

# Fumigants & Pheromones

Issue 71  
Spring  
2004

Routing:

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A Newsletter for the Insect Control & Pest Management Industry

## They're Back...Cicadas, Brood X

Every year periodical cicadas will emerge somewhere in the eastern U.S. Some states have several broods in different locations. The class that will emerge in 2004 is the largest of the 17-year cicada classes and is known as **Brood X** (Brood Ten). Brood X is expected to emerge in parts of 15 states from New York to Georgia to Illinois. This brood last emerged in 1987.

### Cicadas Life History

Cicadas are flying, plant-sucking insects about one to two inches (25 to 50 millimeters) long. They're known for their shrill-sometimes deafening-choruses, which the males make using specialized membranes.

It is not known how periodical cicadas synchronize their life cycles over 13 or 17 years—or how they manage to count out the years. But by emerging at such long intervals in such vast



photo: Stoy Hedges

*Periodical cicadas, like this adult, spend most of their lives burrowed underground. This May, billions of cicadas will carpet trees from the Eastern seaboard west through Indiana and south to Tennessee. By the end of June they'll be gone, not to be heard from or seen again for 17 years.*

numbers—as many as 1.5 million insects per acre [0.4 hectare] according to one estimate—they have evolved an effective strategy to overwhelm predators by sheer volume.

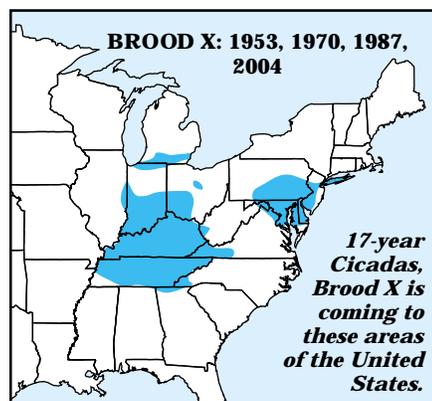
The mass emergence of periodical cicadas provides an unlimited feast for birds, snakes, moles, and other mammals. Even humans have been known to eat the harmless insects (Cicadas are not poisonous and do not bite or sting).

Once the predators have eaten to capacity, there are still millions of cicadas left over to produce the next generation. Predator populations cannot build up in response to such a massive food

supply, because the cicadas appear above the ground only once every 13 or 17 years.

**Periodical cicadas** generally emerge in May and June, apparently when the soil temperature reaches 64° Fahrenheit (18° Celsius). This means that emergences in

*(continued on page 2)*



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FSS preforms the first commercial PROFUME™ fumigation. [flour mill, 3/17/04].

## Cicadas, Brood X

(continued from page 1)

southern and low-lying areas occur earlier in the summer than in the cooler northern locations.

Periodical cicadas can damage small trees or shrubs if too many feed from the plant or lay eggs in the twigs. They are not generally regarded as pests, except perhaps by those who find them too noisy.

A female may lay as many as 400 to 600 eggs in small slits she makes in slender tree branches. Cicada "nymphs" fall to the ground after hatching, burrowing into the soil until they find the tree roots that they suck for food until it is time to resurface for breeding.

### Most periodical cicadas are gone by July.

Source: National Geographic

## Quotable Quotes

**"Nothing builds the self-esteem like knowledge!"**

—Barbara Bass

**"Too bad ninety percent of the politicians give the other ten percent a bad reputation."**

—Henry Kissinger

*Seen while offering training at Wal Mart Headquarters in Bentonville, AR. Sam Walton, co-founder of Wal Mart said:*

**"Never get so set in your ways that you can't change."**

**"To lower prices we've got to keep finding ways to lower our costs."**

**"Listen to your associates; they're our best idea generators."**

**"Swim upstream, go the other way. Ignore the conventional wisdom."**

**"Making people want to come back...that's where the profits come from."**

## New Cincinnati Office



**Jeff Waggoner**

Jeff Waggoner has opened our newest branch office near Cincinnati, OH. Jeff has worked for Fumigation Service & Supply, Inc. since the summer of 1993. He specializes in pest management in food processing plants and developing innovative methyl bromide alternatives for flour mills and large food processing facilities.

Jeff grew up on a farm in Rushville, Indiana and attended Purdue University prior to taking

a position with FSS as the Foods Division Manager. Jeff is married to Brenda and they just added their first child Elijah (Eli) on February 20, 2004.

