

KNOWLEDGE LEVEL OF *MUNG* GROWERS ABOUT POST HARVEST TECHNOLOGY OF *MUNG*

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ABSTRACT

Mung forms an important part of Indian dietary habit. More than half of Indian population is vegetarian for whom mung is the major sources to fulfil their protein requirement. The post-harvest aspects in mung also hold significant consideration as the losses are higher during storage. So this study was conducted by using an *ex-post facto* research design with 120 respondents selected randomly from 3 talukas of Kachchh district. The result of the study indicated that nearly half of the mung growers (47.50%) were in the old age group and had higher secondary education, had more than 4.00 ha. of land holding, were using tube well as a source for irrigation, had membership in one organization, utilizing Agricultural scientist/KVK, Mobile/Internet, Television, Extension officer/ATMA and village level workers/ Extension officers their sources of information. Majority of the farmers possessed good knowledge about harvesting (99.17%), best time of harvesting (93.33%). Overall the respondents had medium to high level of knowledge (75.00%) about mung crop.

Key words: mung, post harvest technology, knowledge

INTRODUCTION

Mung is the main sources of vegetable protein. Mung forms an important part of Indian dietary habit. More than half of Indian population is vegetarian for whom mung is the major sources to fulfil their protein requirement. Hence, it becomes essential to have enough production of mung.

Gujarat occupies about 70 thousand hectare under mung cultivation with production of 30 thousand tones and productivity of 433 kg/ha (2018-19). The major mung growing districts of the state are Kachchh, Banaskantha and Mehsana. The Kachchh district is one of the main mung growing districts in Gujarat. It ranks first position in area and production.

The post-harvest aspects in mung also hold significant consideration as the losses are higher during storage. In regard to this, it is felt necessary to study the knowledge level of mung growers regarding post harvest technology of mung.

METHODOLOGY

The present study was confined to *ex-post facto* research design as the independent variable has already operated in the study area. In this study, purposive sampling technique was used for selection of district, taluka. While, the villages and respondents were selected by using simple random sampling technique. The present study was

carried out in Kachchh district as the district has maximum area under mung cultivation. Out of 10 talukas of Kachchh district, 3 talukas (Rapar, Bhachau and Abdasa) having maximum area under mung cultivation were selected purposively. From each taluka, 4 villages were randomly selected and from each village 10 mung growers were selected randomly. Thus total 120 villagers were selected randomly for the study.

A teacher made knowledge test was developed to assess the knowledge level of the mung growers about the post harvest

technology of mung. The data was collected by personal interview. The interview schedule was developed after thorough discussion with experts, scientists, post harvest technologist and extension officers working in the district. The appropriate statistical tools were used to analyse the data.

RESULTS AND DISCUSSION

Profile of the respondents:

The data regarding profile of the mung growers are presented in table 1.

Table 1: Profile of the respondent

n = 120

Sr. No.	Variable	Category	Frequency	Percentage
1	Age	Young (Up to 35 years)	23	19.17
		Middle (36 - 50 years)	40	33.33
		Old (Above 50 years)	57	47.50
		Illiterate	18	15.00
2	Education level	Primary	23	19.17
		Secondary	20	16.67
		Higher secondary	37	30.83
		Graduate and above	22	18.33
3	Social Participation	No membership	11	9.17
		Membership in one organization	86	71.68
		Membership in more than one organization	16	13.33
		Office bearer in organization	07	5.83
4	Source of information	Village level worker/ Extension officer	24	20.00
		Agricultural scientist / KVK	53	44.17
		Agriculture officer / ATMA	33	27.50
		Kisan call centre/ Farmer training centre	12	10.00
		Book	13	10.83
		Television	36	30.00
		Radio	06	5.00

Sr. No.	Variable	Category	Frequency	Percentage
		News paper	20	16.67
		Agricultural magazine	07	5.83
		Agri. Fair / Agri. Mela	18	15.00
		Mobile/Internet	45	37.50

It is clear from the above table that nearly half (47.50 per cent) of the mung growers were in the old age group. While, 33.33 per cent of the mung growers belonged to middle age group and only 19.17 per cent of the mung growers were in young age group. In case of education level 30.83 per cent of the mung growers had higher secondary education, followed by primary education (19.17%) and graduate and above (18.33%), while, 15.00 per cent of mung growers were illiterate. It is clear from the above table that majority of mung growers (71.68%) had membership in

one organization, while 9.17 percent had no membership in any organization. The data from the table also indicate that majority of the mung growers were utilizing Agricultural scientist/KVK (44.17%), Mobile/Internet (37.50%), Television (30.00%) and Agriculture officer/ATMA (27.50%) as their main sources of information.

To measure the knowledge level of the mung growers about post harvest technology of mung a teacher made knowledge test was developed and the responses were collected in dichotomous options (Yes/No). The data are presented in table 2.

