

Grain Storage: The IRRI Super Bag

What is an IRRI Super Bag?

The IRRI Super Bag is a farmer-friendly storage bag that allows cereal grains and other crops (e.g., coffee) to be safely stored for extended periods. The Super bag fits as a liner inside existing storage bags (e.g., woven polypropylene or jute bags).

Why is a Super Bag important and how does it work?

Relative to traditional storage systems, Super Bags

1. extend the germination life of seed for planting from 6 to 12 months,
2. control insect grain pests (without using chemicals), and
3. maintain high head rice recovery – often 10% higher than in traditional systems.

Super Bags reduce the flow of both oxygen and water between the stored grain or seed and the outside atmosphere. When properly sealed, respiration of grain and insects inside the bag reduce oxygen levels from 21% to 5%. This reduction reduces live insects to less than 1 insect/kg of grain without using insecticides – often within 10 days of sealing.

The stability of controlled grain moisture inside the bag prevents wetting and drying of grain. This stability reduces the extent of grain cracking and so head rice recoveries are higher upon milling.

How do you use a Super Bag?

The Super Bag is presently designed to store up to around 50 kg of grain or seed. (Other similar systems can store large quantities of grain).

To use the Super Bag:

1. Place the super bag inside an existing type of storage bag (e.g., woven polypropylene or jute bags).
2. Fill the super bag with dried seed or grain
 - a. Dry grain to less than 14%
 - b. Dry seed to less than 12%
3. Remove as much air as possible from above the grain.
4. Close the opening by twisting the free plastic portion above the grain and fold it in two. Tie off the twist with a strong rubber band or adhesive tape.
5. Close the outer bag, taking care not to puncture the Super Bag.
6. Bags can be reused if not punctured.

Note: The Super Bags have also been found suitable for dried coffee.



1. Place the Super bag as a liner inside an existing storage bag



2. Fill bag with dry grain or seed
3. Remove excess air and twist



4. Fold plastic over and seal with either strong rubber bands or tape.

Prepared with input from JF Rickman and M Gummert

For more information, visit the Rice Knowledge Bank: <http://www.knowledgebank.irri.org>