Fumigation Service & Supply's new Cincinnati office opened March 1, 2004. However, Jeff grew up in this region and has been covering this territory for the past two years out of the Indianapolis office. Jeff says: "I have had a very exciting month. I am looking forward to this new challenge of setting up an office for Ohio, NE Kentucky, SE Indiana sales and service region for FSS."

John Mueller, vice president of FSS, stated: "Jeff will do well in this territory because it is full of grain and grain processing companies that could use Jeff's experience and innovation in pest management."

## Food Protection Alliance

Five respected leaders in the fumigation and pest control industries announce that they have joined forces to create the Food Protection Alliance to provide quality fumigation and related services in North America. The members of the Alliance are Fumigation Service & Supply, Inc. of Westfield, Indiana, Research Fumigation Company, LLC of Reserve, Louisiana, Professional IPM Services, LLC of Salina, Kansas, Royal Fumigation Inc. of New Castle, Delaware, and Clark Pest Control of Lodi, California.

"We are very excited," commented John Mueller, Vice President of Fumigation Service & Supply. "We have been sharing ideas and working informally for many years. Now, by combining our individual areas of expertise, we will offer an unprecedented level of service and support to our clients on a regional, national, and international scale."

FPA will apply the members' cutting-edge technologies and procedures to create more treatment options across industry segments, bringing value to customers and safeguarding our food supply.

For more information, go to [www.fpalliance.com](http://www.fpalliance.com) or contact John Mueller at [fumig8r@aol.com](mailto:fumig8r@aol.com)



## Dave's Soapbox

...for what it's worth



Now what happened to the Marlboro Man? I miss the Marlboro Man. I miss looking at a scruffy looking cowboy poking sticks in a fire with mountains in the background as he mounts his horse and rides into the sunset while humming a mellow tune.

# Male Bashing

**H**as anyone else noticed that males are being bashed with regularity on TV and in print ads. Men are being reduced to amoebas while we stand by and take it. **Well stop it!**

### TV Commerical...

*Scene #1:* Man, age 40+ years old, 25 lbs over weight, pale, bad posture, balding, flowered shirt and walking shorts with white socks pulled up walks down a path with a female, 25 years old, fit, tan, nice hair, and nice body, with pressed safari clothes. Now add another female of the same general description and the script goes something like this:

**Female to female:** "I hope that Earl (as in 'Earl has to Die') can keep up with us today as we climb Mt. Kilimanjaro again...backyards."

*Scene #2:* Females say to each other—"Where's Earl?"

*Scene #3:* Panning down the mountain we see Earl crawling out of a crevice, hair messed up, dirty clothes and an exhausted expression on his poor chubby face. Earl says: "That's the last time I take that short cut." (sigh)

*Scene #4:* Pan up the mountain—females sitting in a shiny new SUV smiling and listening to the music. "This new SUV is right for the whole family."

When did this all happen...when did Madison Avenue start castrating half of the population? I will tell you when this all happened: It happened when women were given the checkbook. Right!

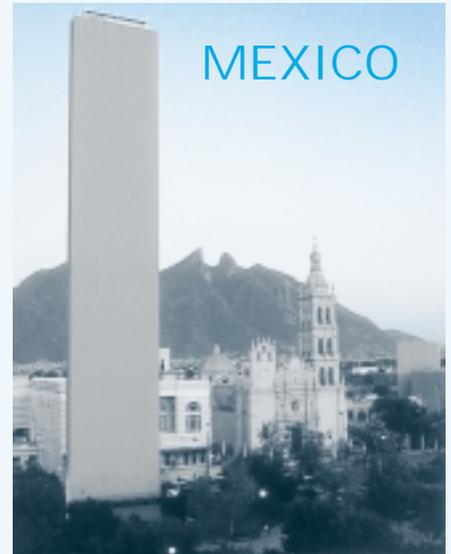
These marketing guru's figured out that men don't have any money. We don't even see our pay check. It gets deposited electronically. Men, we don't have the checkbook any more.

So why should Madison Avenue even try to communicate their sales pitch to us. They don't even focus on men anymore. Maybe we can pick out the color of the SUV the females choose for us.

Men, if you are tired of seeing male masculinity constantly spit on...if you want respect on the television commercials and in the newspapers...go today to your bank and ask for a checking account and a checkbook. Run home to your spouse and demand that you start paying the bills around the house. Tell ten new people each day. Soon we will see my favorite character back in the saddle again.

I really miss the Marlboro Man.

