

Stored Grain Fumigation Quick Facts

Dr. Glenn Studebaker – Extension Entomologist

Fumigants		
Common Name	Trade Name	Formulations
Aluminum Phosphide (phosphine)	Weevil-Cide	Pellet, tablet, gas bag
	Fumitoxin	Pellet, tablet
	Phostoxin	Pellet, tablet
	Gastoxin	Pellet, tablet, sachet
	PH-3	Pellet, tablet

Fumigation Procedures

- Written fumigation plan is required
- A certified applicator must be present
- Two or more people must be present during the fumigation procedure
- The structure must be properly sealed (must be airtight)
- Wear proper protective respiratory equipment
 - Full-face gas mask with chin style canister approved for phosphine
- The structure must be properly placarded
- Allow fumigant proper time to work

Minimum Exposure Periods for Phosphine Fumigants			
Temperature	Pellets	Tablets	Gass Bags
Below 40°F	Do not fumigate	Do not fumigate	Do not fumigate
40°-53°F	8 days	10 days	14 days
54°-59°F	4 days	5 days	9 days
60°-68°F	3 days	4 days	6 days
Above 68°F	2 days	3 days	4 days
Above 77°F	--	--	3 days

Written Fumigation Plan

- Written description of the required steps involved to help ensure safe, legal and effective fumigation.
 - Purpose
 - Type of fumigation
 - Personnel involved
 - Monitoring plan
 - Notification plan
 - Sealing procedures
 - Application procedures
 - Fumigation period
 - Post-application operations
- Must be written prior to all applications

Placard Requirements

- Placard on all entrances
- DANGER/PELIGRO and SKULL AND CROSSBONES symbol in red
- “Structure and/or commodity under fumigation. DO NOT ENTER/NO ENTRE”
- “This sign may only be removed by a Certified Applicator or a person with documented training after the structure and/or commodity is completely aerated (contains 0.3 ppm or less phosphine gas)”
- Date the fumigation begins
- Name and EPA registration number of the fumigant used
- Name, address and telephone number of the fumigation company and/or applicator
- A 24-hour emergency response telephone number

Post Fumigation

- Grain **CANNOT** be transported over roadways until phosphine levels are 0.3 ppm or less
- Grain should be aerated for at least 48 hours
- Phosphine residues must be at or below for the following commodities:
 - Foods – 0.01 ppm
 - Animal feeds – 0.1 ppm
 - Non-Food commodities – 0.3 ppm

Prevention is Key to Protecting Stored Grains

- Sanitation
 - Remove old grain from interior and exterior of bins
 - Treat inside of bin floor and walls with a residual insecticide before filling.
- Apply a preventive insecticide treatment as grain is placed into storage, especially if it will be stored for an extended period or during warmer months. Consult the [Stored Grain section of MP 144](#) for recommended insecticides.