

Fumigants & Pheromones

Issue 89
Fall 2008

Routing:



A Newsletter for the Insect Control & Pest Management Industry

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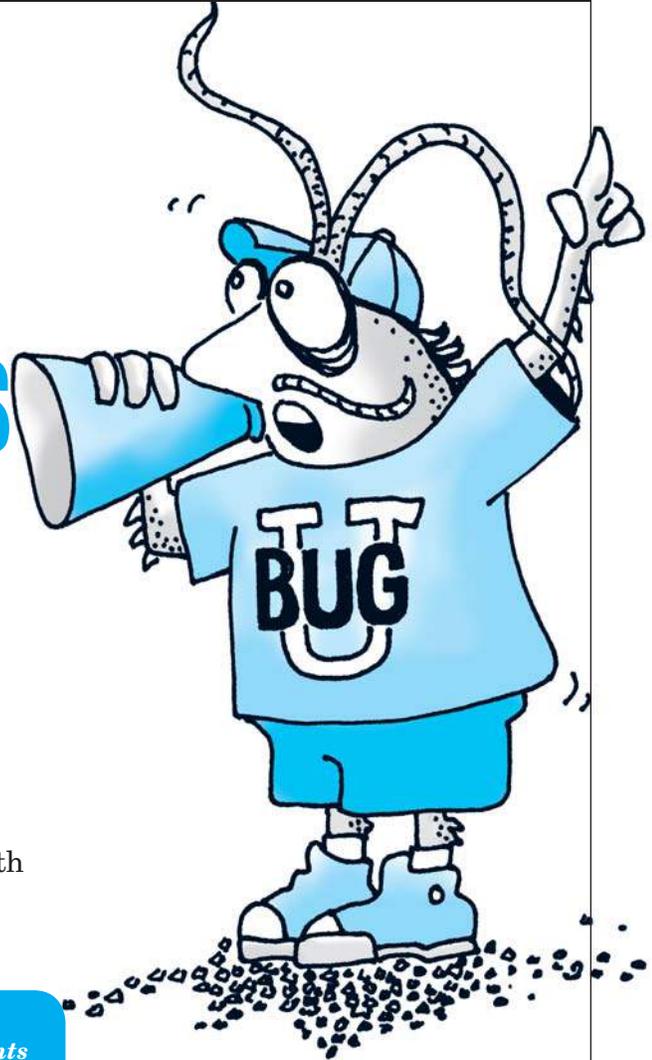
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comments and suggestions.
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you would like to be better
informed about. We look
forward to continuing to share
our knowledge with you!

*"I always enjoy reading
your newsletter 'Fumigants
& Pheromones' and always
learn some interesting new
information. The article on
the Pyrethrum Shortage was
especially interesting to me,
both in terms of the source
of pyrethrum and the social
and political impact on its
supply."*

—Sally M, Museum Industry



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Farmer's Lung

by *Kalah Stocker*

Now is the time of year when farmer's are bringing in crops that will fill their storage bins to be transported to another facility. Some of these crops may contain high moisture content, creating the possibility of the grain becoming moldy. This presents conditions for a human health hazardous and potentially deadly disease called Farmer's Lung.

Farmer's lung is an allergic disease usually caused by breathing in the dust from moldy hay but may also be caused by moldy straw, corn, silage, grain, or even tobacco. It develops in two steps: 1) The first time a person inhales a large amount of dust and spores from moldy grain, the immune system often responds by producing specific antibodies against the antigens. 2) Once the body has produced these antibodies, there is a chance that further exposure to moldy dust can generate a hypersensitive type of allergic reaction. A reaction that is typical of Farmer's Lung.