*D. K. Mueller*



**Monterrey 2005** will be held March 8-10, 2005 in Monterrey, Mexico. Registrations will be available on the internet starting in July. David Mueller, program chairman, states: *"This is the first time we have held this program in Latin America. We are planning a full educational program with international speakers, simultaneous translation in Spanish and English and a hands-on workshop that will be a great experience for the attendees."* Local arrangements chairman César Altamirano Lerma of Pheromone Service & Supply states: *"The city of Monterrey is a perfect venue for this meeting and early March should be an excellent time of year to be in Northern Mexico."*

If you are interested in learning about the future of fumigation, pest management, and stored product protection, mark your 2005 calendar for March 8-10 and look forward to hearing more in future newsletters and on our website: [www.insectslimited.com](http://www.insectslimited.com) **"Sharing through education is how we all get better."**

**MONTERREY 2005 will offer translation services during the conference and workshop. We hope this doesn't happen: The Dairy Association decided to take their "Got Milk?" campaign to Mexico, they translated their slogan into Spanish. Unfortunately, it came out as "Are you lactating?"**

# Methyl Bromide Update

Since 1992, when it was discovered that Methyl Bromide was a serious ozone depleting substance, man has responded to find ways to eliminate this useful fumigant to treat soil, commodities, and structures.

Over 180 countries met March 24-26, 2004 to discuss the subject of Methyl Bromide (MB) phase out. This First Extraordinary Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer was called when negotiations broke down in November in Nairobi, Kenya. The controversy centered on how the critical use exemptions (CUE) for MB were to be divided.

After three days of intense negotiation over who will receive limited amounts of Methyl Bromide in the year 2005, the US received 30% of new MB production and 5% figured from existing stockpiles of their 1991 baseline or 7,659 tonnes. This is 20% less than what they requested in Nairobi in November, 2003 and exactly what was offered to the US after three days of negotiations. The US delegation was disappointed when the international delegation in Montreal refused the multiple year critical use nominations at this meeting. This would have made MB available into 2007 or maybe longer. This was a major point of negotiation and the world community would not back down. The European Community and Japan were able to persuade the international delegation that this could destroy this first of its kind international environmental treaty.

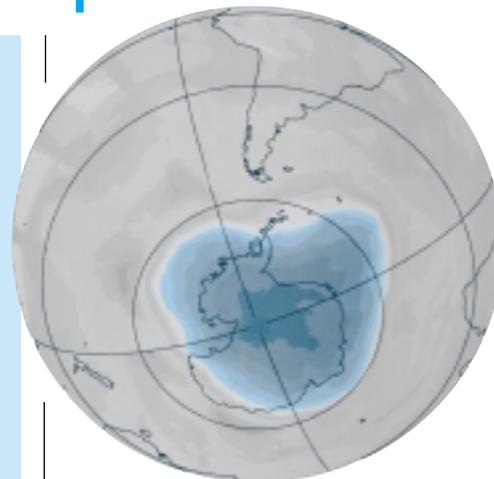
The Methyl Bromide Technical Option Committee (MBTOC) has determined that 93% of the

## Developed Countries: (2005 phase out schedule)

- The USA has phased out 70% of its MB consumption this year—from 25,529 tonnes in 1991 to 7,659 tonnes in 2005.
- The European Union has phased out 75% of MB in 2003—reducing consumption from more than 19,200 tonnes in 1991 to 4,813 tonnes in 2003.
- 10 industrialized countries that previously used MB have now phased it out.

current MB uses can be replaced by alternatives. The Montreal Protocol allows for countries to request Critical Use Nominations (CUN). These nominations are reviewed by the Technical and Economic Assessment Panel (TEAP) made up of scientists from around the globe. Here is a list of agreed critical-uses accepted by TEAP and reported in Montreal on March 26, 2004. These permitted levels of production or consumption are:

Country	Critical-use exemption 2005 only (tonnes)
Australia	145
Belgium	47
Canada	56
France	407
Greece	186
Italy	2134
Japan	284
Portugal	50
Spain	1059
United Kingdom	128
United States	<b>7659 tonnes</b>
<b>United States: 7659 tonnes vs. 4,496 tonnes for the ten other countries</b>	



