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Session. 7.2



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- **Storage & post harvest management**

5. Undertake grading of the crops

6. Maintain ideal storage condition

7. Use organically acceptable fumigation systems during storage (rotenone, spinosad , pyrethrin)

8. Use cold storage facility

9. Undertake packaging as per the requirement of the client/buyer

10. Transport organic produce as detailed by the client/buyer

11. Undertake marketing of the crop .



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Harvest and post-harvest management in Rice crop

Harvesting and Post-Harvest care

- The maximum quantity and better quality paddy and rice depend on the harvesting of the crop at the correct maturity stage.
- Therefore, it is of the paramount importance to harvest the crop at suitable time.
- Harvesting of the crop when it is not fully matured might result in loss of yield with poor quality grains.



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- If harvesting is delayed, grain may be lost due to damage by rats, birds, insects, shattering and lodging. Thus, timely harvesting ensures better yield, good quality of grains, consumer acceptance and less breakage when milled.
- The right stage for harvesting as commonly understood by laymen is when panicles turn into golden yellow and the grains contain about 20 percent moisture.
- When the moisture in the paddy grains reaches 16-17 percent in the standing crop in the fields, the crop sustains a heavy loss owing to shattering and damage by birds and rodents.



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Manual harvest by sickle



Harvest by combine harvester



Paddy reaper



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- Extensive studies have been carried out on specifying the optimum time of harvesting. Based on the results of the various studies, in general, three criteria are taken into consideration to specify the right time of harvesting viz.
 - (i) the moisture content of the grains,
 - (ii) the number of days after planting or flowering and
 - (iii) the dry matter of the plant or seed. In general, at the stage of 80% maturity of grains, crop should be harvested.



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Bundle making



Carrying of bundles



Threshing



Paddle thresher



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- After manual harvesting of paddy by sickles, bundles are made and carried to the threshing floor.
- A common and old method of threshing of paddy is trampling by bullocks or lifting the bundles and striking them on the raised wooden platform.
- Paddy reapers are also used by the farmers.
- Now pedal threshers are being used. Power driven stationary threshers are also used for quick threshing.
- Farmers having large holding are using now the combine harvester which performs harvesting and threshing simultaneously.



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- The grain should be free from inert material after threshing and winnowing.
- After threshing winnowing should be done and the winnowed grains should be sun dried until the moisture content reaches less than 13%.
- Both over drying and under drying will lead to breakage of the grain during processing.
- High moisture content during storage leads to loss of viability due to increased grain respiration and attack of storage insects and pests.



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Storage

Paddy seed is sun dried for 2-3 days continuously and then stored in gunny bags on indigenously made 4-5 feet stand to prevent pest infestation.

Paddy seed is stored in small containers with bamboo. The container is filled with paddy seed and covered with straw and then closed with cow dung paste.



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Paddy storage structure



Storage of paddy in gunny bags



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- The grains should be stored in a place which is free from storage pests. They should not be stored in areas with less moisture content.
- The storage structure should not have perforations or holes as it helps the pests to invade. The storage place should have good aeration.