

## Storing Foodgrains in the Open

### What is the issue?

\n\n

\n

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

\n

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

\n

\n\n

### Why is foodgrains storage important?

\n\n

\n

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

\n

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

\n

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

\n

\n\n

\n

- Eating mouldy grain causes a variety of illnesses.

\n

\n\n

\n

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

\n

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

\n

- Aflatoxicosis causes abdominal pain, vomiting, hepatitis.

\n

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

\n

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

\n\n

### **How is storage done elsewhere?**

\n\n

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

\n\n

### **What are the concerns in India?**

\n\n

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

\n\n

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

\n

\n\n

\n

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

\n

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

\n

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

\n

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

\n

- However, this is not for the Indian market.

\n

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

\n

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

\n

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

\n

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

\n

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

\n

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

\n

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

\n

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

\n

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

\n

\n\n

\n\n

**Source: The Hindu**

\n