## Agreed critical-use categories:

United States:	tonnes
Mills and processors:	483
Dried fruit, beans, nuts	87
Smokehouse ham	0.907
Eggplant (soil)	74
Forest nursery seedlings (soil)	193
Fruit tree nurseries (soil)	46
Ginger production (soil)	9
Orchard replant (soil)	706
Peppers (soil)	1085
Strawberry fruit (soil)	1834
Strawberry runners (soil)	55
Sweet potato (soil)	81
Tomato (soil)	2865
Turfgrass (soil)	207
Cucurbits (soil)	1188
<b>Total:</b>	<b>7,659 tonnes</b>

Canada	tonnes
Pasta and flour mills	47
Strawberry runners (soil)	8
<b>Total</b>	<b>55 tonnes</b>

United Kingdom	tonnes
Mills and processors	47
Spices	1.7
Tobacco (product/machinery)	0.05
Dry nuts, fruit, beans, cereals, seeds	2.4
Food storage (dry goods)	1.1
Cheese stores	1.6
Stored spices	0.03
Strawberries and raspberries	68
Tree nursery	6
<b>Total</b>	<b>128 tonnes</b>

France	tonnes
Mills and processors	40
Rice	2
Soil fumigation	355
<b>Total</b>	<b>407 tonnes</b>

Germany	tonnes
Mills and processors	0
Soil Fumigation	0
<b>Total</b>	<b>0 tonnes</b>

## New Moth Suppression™ captures female food moths

Since man started storing food, insects have been a problem. Now, with the help of a non-toxic egg laying attractant called Moth Suppression, major food pests can be removed.



Using this egg laying attractant along with a male moth pheromone in the same trap enables Insects Limited's new Moth Suppression traps to capture both male and female moths - a major step toward true population suppression. In combination with other pest management practices, the Moth Suppression Kit has the potential to lower food moth populations. Superior pest management starts with superior trapping.

Scientists at Oklahoma State University discovered the scent that female food moths prefer. Insects Limited's technical direc-

tor, Alain Van Ryckeghem, tested this egg laying attractant in retail stores, seed warehouses, and under various field conditions. He discovered that this female moth lure could capture 44% of the female moths present.



The adult stored product moth lives only 7-10 days. Its main purpose is to survive, mate, and distribute its offspring among suitable food products.

*(Methyl Bromide Update continued from page 4)*

**Question:** How can Germany with a population of over 90,000,000 people and a superior quality of life not need any MB? (500+ flour mills in Germany vs. 220 flour mills in the United States. Germany grows strawberries and tomatoes also).

Developed countries not requesting CUE's for Mills and Processors: Spain, Belgium, Portugal, Australia, Denmark, Sweden, Germany, Japan, Italy, Greece.

**Question:** How do these country's flour mills and food processors get by without Methyl Bromide?

### Important Resolution

Recognizing that technically and economically feasible alternatives exist for most uses of Methyl Bromide, and noting that Parties (countries) have made substantial progress in the adoption of effective alternatives.

Mindful that exemptions must

comply fully with **decision IX/6** (if an alternative becomes available it must be substituted for granted critical use exemptions).

Resolved that each Party's Methyl Bromide use should decrease each year, targeting the closure of the critical-use exemption as soon as possible in developed countries.

Declare their firm intention at the national level to take all appropriate measures to limit the production and consumption of methyl bromide to those applications which are strictly necessary, in keeping with the spirit of the Protocol and with the need to avoid an increase in consumption after phase-out.

**Signed:** Australia, Austria, Belgium, Canada, China, Costa Rica, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Italy, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, the European Community, Syria, and Japan.

Heavy with eggs, the female adult moth desperately looks for cracks and crevices near a food supply to lay her small white eggs. The female food moths lays 200-400 eggs during her short life, so she has only limited time to find a safe site to deposit her eggs.

As she detects certain chemical compounds, she swoops down to drop a few fertilized eggs on a suitable surface. The small larva hatches in about six days and begins searching for food to infest. Billions of dollars of finished food is destroyed by these stored product insects each year throughout the world. Insects Limited researches, develops, manufactures, and distributes pheromones for stored food insects throughout North America and to over 30 countries worldwide. More information is available at [www.insectslimited.com](http://www.insectslimited.com) or by contacting the company at 1-317-992-1991/ fax 1-317 896-5757.

**MOTH SUPPRESSION™ is patent-pending and a registered trademark of Insects Limited, Inc.**

# Better Fumigations



By John Mueller

**K**nowing your half loss time will ensure an effective fumigation.

Take your fumigation readings and determine the length of time it takes for half of the gas to escape. This is your half loss and it should occur 10 hours or less into the fumigation for food processing facilities and 24 hours is ideal. Hold your fumigation company accountable to improve the half loss time. Understand that many people will be involved in this process but it should be up to the fumigator to determine when to adjust the fumigation depending on real time gas readings. If the half loss increases, evaluate the initial dosage rate to determine if it can be reduced to save money or time on the next fumigation.

