-286	90	75.00	-	-	30	25.00
	TPG-41	60	50.00	31	25.84	29	24.16
	TG-26	48	40.00	10	8.34	62	51.66
	JL-501	27	22.50	25	20.83	68	56.66
	Phule RHRG-6021	36	30.00	40	33.34	44	36.66
	Phule unnati	43	35.83	25	20.84	52	43.33
9.	**Recommended fertilizer dose per ha.**						
	Basal application of 25:50:0 NPK is optimum for high yield	36	30.00	43	35.84	41	34.16
	20 cartload of FYM during land preparation	68	56.66	46	38.33	6	5.00
	For better yield add 400 kg Gypsum	25	20.84	30	25.00	65	54.16
10.	**Intercultural operation**						
	Gap filling	80	66.66	25	20.83	15	12.50
	10-12 days after sowing 2-3 hoeing and 2 hand weeding	90	75.00	20	16.66	10	8.33
	Apply Pendimethylin 1 kg/ha in 500 litre water and spray before sowing for contol of weeds	37	30.83	59	49.16	24	20.00
11.	**Irrigation**						
	Irrigation after 4-5 days after sowing for better seed germination	120	100	-	-	-	-
	Depending on soil type with 8-10 days interval with 10-12 times	88	73.33	32	26.67	-	-
	Critical growth stages for irrigation						
	Flowering	120	100	-	-	-	-
	Peg formation	120	100	-	-	-	-
	Pod filling	120	100	-	-	-	-
12.	**Pest and disease control**						
	Pest-						
	Leaf folder, Leaf miner, Spodoptera, Red hairy caterpillar, Leaf hopper, Flower beetle, White grub, Termites and Miley bugs	24	20.00	52	43.34	44	36.66
	Control:						
	0.15 Carbaryl for leaf eating pest, Monocrotophos or Quinalphos for leaf folder and leaf miner	38	31.66	60	50.00	22	18.33
	Disease:						
	Tikka disease, Rust	100	83.33	16	13.33	4	3.33
	Control:						
	Spraying of 25 g Mancozeb + 25 g Bavistin in 10 litre water at 45 and 60 days after sowing	77	64.16	33	27.50	10	8.34
13.	**Harvesting**						
	Leaves become yellow at maturity, at maturity the pod becomes hard and tough and inside shell surface become rough with wet venation	120	100	-	-	-	-
14.	**Dry pod yield**						
	25-30 qtl. per ha. during summer	95	79.16	23	19.17	2	1.67
15.	**Dry haulm yield**						
	5-6 tonn per ha	90	75.00	25	20.84	5	4.16

Table 3: Distribution of the respondent respondents by their adoption level (n=120)

Sr. No.	Adoption level	No. of respondents	Percentage
1.	Low (upto 43 score)	22	18.34
2.	Medium (44 to 50 score)	79	65.83
3.	High (51 and above score)	19	15.83
	Total	120	100.00

Table 4 : Distribution of respondents by their practicewise adoption about recommended package of practices of summer groundnut

