

HERMETIC BAGS FOR SAFE STORAGE OF GRAINS

Low cost storage technologies for grain

TECHNOLOGY / SOLUTION



Hermetic bags technology is a triple layer hermetic storage bag which has an outer woven polypropylene bag and two inner bags of high density polyethylene (HDPE). The inner bags have very low gas permeability and are water repellent. The outer bag has the strength to handle the weight of the grain it contains.

Hermetic bags are air tight bags that preserve the contents while restricting the existence of cereal pests by depleting oxygen supply levels and producing carbon dioxide.



PROBLEM / ISSUE SOLVED

- 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



GOOD FOR
Manufacturers of bags for grain storage



BENEFITS

- ✓ Prevents air and moisture from entering the grain
- ✓ 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
- ✓ Culturally accepted and adopted by farmers in Africa South of the Sahara



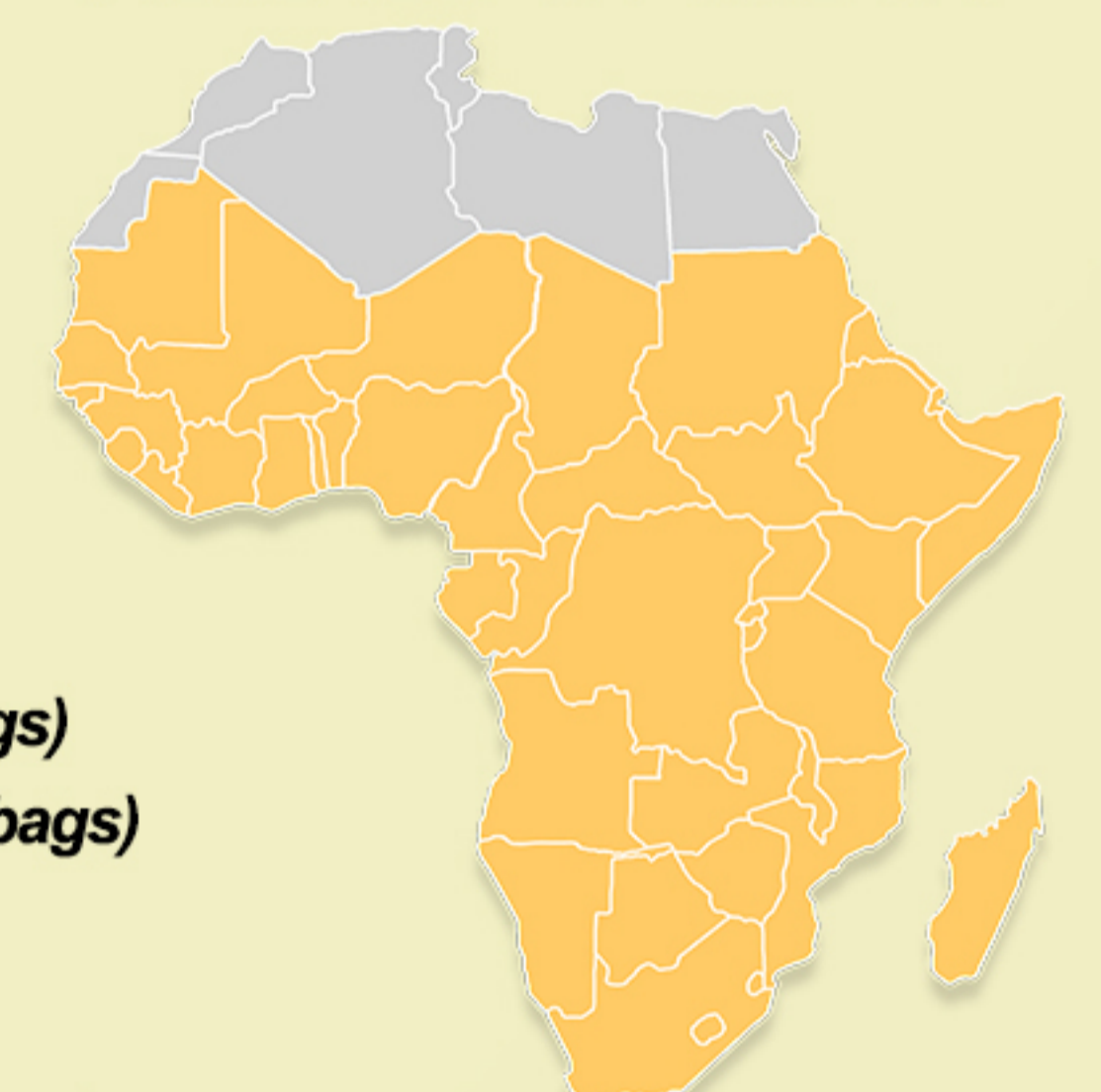
Equipment
Speciality

Maize, Rice, Wheat, Sorghum/Millet, Soybean, Bean
Commodity

US\$2.7MM (for PP woven bags)
US\$3,780 (for PP inner liners bags)
Initial investment

38% (for PP woven bags - Payback 3.57 years)
37% (for PP inner liners bags)
Return On Investment

ALREADY IN USE IN



Africa South of the Sahara

HOW DOES IT WORK?

To make the polypropylene woven bag, turn melted polypropylene granules into string and then start the winding process to get the bobine. Use a knitting machine to weave the bobine into bags.

To make polyethylene inner liners, heat the raw or recycled plastic grains, melt them, shape them and blow to make a thin layer and cool it. Combine the plastic into rolls, cut to the desired size.