Fumigation service providers and fumigators can be divided in two

- groups: 1. Gas applicators
2. Solution focused fumigators.

With the phaseout of Methyl Bromide, big changes are on the horizon. Now is the time to examine your fumigation method and fumigation company and ask questions. How can we do this job better? Can your service provider keep up with the times? Are you still hanging on to old methods and trusting your gas provider?

## Gas Applicators

These are companies that routinely treat facilities with a focus toward how many cubic feet they can treat and how quickly they can do it. This type of fumigation service is referred to as "shoot and run." These people are sometimes forced into taking a few token gas readings. It is amazing how many fumigations still fall under this category.

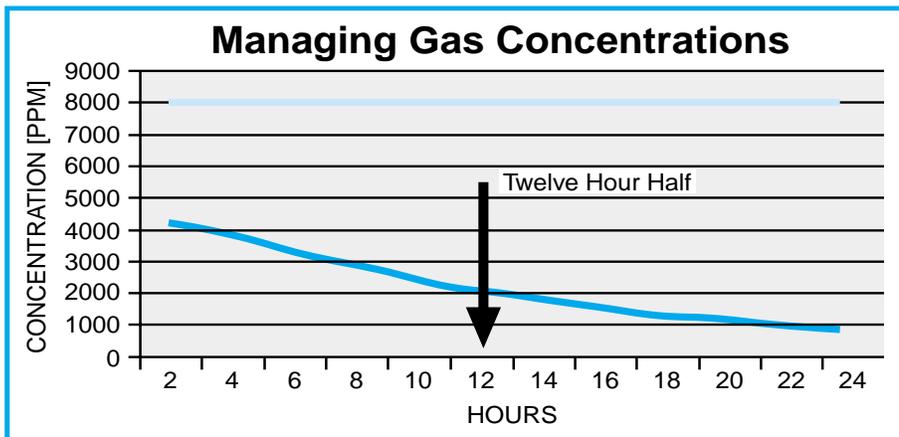
How do you know that this is not happening on your fumigations? Do you show up and observe gas readings or do you trust your service provider because they have been doing this work for 30+ years? I have recently observed several false reports with fraudulent gas readings recorded in the fumigation report. It is easier and more profitable to make up gas

readings and add more fumigant, than to travel back and forth to a fumigation site to manage a professional fumigation.

## Solution Focused Fumigators

These people understand fumigants, where the pest insects are located in the buildings/ bins, structural integrity, and historical trends. These fumigators observe the results of each fumigation. They actively seek improvement over time and tie these results to pest activity over the next four to five weeks. What were your tallies (live and dead insects collected near the end of the milling process in a sifter) report 24 hours after the fumigation, seven days later, 14 days later, 21 days later?

"You cannot have a revolution without revolutionaries." Today's fumigation revolution is between the old ways of treating versus current practices and expectations. Tangible progress can be achieved quickly. Reduction in fumigation costs, lowering general fumigation dependency and lowering consumer / customer complaints are possible. This can be a very technical process and site specific. If you are committed to reducing dependency on fumigation, contact John Mueller through [www.fumigationzone.com](http://www.fumigationzone.com). or 1-800-992-1991. We can evaluate your needs.



**Food Allergies**  
 One in 25 Americans, or about 11 million people across the country now suffers from some type of food allergy, according to a study released by the American Academy of Allergy, Asthma & Immunology's. Curt Hale, an expert in food allergies, will be the featured guest writer in the next issue of *Fumigants & Pheromones*.

## Kelley Speaks in India



**Pat Kelley**

The Federation of Asia and Oceania Pest Managers Association (FAOMPA) is holding its 16th conference in conjunction with the 37th Indian Pest Control Association annual convention at the J.W. Marriott Hotel in Juhu, Mumbai (Bombay), India on November 25 and 26, 2004.

Pat Kelley has been invited to give a paper on New Developments in Pheromones. Pat Kelley is the General Manager for Insects Limited in Westfield, IN USA. Other speakers include Mike Kelley, Adrian Meyer, Kevin Girard, P.B. Deobhanker, S. Rajendran. This Association has member countries from Australia, Israel, China, Japan, South Korea, New Zealand, Philippines, Taiwan, and India.

