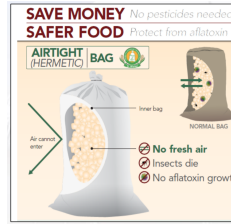# PICS Hermetic Bags for Safe Storage of grain

Low cost storage technologies for grain

Hermetic bags are like super-sealed containers that stop air and moisture from reaching the grains inside. This way, farmers can store their grains for up to two years without them getting bad. This is good for farmers because it means they always have enough food and can sell their grains for better prices.

SAVE MONEY *No pesticides needed*
SAFER FOOD *Protect from aflatoxin*
AIRTIGHT (HERMETIC) BAG
- No fresh air
- Insects die
- No aflatoxin growth

✓ This technology is **TAAT1 validated**.

9·9 Scaling readiness: idea maturity 9/9; level of use 9/9

Gender assessment 👍 **4**

Climate impact 👍 **7**

Problem

- Food insecurity and poor livelihoods for small-scale farmers
- High post-harvest grain losses due to inadequate storage techniques and pest infestations
- Sale of grains at low prices after the harvest

Solution

- Kills insects and microbial organisms by stopping renewal of oxygen that is consumed by pests and by the grain and accumulating carbon dioxide
- Preserves grain quality and allows storage for up to two years
- No need to use fumigants and insecticides for conservation

Key points to design your project

This technology is a eco-friendly solution supporting Sustainable Development Goals by addressing hunger and improving health. To integrate it, plan activities like estimating product quantity and costs, considering logistics, and accounting for training. Communication materials should be developed. Ensure grains are adequately dry before using hermetic bags.

Cost: $$$ **2—3** USD
Bag cost for suppliers

ROI: $$$ **90** %
Reduction of loss

50 or 100 Kg
Bag capacity

2 year
Life span

💡 IP
Trademark

Alliance

The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)
Laurie Kitch

Technology originally documented by

ProPAS

Commodities

Common bean, Rice, Wheat, Maize, Sorghum/Millet, Soybean
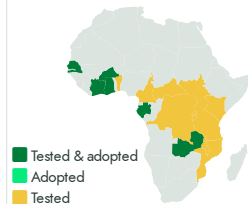
Sustainable Development Goals

Categories

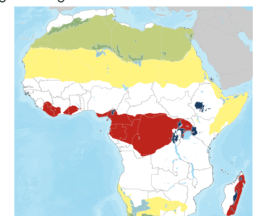Prevention & storage, Equipment, Post-harvest handling

Best used with

- **Mechanized Threshing Operations ›**

Tested/adopted in

- Tested & adopted
- Adopted
- Tested

Where it can be used

This technology can be used in the colored agro-ecological zones.