

Grain & Seed News

A Newsletter for the Grain & Seed Industry • Number 11

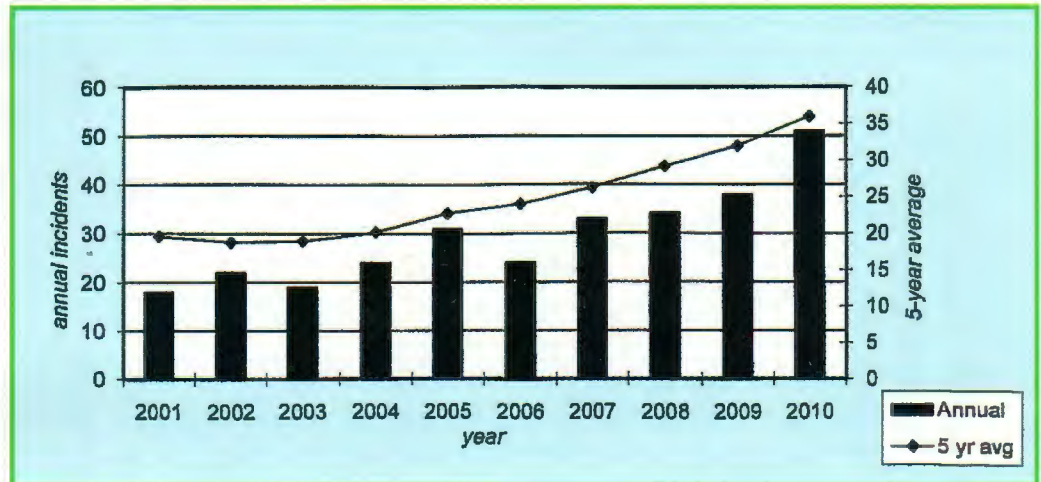
2010 Grain Entrapments and Suffocations

The number of victims (51) of grain-related entrapments and suffocations documented during 2010 was the highest on record. This trend towards an increasing frequency of these incidents is inconsistent with the decreasing frequency of almost all other forms of agriculture-related injuries and fatalities. Contributing factors include the increased storage of grain on farms, increased commercial storage capacity, increased capacity of handling and transport equipment, and the levels of **out-of-condition grain due to delayed harvests and inappropriate processing and storage practices.** Due to this increase in incidents, considerable attention is being given to exploring cost-effective intervention strategies to reduce the frequency and severity of these incidents.



Let's take a look at the statistics:

- 2010 was a record year for grain entrapments and suffocations in the United States. Fifty-one were recorded in commercial facilities.



Number of annual grain entrapments recorded in the National Grain Entrapment Database and the 5-year average between 2001-2010.

- 75% of the farm cases resulted in deaths. (25% of the cases were on commercial sites.)
- The trend of grain entrapments and suffocations are on the increase. The five year trend in 2002 was 19/year and in 2010 was 32/year.
- There were 17 different states that reported entrapments and suffocations in 2010. 70% were on the farm. Almost all were males.
- 80% of the accidents involved corn in 2010. Corn can get out of condition and plug the flow.
- Six incidents involved youth under the age of 16. The oldest victim was 81 and the youngest seven years old. The average age was 45 years old.
- 51% of the recorded cases were fatal in 2010.

Leading States in 2010:
Illinois 10, Minnesota 8,
Wisconsin 7, Iowa 5

Recommendations:

There exists a continuing need for an industry wide consensus on the importance of developing engineering safety design and practice standards for grain storage structures. The commercial grain industry and grain bin manufacturers are urged to increase their employee, farmer, and customer education efforts to prevent grain entrapments from occurring. In addition, there is the need to strengthen employee and emergency responder training to ensure having in place appropriate response strategies in case of grain entrapments.

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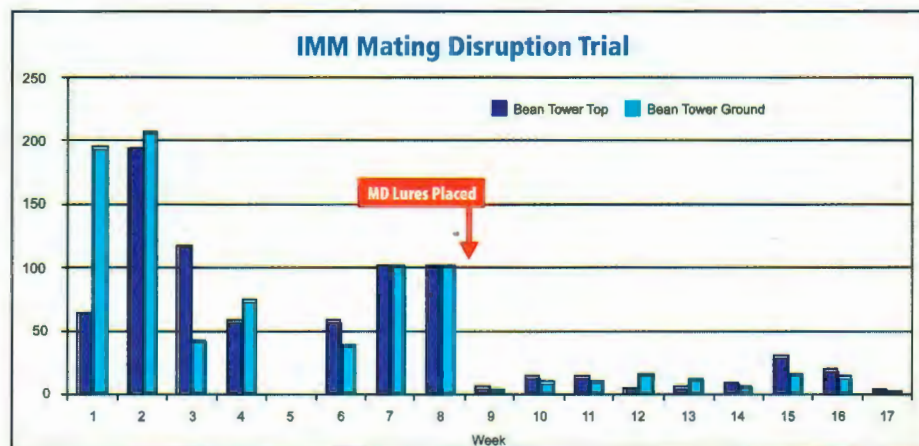
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Mission Statement

In all, our aim is to strive for quality service, provide the absolute best products available worldwide, to be a respected world-class organization, and maintain profitability with innovation, alternatives, and education.

