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**Storage practices of Moong at farm-level in  
Vaishali District of Bihar – A case study**

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**Abstract**

India is producing 14.76 million tons of pulses from an area of 23.63 million hectare, which is one of the largest pulses producing countries in the world. However, about 2-3 million tons of pulses are imported annually to meet the domestic consumption required. This, there is need to increase production and productivity of pulses in the country by more intensive interventions. Presently, pulses development programmes are being implemented through the centrally sponsored schemes of NFSM-Pulses in different states of India and Bihar is one of them. Vaishali district is also producing different types of pulses i.e. Red Gram, Green Gram, Lentil and seeing the importance of green gram (Moong) in the Vaishali district of Bihar. Among various pulse crops, Moong has become a very important pulse crop in Bihar, Moong occupied about 2.5 lac hectares in Bihar and the total production was about 2.0 lac tones during 2016-17. One survey was conducted during the year 2017 for the storage of green gram (Moong) in eight villages of Vaishali district and was found that out of the total moong stored at the farm level, 69.71 percent was stored in gunny bags and 28.41 percent was stored in various earthen pots. Only a very small quantity (1.88 percent) of the total production is stored in different types of structures such as iron canister or can.

**Keywords:** Moong, Red Gram, Green Gram

**Introduction**

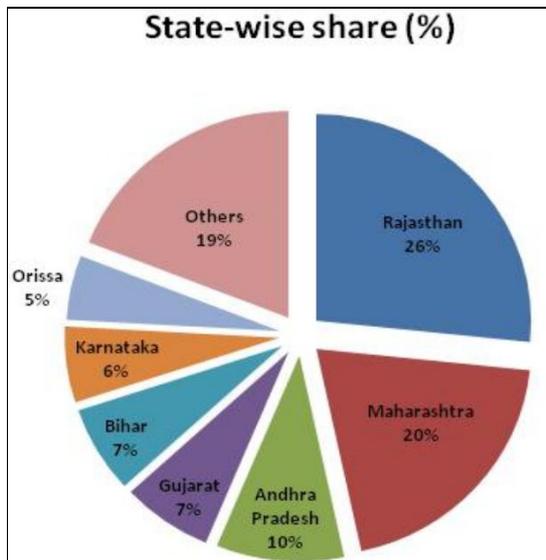
Pulses plays an important ingredient of the diet of an average Indian. They contain about 20 to 30 percent protein which is nearly three times higher than that found in the cereals. Storage problem of pulses is more serious than the cereals since they suffer great damage due to insect-pests and micro-organisms. Bruchids (pulse Beetles) are known to inflict heavy losses in quantity and quality of stored pulses round the globe.

Among various pulse crops, Moong has become a very important pulse crop in Bihar, Moong occupied about 2.5 lac hectares in Bihar and the total production was about 2.0 lac tones during 2016-17. Its average yield was 263 kg per hectare. Keeping in view the increased production of pulses it is of utmost significance to study the existing storage practices of Moong and to assess storage losses so that techniques could be devised to minimize such losses through use of improve/modern storage structures and proper application of grain protectants and fumigants etc. to check various insect-pests, especially the pulse Beetles. The state wise production of Green Gram (Moong) is shown in pie chart as below

**Material and Methods**

Eight villages namely Patepur, Subhai, Lalganj, Namidih, Pirapur, Bidupur, Faridpur, Hariharpur were randomly selected in the Vaishali district of Bihar to study the storage practices of Moong at the farm level. The ten respondents, representing various categories of farmers, were selected to get the relevant information. The farmers were also personally visited in their homes to study the storage conditions and to collect the samples of stored Moong periodically.

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### Results and Discussion

It is obvious from the perusal of Table 1 that farmers used only the traditional storage structures like earthen Pots and gunny bags etc. for storing the Moong. Data collected from the eight villages revealed that out of the total moong stored at the farm level, 69.71 percent was stored in gunny bags and 28.41 percent was stored in various earthen pots. Only a very small quantity (1.88 percent) of the total production is stored in different types of structures such as iron canister or can.

**Table 1:** Proportion of Moong stored in different storage structures.

Village No.	Percentages of total moong stored in		
	Gunny bags	Earthen pots	Others*
1	71.6	27.9	0.5
2	67.1	31.5	1.4
3	59.2	37.1	3.7
4	77.4	21.2	1.4
5	59.2	37.2	3.6
6	79.3	20.1	0.6
7	75.2	22.7	2.1
8	68.7	29.6	1.7
Mean	69.71	28.41	1.88

\* Others include iron canister or can etc.

Moong was stored in other small structures like iron canister/can etc. It is note worthy that very few selected farmers used improved/modern storage structures (e.g. metal bin. Pucci kothi. etc.) For storing this pulse. Farmers also used very Limited application of any grain protectant or fumigant to check any insect pest infestation. But about 11 percent farmers used cow/buffalo-dung ash to cover the stored Moong in earthen pots against any pest-entry. Thus the storage practices of Moong are quite traditional as compared those of wheat grains etc. where more than 43 percent of total wheat grains are stored in improved storage structures i.e. bins and pucci kothi:

Consequent upon the use of traditional storage structures like gunny bags and earthen pots, the moisture had an easy entry into the stored pulse and hence the losses due to pulse Beetles (bruchids) were quite appreciable. Perusal of Table 2 would reveal that on an average 7.34 percent stored Moong was lost due to attack of pulse beetles and the damage ranged from 6.9 to 7.82 percent in various structures.

**Table 2:** Loss to stored Moong due to infestation by pulse beetles.

Storage structure	Mean percentage of weight loss
Gunny bag	7.82
Earthen pots	7.32
Others	6.9
Composite mean percentage	7.34

It has been taken into account that farmers of Vaishali District are supposed to be equipped well for their upliftment of the storage of moong in Scientific Manner and for that they have to be trained up by all the sources related to high yield production.

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