Generally, people with Farmer's Lung go to the doctor and

"The spores that cause Farmer's Lung are not infectious. Instead, they trigger an allergic reaction."

complain of breathing problems. They do not associate their problem with being around moldy grain. There are several symptoms that need to be noted if exposed to moldy grain. On one end,

there have been sudden attacks which are categorized as 'Acute Farmer's Lung' and then there are those that occur over time labeled, 'Sub-Acute Farmer's Lung.' If you experience any of these symptoms, it would not be unwise to get to the doctor to be examined.

Acute:

Occurs 4-8 hours after breathing in a large amount of dust from moldy crops. This type is easy to notice with the following pneumonia like symptoms:

- shortness of breath
- a dry irritating cough
- sudden general feeling of sickness
- fever and chills
- rapid heart rate
- rapid breathing

If one experiences any of these, he/she needs to avoid exposure to the moldy dust and symptoms should disappear within a day but could last up to two weeks. However, if nothing is done, serious cases could last up to three months.

Sub-Acute:

This is the most common type of Farmer's Lung as it is less intense and more difficult to notice. Sub-Acute occurs when one is continually exposed to small

amounts of moldy dust.

The signs are:

- coughing
- shortness of breath
- mild fever and occasional chills
- general feeling of sickness
- aches and pains in the muscles and joints
- loss of appetite and weight

These symptoms are similar to those of a 'Chest Cold' but should be monitored if they occur. The weight loss that is associated with this occurs over several weeks.

We as humans want answers for everything—especially if it has to do with our health. However, there is no simple solution for coping with Farmer's Lung once someone has the disease. The best practice is to avoid breathing in dust from moldy crops with a mask or other respiratory safety equipment.

Source: National Ag Safety Database,
Canadian Centre for Occupational Health & Safety

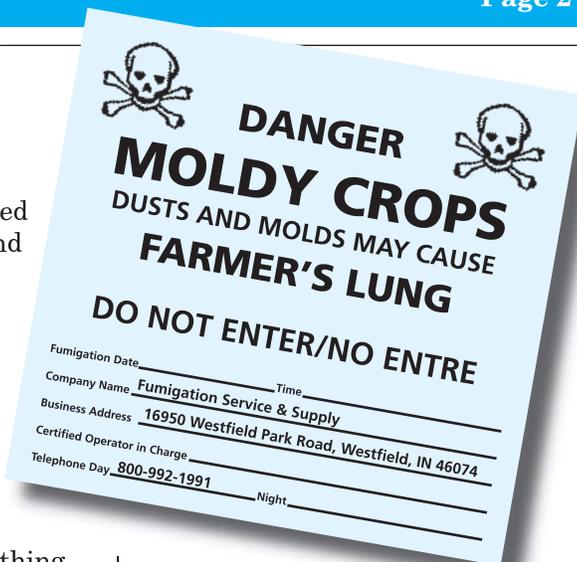


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Dave's Soapbox

...for what it's worth



Ladies and Gentlemen of the Class of '08: Wear Sunscreen.

If I could offer you only one tip for the future, sunscreen would be it. The long-term benefits of sunscreen have been proven by scientists; whereas the rest of my advice has no basis more reliable than my own meandering experience. I will dispense this advice now.

Enjoy the power and beauty of your youth. Oh, never mind. You will not understand the power and beauty of your youth until they've faded. But trust me, in 20 years, you'll look back at photos of yourself and recall in a way you can't grasp now how much possibility lay before you and how fabulous you really looked. You are not as fat as you imagine.

Don't worry about the future. Or worry, but know that worrying is as effective as trying to solve an algebra equation by chewing bubble gum. The real troubles in your life are apt to be things that never crossed your worried mind, the kind that blind side you at 4 PM on some idle Tuesday.

Do one thing every day that **scares** you.

Sing.

Don't be reckless with other people's hearts. Don't put up with people who are reckless with yours.

Floss.

Don't waste your time on jealousy. Sometimes you're ahead, some-

times you're behind. The race is long and, in the end, it's only with **yourself**.

Remember compliments you receive. Forget the insults. If you succeed in doing this, tell me how.

