

Grain & Seed News

A Newsletter for the Grain & Seed Industry • Number 10

Fumigating Small Bins with Phosphine

(Small Bins: 3,000 to 25,000 bu.)



By Nathan Stocker

Small grain bin fumigations are an important part of the grain and seed industry. Always refer to the label prior to performing any fumigations.

First, assemble all necessary supplies.

- a. Aluminum phosphide
- b. Probe
- c. Cotton work gloves
- d. Aluminum phosphide warning placards
- e. Plastic sheeting
- f. Tape/spray adhesive
- g. Approved gas mask
- h. SCBA
- i. Phosphine detection and monitoring equipment
- j. Fumigation Management Plan (see www.fumigationzone.com/training)

Dosage

There is a labeled range of dosages with Phosphine fumigant. There is also a variety of factors that determine the dosage you select.

1. Temperature of the grain
2. Tightness of the bin (most small bins are not tight at all)
3. Anticipated weather for the next 3+ days

Sealing

Proper sealing of a bin is key to the success of your fumigation. The tops of corrugated bins have passive vents, center drop, and eave vents that allow air movement. To combat this, it is important to tarp the grain mass with a 4-6 mil. polyethylene tarp. (This will require confined space entry and engulfment hazard plan.) Stretch the tarp across the grain



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mass and tuck the tarp between the interior wall and the grain mass. After the grain mass is half tarped, begin the application. This application requires at least two trained people. Seal all bottom aeration fans and bottom floor to wall junctions.

Application

When applying Phosphine fumigant, evenly distribute the probe points across the grain mass. Inject the probe into the grain mass 2-5 feet and dump 20-50 pellets in each probe. Dumping an excessive amount of pellets in the probe points can result in a fire. Use your gas monitoring device and use proper respiratory

protection and always be careful! Remember it is a federal offense to use a pesticide incorrectly.

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Late Season Rodent Fumigation



By Jeff Waggoner

As summer draws to a close, fall is upon us and seed facilities begin to load their warehouses with newly conditioned and treated seed. As preparation already begins for the next planning season, they are getting themselves ready for the next planting season, mice are enjoying their final days out in the fields. Once harvest begins and the fall tilling commences, that habitat is disturbed enough to force our furry little friends to go in search of new residences, if only temporarily.

Many seed facilities are set against a backdrop of test plots and vast fields of the highest yielding crops in the world, a fine stage setting for these little performers to carry out

their business. Once cooler weather hits and the crops are in and the final passes of the tillage equipment, if any, is made then there is much incentive for the mouse to seek alternatives to food and shelter. **Rodents are in desperation mode to find shelter, warmth and food within your facility.**

Historically, the majority of our seed facility fumigations fall around the 4th of July and Labor Day when the facility shuts down only to battle with a stubborn rodent problem late into the fall. Rodents have found their new home within the walls of the seed warehouse, close to their food supply. Typically rodents do not travel over 30' or so to their food source. Chances are that if you are seeing damaged bags or droppings that you have some non-paying renters that have set up residence nearby. A family of six mice can become 60 in a matter of a few months,



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so, by spring there could be a lot more damage than meets the eye. Mice can also obtain the necessary water requirements from the food they eat. A water source isn't always necessary for a mouse to survive within an expensive bag of seed.

Rodent gnawing habits are tenacious, hence the origination of the term (rodent) coming from the meaning "to gnaw." Many health concerns stem from the thousands of urine

droplets, fecal matter, hair, etc., that these pests leave behind, in the spring, (not to mention the damage to product, packaging, and image that can be of having an infestation).

Solution

In order to prevent this annual event from becoming an obstacle to overcome in the spring, seed facilities may consider a second "rodent" rate fumigation later in the year, around November or December. Unlike

The Indianmeal Moth: Public Enemy #1

By Ryan A. Yutzzy



The Indianmeal moth is one of the most common stored product pests the seed and grain industry encounters daily throughout the United States. Indianmeal moth larvae can thrive on a variety of different commodities

including, fruits, nuts, cocoa beans, seeds, grain, cereal, and numerous other processed foods. The Indianmeal moth is a symptom of a condition of unsanitary conditions. The Indianmeal moth is notorious for finding that small amount of neglected grain or seed abandoned in cracks, crevices, and corners of a room. Proper sanitation practices can prove to be integral in attempting to prevent an infestation from occurring. Waste grain and other spent food products should be removed and properly disposed of to ensure that the adult Indianmeal moths do not have a medium on which to lay their eggs.

Life History

The adult moths are easily distinguished from other moths in that they have copper markings on the outer two-thirds of their forewing while the inner portion of the forewing is somewhat of a cream color. Female Indianmeal moths lay single eggs or clusters of eggs on or near grain and seed. She lays 300-400 eggs on the product in a few days. The larvae are primarily yellowish cream in color but may exhibit a pink or green tint. They are so small when they hatch that it is nearly impossible to see them with the naked eye. The larvae leave behind loose webbing everywhere they travel. This confirms their presence without seeing the insect. The larvae pupate inside a cocoon. Indianmeal moth growth and development is dependent on temperature and it can take anywhere from three weeks to six months to complete the life cycle.

Control

The Indianmeal moth and other stored product insects can be controlled with good sanitation, proper rotation, pheromone trap monitoring, regular warehouse foggings, or fumigation when needed.

Customer complaints in grain and seed can be reduced with a good pest management program that starts with the insect first. ***Knowing the pest is half the battle in controlling it.***

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insects, rodents are warm blooded creatures and their mortality is not dependant on warmer temperatures for good efficacy. The fumigant label restricts applications

below 40°F and rodent fumigations with non-corrosive ProFume™ require much lower concentrations and can be done over a normal weekend shutdown. So pull out that first

pallet of seed with confidence in the spring that there won't be any unsightly nesting material hanging off of the bags, no gnawed bags and no rodent fecal matter on your logo.

Consider this later rodent rate fumigation option to protect your investment.

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Help your seed dealers avoid the costly impact of pest damage in their warehouses.



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- Indoor glue boards (effective at low temperatures)
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- Routine updates



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