

## TRADITIONAL WISDOM AMONG THE TRIBAL AND NON-TRIBAL FARMERS IN THE POST-HARVEST TECHNOLOGY OF FOODGRAINS

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### ABSTRACT

The present study was conducted in the Girwa panchayat samiti of Udaipur district of Rajasthan. A total of 150 (75 tribals and 75 non-tribals) constituted the sample size drawn from 10 selected villages. It was found that total 24 (16.00 per cent) respondents used to thresh the wheat grains by means of manual operation (striking with sticks), 47 (31.34 per cent) were found threshing the wheat crop with the help of animal power. Similarly, majority of i.e. 96.00 per cent farmers used to thresh the maize cobs by means of beating effect with sticks. Farmers dry their grains under the sunlight. Use of neem leaves ash, neem leaves + ash, husk of wheat straw, kerosene + ash and burning of neem leaves are common traditional practices respectively among 15, 8, 5, 2 and 4 tribal farmers for safe storage of food grains. Maize cobs (whole without peeling) are kept by total of 15 (10.00 percent) farmers for seed purpose. As many as 34 (22.67 per cent) tribals + non tribals plug the borrows of rats to kill them. It is interesting that 27 (18.00 per cent) farmers seal the borrows of rats in order to control them. Rats trips are also common among farmers to control the rodents. There is a need the day to recognize the traditional wisdom of the farmers otherwise it will die and vanish or disappear with the old and well versed farmers who have invented and used the traditional wisdom.

### INTRODUCTION

In the present era, there is rapid advancement in the development of technology. However, it is observed that there is lack of sustainability in adoption, mainly due to many reasons such as the cost of technology and that those do not suit well to local conditions of the farmers. In the field of post-harvest technology, magnificent development has been found in recent years. However, the adoption of farmers is found to be moderate and many of them are using traditional practices. The reason for adoption of these indigenous practices may be of their low cost, no cost and sustainability to the local conditions. For example use of neem, ash, oil etc. are common against infestation.

The traditional practices followed by the farmers in post-harvest operations are of worthconsidering in the field of agriculture. These are of paramount importance along with the improved practices. These could be verified and tested for their sustainable management which, include traditional practices for storage of grains

capturing the attention of all concerned.

Looking to the importance of traditional wisdom of farmers, the present investigation was undertaken with the following specific objective :

- (i) To identify the traditional practices followed by the farmers in safe grain storage.

### RESEARCH METHODOLOGY

The present study was conducted in the Girwa panchayat samiti of Udaipur districts of Rajasthan. From five selected Gram panchayat, two village from each Gram panchayat were chosen on the basis of maximum land holding. The size of sample of total 150 respondents (75 from tribals and 75 from non-tribals) was drawn proportionately with the help of random sampling procedure. The data were collected by the researchers with the help of well constructed interview schedule by face to face interview technique. For the analysis of data various statistical measures were used viz., frequency distribution and percentage.

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## RESULTS AND DISCUSSION

In the present investigation an efforts was made to explore the traditional practices being used by the respondents in various post-harvest operations. The results are given in Table 1.

Table 1 reveals that the majority of both the categories of respondents, 47 (31.34 per cent) used to thresh the wheat crop by means of bullocks. In this process four bullocks or even sometimes six

joined together and tied them to centrally fixed pole. By mean of striking and beating effects of the hooves of the bullocks, the wheat grains are separated from the straw. In doing so, the animals are required to take hundreds of revolutions around the wooden pole. Behind all the three animals, there has to be one man to make animals move around the pole. This is the age old method of threshing practiced by the farmers in the study area. The traditional methods of threshing is most common

**Table 1. Traditional practices followed by the farmers during post harvest operations**

S. No.	Practices	Tribal		Non-tribal		Total	
		f	%	f	%	f	%
<b>1. Threshing:</b>							
	In case of wheat:						
(a)	By manual operation (striking with sticks)	20	26.67	4	5.34	24	16.00
(b)	By means of bullocks	23	30.67	24	32.00	47	31.34
	In case of maize:						
(c)	By manual operation (striking with sticks)	75	100.00	69	92.00	144	96.00
<b>2. Winnowing:</b>							
(a)	By natural means (wind)	60	80.00	51	68.00	111	74.00
<b>3. Drying:</b>							
(a)	Through sun light	75	100.00	75	100.00	150	100.00
<b>4. Storage:</b>							
(a)	Use of neem leaves in grain	15	20.00	11	14.67	26	17.34
(b)	Use of ash in grain	8	13.67	6	8.00	14	9.33
(c)	Neem leaves + ash	6	8.00	4	5.34	10	6.67
(d)	Husk of wheat straw	5	6.67	10	13.33	15	10.00
(e)	Kerosene + ash (for seed)	2	2.67	5	6.57	7	4.67
(f)	Mud + faeces of goat / sheep (for plastering)	7	6.34	0	0.00	7	4.67
(g)	Burning of neem leaves and cow dung in storage bins	4	5.34	3	4.00	7	4.67
(h)	Keeping maize cobs as such for seed purpose	9	12.00	6	8.00	15	10.00
<b>5. Rodent control:</b>							
(a)	Plugging the burrows in wet soil	22	29.34	12	16.00	34	22.67
(b)	Plugging the burrows by cement and sand	7	9.34	20	26.67	27	18.00
(c)	Using rat traps	15	20.00	7	9.34	22	14.67
(d)	Beating by hands	2	2.67	0	0.00	2	1.33
<b>6. Marketing:</b>							
(a)	Selling to villagers	7	9.34	12	16.00	19	12.67
(b)	Selling to shop keepers (open sell)	10	13.34	2	2.67	12	8.00
(d)	Selling to the local merchants	0	0.00	24	32.00	24	16.00