Keep your old love letters. Throw away your old bank statements.

Don't feel guilty if you don't know what you want to do with your life. The most interesting people I know didn't know at 22 what they wanted to do with their lives. Some of the most interesting 40-year-olds I know still don't.

Be kind to your knees. You'll miss them when they're gone.

Maybe you'll marry, maybe you won't. Maybe you'll have children, maybe you won't. Maybe you'll divorce at 40, maybe you'll dance the *funky chicken* on your 75th wedding anniversary. Whatever you do, don't congratulate yourself too much, or berate yourself either. Your choices are half chance. So are everybody else's.

Enjoy your body. Use it every way you can. Don't be afraid of it or of what other people think of it. It's the greatest instrument you'll ever own.

Dance, even if you have nowhere to do it but your living room.

Read the directions, even if you don't follow them.

Do not read beauty magazines. They will only make you feel ugly.

Get to know your parents. You never know when they'll be gone for good.

Be nice to your siblings. They're your best link to your past and the people most likely to stick with you in the future.

Understand that friends come and go, but with a precious few you should hold on. Work hard to bridge the gaps in geography and lifestyle, because the older you get, the more you need the people who knew you when you were young.

Live in New York City once, but leave before it makes you hard.

Live in Northern California once, but leave before it makes you soft.

Travel.

Accept certain inalienable truths: Prices will rise. Politicians will philander. You, too, will get old. And when you do, you'll fantasize that when you were young, prices were reasonable, politicians were noble, and children respected their elders.

Respect your elders.

Don't expect anyone else to support you. Maybe you have a trust fund. Maybe you'll have a wealthy spouse. But you never know when either one might run out.

Don't mess too much with your hair or by the time you're 40 it will look 85.

Be careful whose advice you buy, but be patient with those who supply it. Advice is a form of nostalgia. Dispensing it is a way of fishing the past from the disposal, wiping it off, painting over the ugly parts and recycling it for more than it's worth.

But trust me on the **sunscreen!**



W. K. Mueller

Source: Mary Schmich, Chicago Tribune

Fumigation— *the benefits of change...*



by **John Mueller**

Over the last 10 years fumigant labels have been challenged by Environmental Protection Agency [EPA] re-registrations, alternative treatment debates [wars], and intense market analysis. Today's fumigants have had to prove performance and safety like never before. The common thread through this process had been the intense use of gas monitoring devices.

Fumigating without monitoring equipment is like hunting without a gun or fishing without a pole. The better your equipment the more successful you are. Fumigating will always require skill and experience to complete the process successfully but inadequate equipment will limit even the most talented and experienced. Both high range and low range monitoring are required for safe and successful fumigating.

High range or efficacy gas monitoring is used to measure the status of a fumigation from within in the structure being treated. Proper high range monitoring insures successful and cost effective treatment. It can even increase product safety and human safety by the management of responsible dosage rates [gas concentrations].

Choosing the proper fumigant dosage rate is confirmed by high

range monitoring. Dosage assumptions are refined and adjustments are documented to comply with the federally mandated Fumigation Management Plan [FMP].

Recently increased attention to focus on high range monitoring started with the introduction and comparisons of cylinderized phosphine verses conventional metal phosphide. It intensified when sulfuryl fluoride started competing as a methyl bromide replacement.

Low range, clearance, or safety monitoring is used to protect applicators, bystanders, and operators from the harmful effects of misplaced or residual gas levels. Fumigants cannot exist without adequate monitoring specific to that fumigant. Low range monitoring has been in the spot light for the past decade as well. EPA is pressing our industry to lower our Personal Exposure Levels [PELs] downward.

1999

**Phosphine from
0.3 parts
per million [PPM]
to 0.1 PPM**

(this has not been accomplished).

2004

**Sulfuryl Fluoride from
5 PPM to 1 PPM**

(this was achieved).

