

# Grain & Seed News

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## Reduce/Remove: Rodent Control 101

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Studies have shown that the cost of the damage done by rodents outweighs the cost of controlling them ten to one. It is difficult to put an exact dollar amount on the products that are eaten, damaged or destroyed by rodents. Although a single house mouse consumes only approximately three grams of food per day/ 8 pounds annually and a Norway rat about a half of an ounce daily up to 18 pounds a year, they will destroy much more. Keeping rodents to a minimum or even eliminating them can result in significant monetary savings to your business. **Reducing** rodent

pressure to your facility can sometimes be a challenge, but it doesn't have to be complicated.

The first step in any basic, effective rodent control program

starts with sanitation. Two key words in my favorite sanitation program are **Reduce** and **Remove**. **Remove** food sources, **Reduce** harborage.

**Remove** the clutter on the exterior building and you will make your rodent control stations more effective. Keeping the grass cut short and the weeds knocked down will not only **reduce** places for mice and other rodents to nest and hide; with no plants going to seed, you remove a mouse's number one natural source of food.

Leaving a three foot band around the exterior not only deters rodents

because they have no place to hide, but it allows for a control device to become more effective. Store empty pallets neatly inside, if pallets or other equipment needs to be stored outside, store on a hard surface away from the building.

The main attractiveness of a bait/trap station, a tube or a box style trap is its appearance as a place of safe harbor. **Reduce** the clutter and the device becomes much more attractive. **Remove** the food source and the bait becomes more attractive as well.

A clean warehouse will make traps much more effective, and allow for more thorough inspections. Clean and **remove** spills. Repair torn bags. **Remove** all sources of food and the rodent has nothing else to eat but the bait.

Maintaining an 18-inch strip around the inside perimeter allows for better inspections not

just for rodent signs like droppings and tracks but also better building assessment for points of entry due to shifting buildings and fork lift damage.

By **removing** food and harborage, you will **reduce** the rodent pressure around your facility. **Reduced** rodent pressure will result in **reduced** costs for control measures, **reduced** product loss and **increased** profits!

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# Phosphine and its Use in Rail Cars

*By Dustin Corlett & Eric Bright  
Chicago Office*

Phosphine gas is one of the most common and widely used fumigants on the market today. This gas is effective on all stages of insect life and has some of the best penetration capabilities in the fumigant family. Many developments in the way it is manufactured and used have occurred since its first use in a 1957 warehouse in the mid twentieth century.

The earliest and most widely used version of this fumigant is aluminum or magnesium phosphine. These metal phosphides react through a process called hydrolysis. When the fumigant is removed from its container and comes into contact with water molecules that are present in the ambient atmosphere it begins to break down releasing the phosphine from its metal carrying agent. This process of hydrolysis is dependent on favorable humidity and temperature

conditions to allow for its success on the release of the gas. Because of metal phosphides dependency on weather conditions it can prolong the amount of time it takes for the fumigant to react, sometimes taking up to a week for the gas to be released in colder environments. Due to the corrosive and flammable characteristics of this fumigant its use has primarily been narrowed down to grain and rail car fumigations.

Metal phosphides are a great fumigant to use when treating rail cars. Many rail cars can be leaky and the continual slow release of the gas can be an advantage in helping keep the concentration levels to where they need to be. Once the rail car reaches its destination



the remaining fumigant needs to be deactivated before it can be disposed. The recipient of the fumigated rail car must be trained by a certified applicator following the EPA and label guidelines. Each state has different requirements so please consult the label and your state officials for compliance.

The newest way in fumigating rail cars is by using cylinderized phosphine like Eco-Fume™ which is 98% CO<sub>2</sub> and 2% phosphine. This formulation alleviates the possibility of flammability and corrosion experienced

from using metal phosphine. The greatest advantage to using this fumigant in rail cars rather than a metal phosphide is that the fumigant is already in gas form and does not require the process of hydrolysis to activate. This capability allows for shorter treatment times and more flexibility regarding weather conditions.

In conclusion, phosphine is still a great fumigant to use and staying up to date on new developments in its use will give greater flexibility in commodity treatments.

# Department of Homeland Security (DHS) and Fumigants—*Thanks a lot Bin Laden!*

*By Joe the Fumigator*

This is an important article to read in order to stay compliant with the Department of Homeland Security. The government loves acronyms (whereas Joe does not) so here are a few that fumigators need to know moving forward:

**DHS** Department of Homeland Security

**COI** Chemicals of Interest

**SSP** Sight Security Plan

There are many others but these are the main acronyms to know for now.

The United States government is interested in the substances we as fumigators use. The fumigant products are potentially dangerous and could be obtained and misused by people who are wanting to do unproductive actions with them. With the thought of this and the government taking precaution, of the three fumigants left in the fumigation industry to use, phosphine is the fumigant that the DHS has decided to name COI.

In the beginning, DHS wanted anyone using/storing phosphine to conform to a formal process of security management and

reporting COI's. After they made this announcement, DHS temporarily exempted many end users except those who warehouse and re-sell phosphine would need to continue to conform. Since they have made this announcement, DHS may remove the temporary exemption and make all users of phosphine conform. First, they are re-evaluating those using sulfuryl fluoride and methyl bromide.

The complete process DHS has put forth is one of classifying what you use. Provide a process of complete and detailed descriptions of how you manage safe storage of COI's. Then, provide site audits and ongoing review and process maintenance—and one would think the process would be complete. It is not. Fumigation Service & Supply has spent hundreds of hours to conform along with the hiring of a consultant to assist and complete the proper classification process for DHS. We now have a DHS committee where we reviewed and submitted the 256 page SSP {Insert Complete name here} document. The SSP is the



same document that military installations and nuclear power plants follow.

We at Fumigation Service & Supply have always understood our moral obligation to insure safe management and handling of our fumigant supply. We have taken all precautions that DHS has required and are awaiting the final approval on the SSP. In the meantime, we understand that this is a serious issue to our government and it will continue to evolve. Please stay informed for your company and we will do the best to keep you informed on our end.

# Rodents:

## Deer Mouse

*Peromyscus maniculatus*

**Color:** Brown, with white feet and underbelly



**Shape:** Round

**Size:** 5 to 8 inches long

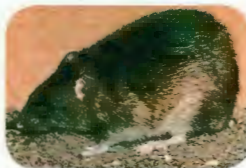
**Habitat:** Found in rural areas and prefers the outdoors. If indoors, it prefers undisturbed areas such as attics.

**Threats:** The deer mouse transmits the fatal Hantavirus Pulmonary Syndrome. It is transmitted through contact with the carcasses or breathing in urine droplets of infected deer mice.

## Norway Rat

*Rattus norvegicus*

**Color:** Gray, brown or black



**Shape:** Long

**Size:** 10-12 inches (8" body plus 4" tail)

**Habitat:** Often enter a home in the fall when outside food sources become scarce. Norway rats live in fields, farm lands, structures, and woodpiles.

**Threats:** Rats can chew through wiring, causing fires. They also are known to spread numerous diseases.

## House Mouse

*Mus musculus*

**Color:** Light brown to black, light belly



**Shape:** Round

**Size:** 12.5-20 cm (Nose to end of tail)

**Habitat:** Mostly active during dusk or night. They do not like bright lights. Live near sources of food.

**Threats:** Mice urine can cause allergies in children while the mice themselves can bring fleas, mites, ticks and lice into a structure.

Photo Credit: NPMA

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