



ADOPTION OF ECO-FRIENDLY SAFE GRAIN STORAGE TECHNOLOGIES AMONG RURAL FAMILIES

The country has achieved a record food production of 241 Million Tons in 2010-11. While delivering speech at ICAR New Delhi, Prime Minister Said “The record food grain production has been achieved due to hard work of the farmers and the scientist. The total production of viz. maize, wheat & pulses in India is 241 million tones”. According to Agriculture Minister in its third estimate “The food grain production is higher by 5 Million Tons. It is also higher by 23 Million Tons as compared to previous year 2009-10” (www.financialexpress)

At the other side hundred of tonnes of wheat get rolled in the godowns every year due to lack of storage facilities in India. Therefore it is very necessary to store the grain properly round the year to get maximum benefit of their production. On the other side efficiency also require to store the grain in highly technical manner at domestic level also to maintain good health for a longer period of time. A certain amount of a harmful chemical must enter our body to make us sick. Harmful chemicals can get into our body if we breathe eats, drink them or if they are absorbed through our skin. Several chemicals are in practice for grain storage purpose. It is advisable to store seed with chemicals but not edible grains to avoid health hazards. Eco-friendly grain storage methods do not include any chemical. In eco-friendly grain storage techniques natural products are used for the grain storage purpose and they are safe to use by the rural families. Therefore the present study was conducted to find out the adoptability of eco-friendly methods of grain storage.

The study was conducted in Khererasulpur village of Ladpura tehsil in Kota district of Rajasthan. The population of the study was 1500 rural families of the village. The sample was selected randomly and 100 families were taken for the study and were divided in to 5 groups of 20 families, who were introduced 5 eco friendly techniques of grain storage as well as chemicals used for storage. These 20 families of each group have divided their storage material (grain) in to 3 parts. First part of grain stored with eco-friendly method, another part with chemicals and rest part of the grain with their traditional method like ash, straw, gunny bags, camphor, lime powder, salt, mud and kothi etc.

Findings revealed that among the several Eco friendly techniques like use of Amla stone powder, dried custard powder, Neem leaves, Castor oil and through fumigation, the Castor oil technique was 100 percent successful technique, although by the use of all methods of eco friendly storage the grain could be safe for domestic use

.Majority of families found that eco friendly grain storage technique are easy to use and avoid harmful effects of grain on the body. Dried Neem leaves Amla stone powder & castor oil were easy to use & safe to health.

Table 1. Adoption of eco-friendly grain storage techniques among rural families (n = 100)

NS. No.	Eco-friendly technologies	ADOPTION (Safe storage)	
		Frequency	Percent
1	Amla stone(N=20)	18	90
2.	Fumigation(N=20)	15	75
3.	Neem leaves(N=20)	16	80
4.	Custard leaves(N=20)	16	80
5.	Castor oil(N=20)	20	100

Table 2. Differences between storage technique through eco-friendly methods, chemical treatment and traditional methods (n = 100)

S. No.	Grain storage technology	Percentage
1	Eco friendly methods (Amla stone, Fumigation, Neem leaves, Custurd leaves, Castor oil)	94
2	Chemical treatment (Celfhose tablet, Mercury tablet, Ethyle Benzoide)	92
3	Traditional method (Ash, straw, camphor, lime powder, salt, gunny bags, mud and kothi)	10

Results showed that high majority (94%) families found eco-friendly methods (Amla stone, Fumigation, Neem leaves, Custurd leaves, Castor oil) grain storage more safer and cause less damage of grains where as chemical treatment (Celfhose tablet, Mercury tablet, Ethyle Benzoide) grain could not sustain good condition whole the year & traditional method (Ash ratio of 1:4), straw, camphor (1 gm. in 5 kg of grain), lime powder (10 gm lime powder per kg of grain), gunny bags, mud and kothi) of storage found very less effective by the rural families. According to Karthikeyan, Veeraragavathatham, Karpagam & Firdouse Ayisha (2009) Farmers practiced indigenous post harvest procedures that usually not required a high degree of technical skills and much cost. Kothis were found mainly in large landholding households where large quantities of grains are grown (Channal, Nagnur & Channamma 2004). It could be concluded through the study that eco-friendly grain storage methods were found easy to use & safe for health & suitable in

adoption. Chemical treatment for storage of grain although cause less spoilage but had harmful effect on body & require more care during its use.

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