
DRY-PACK OF BULK STORAGE FOOD ITEMS IN PLASTIC BUCKETS

For plastic buckets to be used as dry food storage containers, they should be made of food grade plastic and have a gasketed lid. Carbon dioxide is an effective treatment method for preventing weevil infestation in dry-pack items stored in plastic buckets.

The presence of carbon dioxide in concentrations above 3% is adequate to kill weevils in closed containers. Treatment methods, which depend on the absence of oxygen to kill weevils, such as oxygen absorbers and nitrogen gas flushing, are not always effective in plastic buckets due to the potential for oxygen leakage.

The two common methods of CO₂ treatment of buckets are dry ice and gas flushing.

INSTRUCTIONS FOR DRY ICE TREATMENT OF DRY-PACK BUCKETS

1. Use approximately 1 oz. of dry ice/gallon container size.
2. Wipe frost crystals from the dry ice using a clean towel.
3. Place the dry ice in the center of the container bottom.
4. Pour the food on top of the ice and fill the container to within ½" to 1" of the top.
5. Place the lid on top of the container and snap it down only about ½ way around the container.
6. Allow CO₂ gas to escape from the partially sealed lid as the dry ice evaporates.
7. Allow the dry ice to evaporate completely before sealing. To see if the ice is all gone, feel the bottom of the container. If it is still very cold, it has not all evaporated.
8. Monitor the container for a few minutes after sealing the lid. If bulging occurs, slightly lift the edge of the lid to relieve pressure.
9. It is normal for the lid of the bucket to eventually pull down slightly as a result of the partial vacuum caused when the CO₂ is absorbed into the product.

INSTRUCTIONS FOR CO₂ GAS FLUSHING OF DRY-PACK BUCKETS

10. Set up the gas flushing equipment using a cylinder, pressure regulator, and a probe equipped with a pipe extension to reach the bottom of the bucket.
11. With the probe valve open, adjust the regulator to the setting specified:
Granular products (Wheat, Beans, Etc.) 20 lbs.
Powdered products (Milk, Flour, Etc.) approximately 3 lbs.
12. Fill the buckets to within ½" to 1" of top.
13. Gas flush product with carbon dioxide. Insert the probe to the bottom of the bucket. With the hand valve open, move the probe up and down in a circular motion for the time specified:
Granular products - gas flush for 5 seconds
Powdered products - gas flush for 20 seconds
14. Seal lid immediately on bucket.
15. Wipe off probe with a dry towel when changing from one product to another to avoid cross contamination of products.

CAUTIONS

Use CO₂ in well ventilated areas only.

Wear gloves when handling dry ice.

Dry-pack only products that are shelf stable. Products must be low in moisture and oil content.

Avoid exposing products to humid, damp conditions when dry-packing.