

## Storing Foodgrains in the Open

### What is the issue?

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- India stores millions of tonnes of foodgrains in the open under tarpaulins.

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- It has notable health effects and is a cause for other losses.

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### Why is foodgrains storage important?

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- In India, at the height of the rainy season, growth of fungi overnight is a serious concern.

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- Humidity in the air and warmth of summer are conducive for fungi growth.

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- All fungi need is something to feed on, and grains are more susceptible to it.

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- Eating mouldy grain causes a variety of illnesses.

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- Mycotoxins, found in mouldy grain/foods, are associated with human disease.

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- They produce aflatoxins (cancer-causing), and other such toxins.

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- Aflatoxicosis causes abdominal pain, vomiting, hepatitis.

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- They sometimes even cause death after acute exposure to high concentrations in food.

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- Chronic low dose exposure to aflatoxin can result in impaired growth in children.
- So healthy foodgrains storage conditions are essential to avoid possibilities for the above.

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### How is storage done elsewhere?

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- In other parts of the world, grain is stored in silos (a tall tower or pit on a farm used to store grain).
- Here, stored grain is kept dry and aired so as to prevent fungal and insect attacks.
- The time North American mid-west came under plough, large grain silos and a railway system to export the grain were built.
- Today, the U.S. has a permanent storage capacity nearly equivalent to its annual grain production.

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### What are the concerns in India?

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- **Storage** - India handles about 30.52 million tonnes of rice, wheat, maize, gram and sorghum.
- These are stored in structures at Food Corporation of India godowns and hired spaces.

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- Most procured grain is stored using the CAP, or cover and plinth method.
- Under this, grains are piled up on the floor and covered with a tarpaulin.
- This is very cheap and easy to make, but not healthy.

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- **Silos** - India has only four silos located each in Kolkata, Chennai, Mumbai and Hapur-Ghaziabad.

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- A recent one, in Uttar Pradesh, is the most modern with a storage capacity of 500 tonnes.

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- The remainder of government-procured grain is stored in poor conditions.

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- To export basmati rice, Punjab has built modern, temperature-controlled grain silos with a storage capacity of 50,000 tonnes.

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- However, this is not for the Indian market.

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- **Loss** - It is estimated that there is a 10% loss of harvested grain.

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- Of this, 6% (around 1,800,000 tonnes) is lost in storage.

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- These grains become so damp, fungus-ridden and unfit for consumption.

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- **Impact** - Grains are stored outdoors under tarpaulins through the rainy season.

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- After this, grain is ground (grind) and converted to flour or flour-based products or de-husked.

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- However, mycotoxins are already present from the time the flour was stored in the form of grain.

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- **Awareness** - The government is aware of the deadly consequences of grain with mycotoxins.

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- There are regulations in place to prevent the purchase of mouldy grain from farmers.

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- However, there are no published studies on the extent of mould infection in grain stored using the CAP method.

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**Source: The Hindu**

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