Reducing Indian Meal Moths in a Seed Warehouse

Up until about two years ago the only tools in the toolbox in seed production and handling facilities to control Indian Meal Moth (IMM) was stopping production for a chemical treatment: a fogging or, in most cases, a fumigation. IMM is the second most common seed pest only to rodents. Customer complaints and plant wide infestations have become common.



Mating disruption dramatically reduced the Indian meal moth male population in traps in just a few days in a two story seed processing tower building.



New to the seed industry, IMM mating disruption has proven to be very successful. This pheromone based product was developed for the food industry about six years ago and has seen similar successes in food warehouses, organic food facilities, and homes. Mating Disruption works by using small packets containing a large amount of pheromone (the sexual attractant that helps the males find the females) strategically placed throughout a seed facility. When an infested pallet of seed is returned to the facility and the newly introduced unwanted guests take flight, the males are unable to find females in a warehouse that is thousands if not millions of cubic



Allure MD™; Mating disruption formulation

feet. Male moths are seen sitting on warehouse floors and walls in what can only be described as a state of extreme frustration for they have just given up without the chance to pass on their genes. Male IMM do not have functioning mouthparts

and die within a few days after becoming an adult and if the females do not mate in the first five days, eggs will become sterile. Any delayed mating will also reduce the population of this common seed and grain insect.

It is not hard to see how after weeks and months of having this product in a warehouse, IMM numbers will begin to drop. The best part is each packet will work for three months, 24 hours a day, and seven days a week with no down time for chemical applications.

For details on how you can set up a moth mating disruption program, contact Pete Mueller.



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Good Grain Conditioning Leads to Good Insect Control

Grain insects are like humans. They seek environments that are comfortable and safe and contain good food supply. The task in grain management is to create an environment that will cause them to leave or die.

The number one environmental condition for insects is temperature. They thrive on temps between 70° and 90° F. **The warmer the grain temperature the faster the insects development.** A few insects in the spring can multiply into millions by late summer.

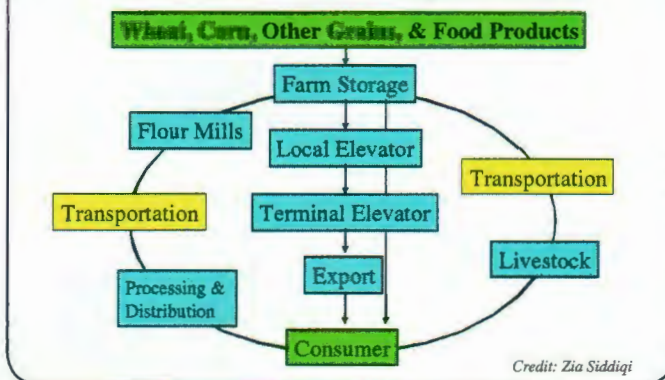
High grain temperatures cause other grain storage problems. Mold also needs elevated temperature to grow. As molds increase, the odor given off attracts insects and we have an unwanted cycle on our hands. Insect activity creates heat which causes mold, and the cycle escalates to a point that economic losses occur, not to mention the costs associated with an insect infested food product.

Controlling grain temperature then becomes one of the non-chemical tools we have to prevent insect contamination. A very high percentage of insect activity happens in the top 4 inches of grain. With a higher level of foreign material (FM) in the center of a grain pile, this becomes the place to be

contaminated first. As ambient temperatures increase with warm weather, aeration must be carefully controlled. The low grain temps of winter must be increased to avoid thermal warming from the sun on the side of a bin, but we shouldn't let that grain go above 65°F. The real challenge comes in summer, as daytime temps rise above 80°F and even 90°F, and nighttime temps can stay above 70°. Running the aeration fans during the coolest hours is essential in maintaining the grain at the lowest temps possible.

Insect life cycles increase in time as we are able to decrease the temperature of their habitat. Reducing the grain temperature by 5°,

Farm to Table, Raw Material, Distribution & Transportation



Pests can cause customer complaints from the farm to the table.

could prevent one whole generation of moths, beetles and weevils. Over the course of a 90-day warm period (July thru Sept) can mean the reduction of millions of insects.

Mel Ulrich has over 38 years of experience with grain conditioning and fumigation. Call on Mel to help you solve your grain conditioning and pest problems; M.Ulrich@FumigationZone.com 1-260-359-2208

Maybe we need more quail?

A single quail will eat 56,430 insects and 5,379,168 weed seeds in a year.



Safety Training

Fumigation Service & Supply, Inc. has 29 certified and licensed fumigators that are trained in confined space entry, ladder safety, DOT, OSHA, CPR, AED, EPA, and First Aid standards. Our territories include the majority of the following states: Indiana, Illinois, Ohio, Michigan, and Wisconsin, Minnesota, Nebraska, South Dakota.

Top row: Todd Wilhelm, Indianapolis; Jeff Moorhead, Chicago; Merle Bennett, Indianapolis; Mel Ulrich, Ft. Wayne; Ryan Yutzy, Indianapolis; Pete Mueller, Bloomington, IL; Jeff Waggoner, Cincinnati. Bottom row: Nathan Stocker and Dave Mueller, Indianapolis. Curt Lilleodden, Cedar Rapids, not pictured.



FSS Managers attended the recent GEAPS and IAOM Safety Training.

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Call 1-800-992-1991 to receive more information about our products and services or go to our website: www.FumigationZone.com

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