



World Food
Programme

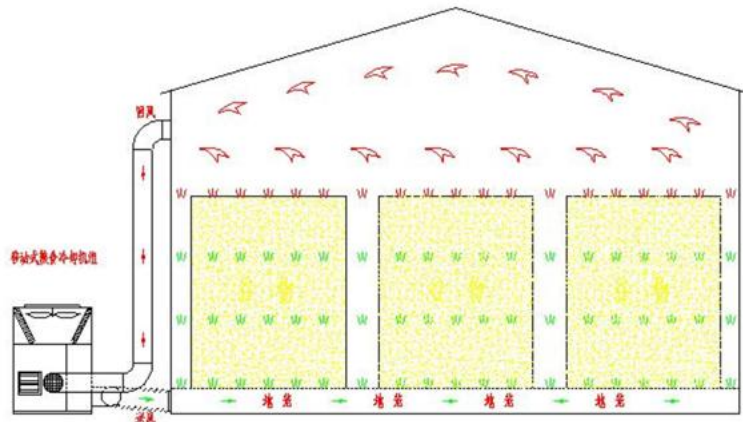


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Typical grain postharvest handling technology

(1) Green grain storage technologies such as low temperature and inner circulation temperature control

Low temperature and quasi-low temperature storage technology refers to a temperature-controlled storage technology that uses natural low temperature conditions or mechanical refrigeration equipment to keep the grain at a low temperature below 15°C or 20 °C to improve the stability of grain storage.



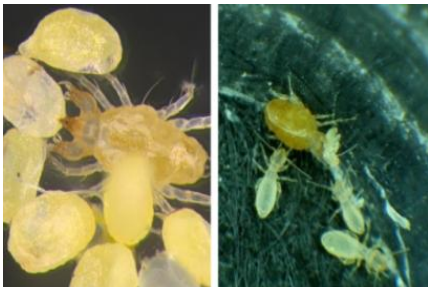
(2) The application scale of controlled atmosphere grain storage technology has achieved remarkable effects

Controllable gas storage technology refers to changing the gas composition of sealed grain stacks by respiration of biological components in grain stacks or by human actions (such as biological, mechanical oxygen consumption, artificial filling to change the gas filling ratio of grain stacks such as nitrogen and carbon dioxide), to suppress pests, mould breeding, control food respiration.



(3) The physical and biological control technology of pests in stored grain has entered the demonstration and promotion stage

Nitrogen gas conditioning insecticidal technology, inert powder physical prevention and control technology, predatory mite biological insecticidal technology, ionizing radiation, microwave, heat (high temperature), light trapping and other physical insecticidal technologies, pest pheromone booby-trap technology, plant-derived insecticides, etc.



Biological control of predatory mite



Nitrogen production equipment and air-regulated grain storage equipment



(3) Physical and biological control of stored grain pests

- ① Warehouse layout should be reasonable equipment warehouse and grain storage warehouse, processing plant and grain storage warehouse, office inspection laboratory and grain storage warehouse three isolation with and without insects food storage separately.
- ② Improve environmental sanitation in the reservoir area.
- ③ Empty warehouse to kill insects.



(3) Physical and biological control of stored grain pests

- ④ Warehouse to install insect screen door window screen, warehouse door to use protective agent to fight insect control line, to prevent outside pests fly into or climb into the warehouse.**
- ⑤ The staff who enter the food storage place must wipe and brush the clothes, shoes and hats to check the food situation, first check the insect-free warehouse, and then check the insect-free warehouse.**
- ⑥ The tools and equipment used for inspection of grain conditions should be guaranteed to be insect-free, and it is best to use special warehouses for quarantine inspection of individual important pests.**

(4) Prevention of grain mildew

In grain storage, the main task is to prevent mold spoilage and insect damage. The damage of insects to food is more in the quantity of food, while the damage of microorganisms to food is mainly in the quality. Once the damage of microorganisms to food quality is formed, the impact will be difficult to eliminate.

Development of mold control in grain: cooling and precipitation.

- 1、 The storage and ventilation system was used to ventilate the grain pile.**
- 2、 When the microbial metabolism in the grain pile is active and the heat of the grain pile is serious, it is difficult to use ventilation system to ventilate and cool down quickly, so it can be dealt with by inverted warehouse, airing and other means.**

Grain loss reduction achieved significant results

(1) Grain purchase link

Implement the special project of scientific grain storage for farmers, and establish a grain post-production service system

(2) Grain storage and transportation

Vigorously promote the application of storage and transportation loss reduction technology to ensure quality and reduce consumption

(3) Grain processing link

Comprehensively advocate appropriate and reasonable processing and develop and apply value-added utilization technologies

(4) Grain consumption

Establish a national food safety publicity and education base, and study grain standards and indicators