Sun Drying Methods

What is sun drying?

Sun drying is the traditional method for reducing the moisture content (MC) of paddy by spreading the grains in the sun. The solar radiation heats up the grains as well as the surrounding air and thus increases the rate of water evaporating from the grains.

Why sun drying?

Sun drying has low cost compared to mechanical drying. It requires little investment and is CO_2 neutral since it uses the sun as heat source. Sundrying has some limitations:

- Not possible during rain and at night. Any delay leads to excess respiration and fungal growth causing losses and yellowing.
- Labor intensive and has limited capacity.
- Temperature control is difficult. Overheating of grains can result in low milling quality from cracked grains.

Sun drying methods

Field Drying

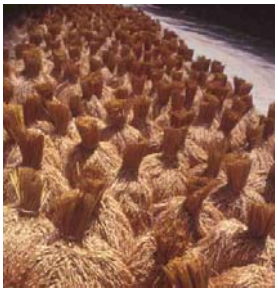
Placement of cut plants on the ground or on racks.

- Bridges time until threshing can be done and pre-dries the crop.
- At night grains re-wet from the soil and from wet straw.
- Limited air circulation and drying.

Potential for rapid reduction in grain quality

Panicle Drying

Traditional, small-scale method for individual farmers.



- Tied bundles placed on pavements or mats or hung from frames.
- Need for manual harvesting of panicles.
- Uneven drying. Grains inside dry slower than grains outside.

Drying on Nets, Mats or Canvas

Medium-scale method for farmers, groups, and contractors.

- Most hygienic method.
- Quick collection and mixing.
- Re-wetting and pollution from the ground when using nets.
- Small capital requirement.

Pavement Drying

Medium- to large-scale for grain collectors, traders and millers.

- Economics of scale.
- Capital requirements for pavement.
- Partial mechanization.
- Pollution with stones and dirt.
- Mixing using tools.

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