2009

**It is proposed that
methyl bromide be reduced
from 5 PPM to 1PPM.**

*(still pending confirmation in the
Federal Register).*



*The new
Draeger
Gas Monitor—
Pac 7000.*

The Yield

Increases in all forms of monitoring have drawn the attention of companies manufacturing this type of equipment. We are moving away from (but still need) color metric tubes and even electro chemical devices to infrared analyzers with very high levels of accuracy and limited interference. This technology opens the door to highly advanced remote monitoring observation and web based posting of gas readings. This is all very exciting as the productivity of these advancements will yield improvements in our industry across the board.

If you have questions about the functionality and availability of monitoring through cell phone or server, contact us for questions. Until recently this has been very specialized and situational equipment. Today commercial monitoring equipment is available which will transmit data through cell cards from any location within cell tower range. This is the next step in a very exciting future with unlimited possibilities.

If you have questions regarding monitoring please do not hesitate to call me to discuss your unique or specific need.

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Methyl Bromide Update

UNITED STATES

The Montreal Protocol's working group gathered this summer to set the agenda for the continued phase out of all ozone depleting substances including the fumigant methyl bromide. Much of the discussion was about limiting methyl bromide on quarantine and pre-shipment uses. These uses have increased in recent years and the pressure to find alternatives is now a priority. Replacements for methyl bromide for wood treatments were proposed. This agreement is in cooperation with the Food and Agriculture Organization (FAO). Wood packaging material required fumigation with methyl bromide or heat treatment in the past. Sulfuryl fluoride has been proposed to be an alternative to methyl bromide. This will eliminate millions of kilograms of methyl bromide used today.

Research by the United States Department of Agriculture (USDA), Fumigation Service & Supply, Inc., and Dow AgroSciences on fumigating hardwood logs with sulfuryl fluoride continues to be ongoing. This could also replace millions of kilos of quarantine and pre-shipment methyl bromide worldwide. China and the USDA continue to work on projects to replace methyl bromide on quarantine logs and other wood products leaving China and the United States.

The US Environmental Protection Agency (EPA) has released preliminary label changes for methyl bromide. The new restrictions on the use of this agricultural and structural fumigant will greatly limit its uses. Since 2006, critical use exemptions (CUE) were allowed for certain uses of methyl



Now is the time of the year when the Ozone Hole is the deepest and largest. Go to <http://macuv.gsfc.gov/> to see the current ozone maps from NASA.

bromide by those making hardship applications to the EPA and the Montreal Protocol. These uses will be greatly restricted by the new EPA label for methyl bromide forthcoming. America has been criticized by other countries because of the leniency to allow such CUEs compared to Europe. Today, the United States is the largest user of methyl bromide with 5000 tonnes followed by Israel with 850 tonnes and Japan, 500 tonnes.

EUROPE

As of 2008, Europe has replaced 98.9% of the methyl bromide with alternatives. The Member States of the European Union (EU) will no longer be using methyl bromide for critical uses as of January 2009. When the phase out on methyl bromide came into force in 2005, exemptions had been granted for about 90 different crops in 10 EU member states. Today, growers in the European Union have adopted alternatives that successfully eliminate pests in soil and post-harvest applications. From a total of 20,000 tonnes used in the EU in 1991, this number has just reached about 200 tonnes in 2008 and zero next year.

Laure Ledoux of the European Commission stated: *"The recovery*

of the ozone layer heavily depends on signatory countries complying with agreed commitments. Until recently, it was deemed nearly impossible to eliminate certain critical uses of methyl bromide because alternatives were felt to be lacking. The rapid phase-out of the use of this fumigant in the EU demonstrates that substitutes do exist for the ozone-depleting substances and that progress can be achieved when the will is there to address environmental problems in a constructive and innovative way."

