

A Study on Storage of Maize Among Tribal Farm Families of Rajasthan

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Abstract

The study was conducted on storage of maize among tribal farm families of Rajasthan. The data were collected from 90 farm families selected randomly. Information regarding storage practices of maize was collected through structured interview schedule from the head of the family. Information on storage practices was gathered from families of three land size categories i.e. large, small and marginal. The study reveals that the respondents were using mud kothi (54.5%), metallic kothi (44.4%) and nylon bags (1.1%) as storage structures. Majority of the respondent (60%) were mixing dry neem leaves storage followed by chemical insecticides (23.3%) and ash (13.3%).

Keywords: Maize, Mud Kothi, Neem.

1. Introduction

Schedule tribes are the backward social communities in India. Tribals in Rajasthan are mainly; concentrate in its southern part including Banswara and Dungarpur (Latta, 2004). Maize is being consumed as staple diet in rural and tribal area of southern Rajasthan as these are locally grown and easily available (David, 1992). Williams et al. (2017) Purdue Improved Crop Storage bags reduce insect damage to grain significantly while maintaining its quality for many months or longer. Rahmavati and Muhammad Aquil (2020) seed storage using different temperatures and humidity will affect the quality of the seeds during the storage period. Storage using room temperature is very crucial particularly on seeds that have deteriorated during handling process prior to storage. A considerable time lag between the harvest and ultimate utilisation is followed for most of the food grains. During these periods the commodity has to be stored for varying length of time depending upon the nature of the commodity and economic status of the farmers. The production, storage practices and consumption pattern of maize may be influenced by land holding capacity of farm family's urbanisation, communication and availability of processed foods. There is dearth of information in these regards. Besides there are indications those in recent years, there has been a shifting of staple cereal from maize to wheat for which no authentic data are available. Keeping the above fact in mind the present study was undertaken regarding storage practices of maize among tribal farm families of Rajasthan.

2. Methods and Materials

The study was conducted in purposively selected Banswara district of southern Rajasthan. Banswara is one of the major maize producing tribal area of Rajasthan. Out of five tehsil of the Banswara district, Banswara tehsil located in the command region having good irrigation facility was selected. From the

list of villages, six villages were selected randomly. Four farm families from each of the categories i.e. large, small and marginal and farm labourers were randomly selected from these villages. Thus the total sample for the study comprised of 120 farm families i.e. 20 from each village.

Socio economic status of farm families was assessed by a scale suggested by Trivedi and Pareek, (1963) and AICRP H. Sc. Extension Education, ICAR New Delhi (1997) it covered information on caste, education, occupation, land holding, material possession and social participation of the family. Information regarding storage practices of maize was collected through structured interview schedule from the head of the family. Information on storage practices was gathered from families of three land size categories i.e. large, small and marginal.

3. Result and Discussion

Background profile: The data pertaining to the background information of the families that maximum number of respondents (54.2%) belonged to the age group of 40-60 years, were of lower caste (88.3%) and belong to nuclear families (55.8) having medium family size (5-8 members). Educational status of the respondents was low and farming was their man occupation (70.1%). Maximum numbers of respondent were living in kachcha house (60%). Herd size in case of maximum number of respondents (92.5%) was small and large in case of minimum number of respondents (0.83%). Dwelling for live stock was thatched/ Kachcha in majority of cases (87.5). More number of respondents (59.2%) possessed radio/ transistor where, as 39.2% respondents had no such ownership, only 0.8% respondents were having either newspaper or television sets as a source of communication.

Table: 1. Percentage distribution of respondents according to storage practices of maize.

S. No.	Variable	Large n= 30	Small n= 30	Marginal n= 30	n = 90
A	Storage structure				
	• Mud Kothi	-	80	83.3	54.4
	• Tin or iron drums (metallic Kothi)	100	16.7	16.7	44.4
	• Nylon bags	-	3.3	-	1.1
B	Insecticides used during storage				
	• Neem leaves	60	56.7	63.3	60
	• Ash	13.3	13.3	13.3	13.3
	• Chemical insecticides	20	20	23.3	23.3
C	Preparation done prior to storing maize				
	• Cleaning	50	46.7	26.7	41.1
	• Sun drying	23.3	46.7	63.3	44.4
	• Repair Kothi	26.7	6.7	10	14.4
D	Duration of maize storage				
	• Below 6 months	50	10	-	20
	• 6 months	26.7	73.3	83.3	61.1
	• 12 months or more	23.3	16.7	16.7	18.9
E	Precaution followed during storage of maize				
	• Not frequently opened	36.7	50	43.3	43.3

	<ul style="list-style-type: none"> • Closed air tight 	63.3	50	56.7	56.7
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Storage practices of maize: Table 1 reveals that the respondents were using mud kothi (54.5%), metallic kothi (44.4%) and nylon bags (1.1%) as storage structures. However all respondents from large category were using metallic kothi. Majority of the respondent (60%) were mixing dry neem leaves storage followed by chemical insecticides (23.3%) and ash (13.3%) these findings are in agreement with Chittaraichelven and Raman (1991), Khetkar and Khetkar (1993) and Kumar (1996) who found the use of neem leaves while storing grains, by rural families. Data on storage period of maize revealed that majority of the marginal and small categories respondents stored maize for six month. Among large category 50% of the respondents were storing maize for less than six months. Mann et. al (2016) in storage practices 41.5% of farmers are using gunny bags, 18.1% using bulk storage in rooms, 11.1% using metallic bins and rest about 30% has been storing in other traditional structures made up of local materials like storage baskets made exclusively of plant materials, calabashes, gourds, earthenware pots, jars, solid wall bins, underground storage, wooden/mud structures. Rajak D. and Immanuel G. (2022) reported that the farmers of eleven villages use jute bags 33.34% and farmers of four villages use 16.67% of plastics bags. It was also observed that the farmers of only six villages use 16.67% mud bin for storage of grain and farmers of 8 villages use also 16.67% of metal bin for storage of grain. Similarly Arthun E. et al. (2023) found that small holder farmers continue to restore to traditional storage methods such as polypropylene bags for maize grain storage. They often do the grains with chemicals to preserve them. However hermetic bags have proven to provide superior protection to grains during storage without chemical treatment.

4. Summary and Conclusion

Majority of the tribal respondents were taking only one crop of maize in a year. Inter cropping of maize with pulse and use of hybrid variety of maize was a common practice. Mud kothi and metallic kothi were the common storage structures. Neem leaves, ash and chemical insecticides were used for protection against insect. Storage practices improve the economic condition of the farmers.

5. References

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