

Effective grain storage for better livelihoods of Indian farmers for food and nutritional security in the new millennium

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Project Objectives

- To design and develop eco-friendly safe storage structure for pulses.
- To develop gadgets for physically eliminating insect infestation in grains.
- To disseminate the technology to small, medium enterprises and to pulse growers in the coastal region.

Description

Pulses are stored by farmers using gunny bags. To minimize the insect infestation during storage different types of multilayered hermitic bags such as storezo, polypropylene + gunny, storezo + polypropylene + gunny was evaluated for their performance for long term storage of pulses. Triple layered bags were found to be superior with maximum batter volume rise, protein content germination, moisture retention with no pulse beetle infestation. Similarly, Grain pro[®] cocoon bags under open field conditions could store the pulses up to one year without the attack of pulse beetle infestation during storage. Stack probe trap and in-bin traps were developed to eliminate pulse beetle infestation during storage in warehouses. Also, bins of different capacities were designed and fabricated to store the pulses safely without deteriorating its quality. Safe storage guidelines were developed based on moisture and temperature for the pulses to determine the number of days the pulses can be stored successfully without affecting the germination, mold attack and insect infestation.