CHINA

China has phased out the use of methyl bromide as a fumigant for grain storage, the Ministry of Environmental Protection said. "Grain storage became the first to complete the phase out among three sectors. The other two industries targeted to phase out methyl bromide use are the tobacco and agriculture sector. A total of 210 tons of methyl bromide in 128 grain depots have been phased out, fulfilling China's commitment to the international community." The Chinese government has been working with United Nations Industrial Development Organization (UNIDO) in the Ozone Depleting Substances phase-out project since 1993.

Phosphine gas recirculated under plastic film, and phosphine mixed with carbon dioxide fumigation technology have been identified as the two alternative technologies for methyl bromide. The State Administration of Grain (SAG) stated, *"Phosphine is more environmentally friendly and less likely to leave residues in foodstuffs."*

Source: UNEP's Newsletter RUMBA, May 2008

Preserving Our History

An Odd Beetle...No Doubt



By Patrick Kelley, ACE

Funny and strange looking, the Odd Beetle (*Thyodrias contractus*) has been a frequent pest of museums with natural history collections since the early 1900's in the United States. This pest that originated from central Asia is now well established in museums world-wide. It feeds mainly on the skins of animals in natural history collections and it will also attack dried insect specimens.

While the adults look so different from each other, the male and female in the larval form look nearly identical. They have hairy bands down their entire length and curl up when disturbed. They look similar in appearance to many other dermestid larvae to which they are related.

Although the pheromone for these beetles has been identified, it is not yet commercially available. The Larval Dermestid Monitors (IL- 3050-10) from Insects Limited will attract the larvae and give identification of an infestation. Once an infestation is found, it is best to treat with the standard treatment options for museum collections. You can view these at

ODD BEETLE



Adult Male

Adult Female

Larva

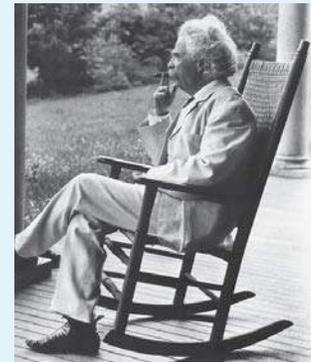
The reason that it is so "odd" is that the adult male and female appear to be two totally different insect species. The male looks like a slender beetle while the female is soft bodied and looks more like a louse. The adult male can fly and the adult female is wingless and cannot fly. Both adults and larvae can reach up to 3 mm in size.

the website www.museumpests.net/tools/treatments.htm

Take some time now to familiarize yourself with this unique pest of museums and hopefully you won't find yourself in an "odd" situation in the future. For more museum pest information, please visit www.museumpests.net

Quotable Quotes

Mark Twain



"Twenty years from now you will be more disappointed by the things that you didn't do than by the ones you did do. So throw off the bowlines. Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover."

"Always do right. This will gratify some people and astonish the rest."

"Wrinkles should merely indicate where the smiles have been."

"The human race has one really effective weapon, and that is laughter."

He had discovered a great law of human action, without knowing it—namely, in order to make a man or a boy covet a thing, it is only necessary to make the thing difficult to attain.

—Mark Twain



Insects Limited / Fumigation Service & Supply will be speaking, attending, or organizing the following:

October 8-11*
National Hardwood Lumber Association
 San Francisco, CA

October 19-21*
International Distillers Grains Conference & Trade Show
 Indianapolis, IN

October 22-25*
National Pest Management Association
 National Harbor, MD

November 13-17*
IAOM—Africa/Asia
 Arusha, Tanzania

December 7-9
USA Rice Conference Outlook
 Little Rock, AR

December 9*
Ohio Pest Control Association
 Columbus, OH

January 5-9, 2009*
Purdue Pest Management Conference
 West Lafayette, IN

January 7, 2009*
GEAPS Cornbelt
 Bloomington, IL

March 2009*
International Congress of Fumigation
 Mar del Plata, Argentina

March 3-5, 2010**
9th Fumigants & Pheromones Conference,
 Valencia, Spain

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