Sr.No.	Statement	Adoption					
		Complete		Partial		No	
		Freqency	Per cent	Freqency	Per cent	Freqency	Per cent
1.	**Soil**						
	Medium	67	55.83	45	37.50	8	6.67
	Light textured loose and friable	84	70.00	23	19.16	13	10.84
	Well drained having moderate calcium and organic matter	54	45.00	29	24.16	37	30.84
2.	**Cultivation practices**						
	One ploughing followed by 2-3 harrowing	81	67.50	22	18.34	17	14.16
	In terrace and flat land of high rainfall areas, raise beds of 10-15 cm height are to be prepared to avoid water lodging problems	11	9.17	34	28.33	75	62.50
3.	**Sowing time**						
	Summer : 15 Jan. – 15 Feb.	91	75.83	23	19.16	6	5.00
4.	**Seed rate**						
	100 kg : SB-XI, TAG-24, TG-26, JL-501, Phule 6021	45	37.50	27	22.50	48	40.00
	120-125 kg : Phule pragati. Phule vyas,TPG=41. Phule unnati	54	45.00	25	20.84	41	34.16
5.	**Seed treatment**						
	To avoid seed and soil born diseases the 1 kg seed is treated with 5 g Thirum or 2 g Carbendazim or 3 g Moncozeb or 5 g tricoderma	42	35.00	36	30.00	42	35.00
	After that 25 g Rhozobium and 25 g PSB mix to make slurry put it on 1 kg seed and dry under shade before sowing	9	7.50	21	17.50	90	75.00
6.	**Planting distance**						
	30 cm between rows and 10 cm between plants	85	70.84	35	29.16	-	-
7.	**Intercropping**						
	In groundnut, soybean, sunflower, sesamum, green gram, pigeonpea in 6:2 ratio	21	17.50	33	27.50	66	55.00
	Groundnut + Jowar 1:1 ratio	9	7.50	14	11.67	97	80.83
	Groundnut + Cotton 1:1 ratio	5	4.16	19	15.84	96	80.00
8.	**Improved varieties**						
	SB-XI	25	20.84	-	-	95	79.16
	TAG-24	15	12.50	-	-	105	87.50
	JL-286	12	10.00	-	-	108	90.00
	TPG-41	-		-	-	120	100
	TG-26	17	14.16	-	-	103	85.84
	JL-501	24	20.00	-	-	96	80.00
	Phule RHRG-6021	14	11.66	-	-	106	88.84
	Phule unnati	13	10.84	-	-	107	89.16
9.	**Recommended fertilizer dose per ha**						
	Basal application of 25:50:0 NPK is optimum for high yield	25	20.84	33	27.50	62	51.66
	20 cartload of FYM during land preparation	50	41.66	37	30.84	33	27.50
	For better yield add 400 kg Gypsum	16	13.34	18	15.00	86	71.66

Table 4 : Contd……..

Table 4: Contd…….

10.	**Intercultural operation**						
	Gap filling	64	53.34	17	14.16	39	32.50
	10-12 days after sowing 2-3 hoeing and 2 hand weeding	79	65.84	15	12.50	26	21.66
	Apply Pendimethylin 1 kg/ha in 500 litre water and spray before sowing for control of weeds	25	20.84	45	37.50	50	41.66
11.	**Irrigation**						
	Irrigation after 4-5 days after sowing for better seed germination	120	100	-	-	-	-
	Depending on soil type with 8-10 days interval with 10-12 times.	76	63.34	30	25.00	14	11.66
	Critical growth stages for irrigation:						
	Flowering	120	100	-	-	-	-
	Peg formation	120	100	-	-	-	-
	Pod filling	120	100	-	-	-	-
12.	**Pest and disease control**						
	Pest-						
	Leaf folder, Leaf miner, Spodoptera, Red hairy caterpillar, Leaf hopper, Flower beetle, White grub, Termites and Miley bugs	15	12.50	38	31.66	67	55.84
	Control:						
	0.15 Carbaryl for leaf eating pest, monocrotophos or Quinalphos for leaf folder and leaf miner	26	21.66	45	37.50	49	40.84
	Disease:						
	Tikka disease, rust	90	75.00	8	6.66	22	18.34
	Control:						
	Spraying of 25 g Mancozeb + 25 g Bavistin in 10 litre water at 45 and 60 days after sowing	65	54.16	20	16.67	35	29.16
13.	**Harvesting**						
	Leaves become yellow at maturity, at maturity the pod becomes hard and tough and inside shell surface become rough with wet venation	120	100	-	-	-	-
14.	**Dry pod yield**						
	25-30 qtl/ha. during summer	82	68.34	13	10.83	25	20.83
15.	**Dry haulm yield**						
	5-6 tonn/ha	85	70.84	35	29.16	-	-

Thus, it is concluded that, more than half (60.84%) of the respondents belonged to medium knowledge level category.

From Table 3, it is observed that 65.83 per cent respondents had medium adoption level, followed by 18.34 per cent respondents had low adoption level and 15.83 per cent respondent summer groundnut growers had high adoption level. Thus, it is concluded that, more than half (65.83%) of the respondent summer groundnut growers belonged to medium adoption level category. Similar work related to the present investigation was also carried out by Mahajan (2002); Patil (2007) and Salehin *et al*. (2009).

Conclusion:

A majority of the summer groundnut growers were in medium knowledge level about recommended cultivation practices and medium adoption about recommended package of practices.

Recommendations:

Farmers have lack of knowledge about plant protection (68.33 %). So need based training programme should arrange by Agriculture Department, Agriculture Universities and NGO's for the summer groundnut to improve their knowledge and skill.

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