Table 2 : Knowledge level of the mung growers

(n = 120)

Sr. No.	Practices	Frequency	Percent
A	Harvesting		
1	Picking of pod when it turns brownish colour	48	40.00
2	Early harvesting reduces grain quality and yield	79	65.83
3	Shattering loss of mung seed occur in late harvesting	104	86.67
4	Harvest with serrated and sharp sickle	119	99.17
5	Disease infected plants be removed before harvesting	22	18.33
6	Best time to harvest when 80% of the pods are fully matured	112	93.33
B	Threshing		
1	Harvest must be collected at one place	118	98.33
2	Harvest must be kept in dry and clean place	57	47.50
3	Seeds of the dry pods should be separated by thresher	117	97.50

Sr. No.	Practices	Frequency	Percent
C	Cleaning and Grading	118	98.33
1	Remove dust from grains	79	65.83
2	Remove living and dead insects and pests	36	30.00
3	Diseased and infected grain must be separated	16	13.33
4	Uniform grains should be separated with grading operation	43	35.83
5	Remove rodent hair and excreta	42	35.00
6	Remove broken seeds	50	41.67
7	Grain must be free from odour		
D	Storage	116	96.67
1	Grain should be stored in dry and clean place	115	95.83
2	Storage bins should be free from insect and fumigate before storage	42	35.00
3	Moisture should be less than 10 % in stored grain	102	85.00
4	Use of 10% <i>neem</i> leaves with grains	27	22.50
5	Mix ash (1:4) or talcom powder(1:6) in stored Grains	9	7.50
6	Use the EDB (Ethiyon dry bromide) in Stored grains	10	8.33
7	Use Aluminium phosphide	8	6.67
8	Proper aeration and ventilation must be needed	6	5.00
9	Storage structure must be moisture free		
E	Packing	109	90.83
1	Packing should be attractive	28	23.33
2	Packing should be air tight	65	54.17
3	1kg, 2kg and 5kg pack etc. for sale		
F	Value addition	111	92.50
1	Quality grains gives good return	72	60.00
2	Selling of <i>dal</i> gives more return	7	5.83
3	Making <i>papad</i> gives high return	81	67.50
4	Preparation of mung halwa	68	56.67
5	Sprouted mung preparation	54	45.00
6	Mung dal vada	13	10.83
7	Graded grains used in animal feed gives extra income		

The knowledge was measured in six dimensions *i.e.* harvesting, threshing, cleaning and grading, storage, packing and value addition. The details of knowledge level of the mung growers in the above 6 dimensions are discussed below:

Harvesting:

Most of the farmers (99.17%) possessed knowledge regarding harvesting crop with serrated and sharp sickle followed by best time to harvest when 80% of the pods are fully matured (93.33%), shattering loss of mung seed occur in late harvesting (86.67%), early harvesting reduces grain quality and yield (65.83%).

Threshing:

Farmers possessed good knowledge regarding collection of harvested products (98.33%) but they have lack of knowledge regarding storage in clean and dry place (47.50%).

Cleaning and Grading:

Farmers possessed knowledge regarding removing of dust from grains (98.33%) followed by removing living and dead insects and pests (65.83%). on the other hand they had little knowledge about removing of rodent hair and excreta (35.83%), removing of broken seeds (35.00%) and separation of

diseased and infected grain (30.00%), grading operation (13.33%).

Storage :

The respondents possessed considerably low knowledge on use of Aluminum phosphide (8.33%), use of EDB (Ethion dry bromide) in stored grains (7.50%). They also had very little knowledge about proper aeration and ventilation (6.67%) and moisture free storage structure (5.00%).

Packing :

Farmers possessed good knowledge regarding attractive packing (90.83%) and about retail availability of packing size (54.17%) in air tight packing (23.33%).

Value addition:

Farmers possessed good knowledge regarding quality grains (92.50%). They processed the raw mung by preparing halwa (67.50%) and selling of dal gives more return (60.00%). More than half of the respondents (56.67%) had passed knowledge regarding preparation of sprouted mung and selling them in market for higher return. They also processed their products by preparing mung dal vada (45.00%). But they had lack of knowledge in using graded grains in animal feed (10.83%) and making of papad (5.83%).

The overall knowledge of the respondents were also worked out and the data are presented in Table 3.

Table 3 : Overall knowledge level of the farmers about post-harvest technology of mung

Sr. No.	Level of knowledge	Frequency	Per cent
1	Low (Below 9.08 Score)	30	25.00
2	Medium (In between 9.08 Score to 23.26 Score)	46	38.33
3	High (Above 23.26 Score)	44	36.67
	Total (n)	120	100.00

S.D. = 7.09

Mean = 16.17

The results in Table 3 portrayed that less than half of the respondents (38.33%) were having medium level of knowledge followed by 36.67 percent of respondents who had high level of knowledge and 25.00 per cent of farmers had low level of knowledge about post-harvest technology of mung crop.

CONCLUSIONS

It can be concluded from the study that nearly half of the mung growers were in the old age group and had higher secondary education, had more than 4.00 ha. of land holding, were using tube well as a source for irrigation, had membership in one organization, utilizing Agricultural scientist/KVK, Mobile/Internet, Television, Extension officer/ATMA and village level workers/ Extension officers their sources of information. Majority of the farmers possessed good knowledge about harvesting, best time of harvesting. Overall the respondents had medium to high level of knowledge about mung crop.

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