among tribals as well as non-tribals as table reveals that nearly similar number 23 (30.67 per cent) and 24 (32.00 per cent) tribals and non-tribals respectively preformed this particular methods of threshing. Table also depicted that greater number of tribals, 20 (26.67 per cent) relied on striking the wheat crop with sticks for its threshing, whereas, very few non-tribals (5.34 per cent) preferred the striking methods for threshing of wheat. As far as the threshing of maize crop is concerned, it was observed that a total

of 144 respondents, out of 150 i.e. 96.00 per cent respondents preferred striking the maize cobs with sticks.

Therefore, it is inferred that majority of the respondents 47 (31.34 per cent) used to thresh the wheat crop with the help of bullocks and the maize crop by way of striking the maize cobs with sticks (96.00 % farmers).

Regarding winnowing of the food grains, it was found that out of total 150 respondents, 111

(74 % per cent) preferred the natural wind for separating the grains from the straw. It was also observed that the farmers, who used to thresh the wheat crop with the help of thresher, also need to go for winnowing of foodgrains (wheat) with the help of wind because some straw remained in the grain threshed by threshers or due to insect infestation. It means, farmers using threshers were also used to clean the grains with the help of wind through they are using improved technology of winnowing.

To prevent foodgrains from insect infestation. It is essential that the produce should be dried properly and for this, cent per cent respondents of both the categories preferred sunlight for drying. It has its scientific rationality as reported by Verma (1989) that sunlight drying was found to be superior to protect grains from insect infestations.

Coming to storage practices, it is interesting to record that as many as 15 (20.00 per cent) tribals and 11 (14.67 per cent) non-tribals made use of neem leaves for storage of grains. It is also worth mentioning that, husk or wheat straw is used by total of 15 respondents out of 150 i.e., 10.00 per cent farmers for storage of grains. Overall 10.00 per cent respondents (tribals and non-tribals) reported that they use to keep the maize cobs as such for seed purpose.

Besides, about 9.00 per cent total respondents stated that they were also using ash for storage of grain. Similarly, there was further small number of respondents which were utilizing neem + ash and kerosene + ash for storage of seed grains.

Table also depicts that small number of tribal respondents were using mud + faeces of goat / sheep for plastering the walls of the bins before storage but, non-tribal respondents were not using this particular aspect. It was observed from the table that a total of 7 respondents out of 150 i.e., 4.67 per cent preferred "burring of neem leaves and cow dung" in storage. According to them, this methods has scientific base as due to smoke, hidden eggs/ larvae of the insects inside the cracks and crevices of the bins get destroyed.

As regards the rodent control through traditional methods, the table expressed that 34

(22.67 per cent) of total respondents reportedly found plugging the burrows of the rats by wet soil, so that rats may not come out if they are outside. Eighteen per cent of total respondents reported that they use cement and sand for sealing the burrows of the rats, whereas, about 15.00 per cent of the total respondents expressed that they use rat traps for killing the rats and very few people preferred hands for killing the rats.

Regarding marketing of produce Table 2 shows that non-tribals preferred to sell their produce among local merchants. On the other hand, out of 75 non-tribals, 24 (32.00 per cent) preferred to sell their foodgrains to local merchants, out of 150, 19 (12.67 per cent) preferred to sell the foodgrains to local villagers.

On the basis of above results it is summarized that in addition to moderate adoption of improved technologies of post-harvest, farmers are also using their traditional wisdom in different operations of post-harvest. These traditional methods of PHT are deep rooted in the social systems of tribals and non-tribals and it is not possible to uproot them and replace immediately by improved techniques of PHT. These have been evolved by the farmers themselves and are being practiced since long. There may be many more traditional practices popular among the respondents of the study area regarding PHT but, all of them could not be listed out here. These traditional practices are suitable free from dangers, cost effective and compatible, relatively advantageous, simplest and easily accessible.

## CONCLUSION

With the help of present investigation it is concluded that a sharp look must be given towards traditional practices followed by the farmers as post-harvest operations. It is inferred that besides scientific practices, farmers are also using traditional wisdom for threshing, winnowing, storage, rodent control and marketing. Threshing with the help of bullocks (wheat grains) striking with sticks (maize cobs), use of neem leaves, ash, burning the neem leaves and cow dung, using the rat traps etc. are some common traditional practices among some of the farmers.

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