The theme of this year's convention is "Integrated Pest Management for Urban Areas." If your group or organization needs a speaker for an upcoming program, contact Insects Limited, Inc. For more information on this Conference contact: Balreet Pruthi, [info@faopmaindia.org](mailto:info@faopmaindia.org)



## Grain Protection

Field tests of a new biological insecticide for grain shows excellent results. The USDA grain marketing and production research center in Manhattan Kansas along with Kansas State University conducted field studies in Kansas to compare the effectiveness of controlled aeration and a new biological insecticide, spinosad, to control insect pests in bins of stored wheat. After a 6-month storage period, almost no live lesser grain borers, red flour beetles or rusty grain beetles were found in bins treated with spinosad. The numbers of beetles found in aerated bins during the same 6-month storage period were below the level of two live insects per kilogram of grain used as the official inspection standard to declare a sample "infested."

During this same study, in **untreated control bins**, the average insect density increased to 78 insects per two kilograms of grain. The results of this study are especially exciting because spinosad was so effective against lesser grain borer, the primary cause of insect-damaged kernels (IDK) in stored wheat.

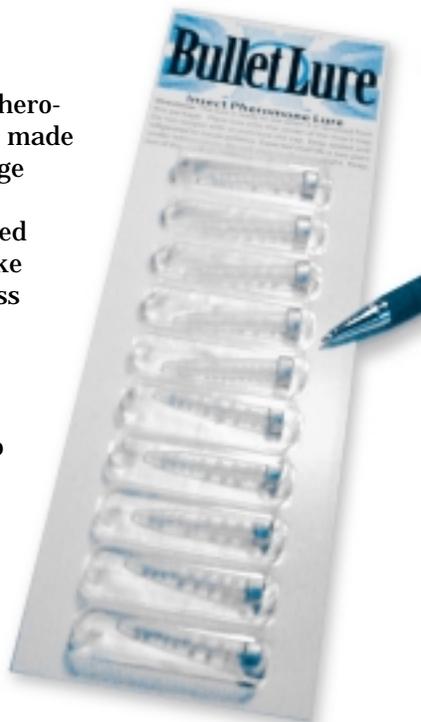
(Dr. Paul Flinn, [Flinn@gmprc.ksu.edu](mailto:Flinn@gmprc.ksu.edu), or Dr. Frank Arthur, [Arthur@gmprc.ksu.edu](mailto:Arthur@gmprc.ksu.edu))

## Bullet Lures

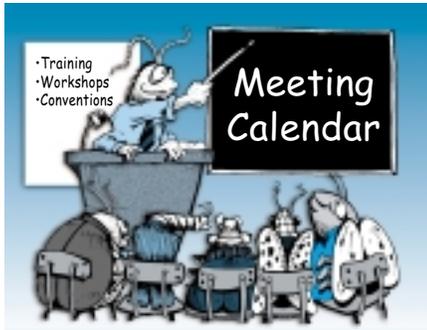
Insects Limited has redesigned its pheromone lure packaging. Kalah Stocker made the suggestion to improve the package one day after looking at a modern chewing gum package and this started everyone thinking how we could make the Bullet Lure packet better and less expensive.

The new "Blister 10 Pack" has the following advantages:

1. See through packet enables you to see the lures.
2. Carrying one pack is easier than carrying ten.
3. Allows you to identify the type pheromone lure with color coded beads.
4. Reduces the amount of loose trash to carry and dispose of.



*The Bullet Lure is a superior pheromone formulation because it consistently captures more insects for a longer period of time. The aluminum cap contains a membrane that regulates the amount of pheromone that escapes. The colored beads increase the surface area so all the pheromone doesn't get trapped in the polyethylene vial. The colored beads identify the various lures. **The real key to a superior pheromone lure comes from testing the lures in the field at various concentrations and asking the insects what dose they prefer.***



## ON-SITE TRAINING

*If you would like to have a speaker or complete training session tailored to your needs, call Insects Limited at 1-800-992-1991*

**May 15-19, 2004**

**IAOM Technical Conference & Trade Show**, Wichita, KS, USA, info@iaom.info, Judy Blankenship

**August 8-13, 2004\***

**Controlled Atmosphere and Fumigation (CAF) Conference**, Brisbane, Gold Coast, Australia, Sustainable Fumigation Alternatives, www.ccm.com.au/caf/2004

**August 13- 18, 2004\***

**XXII International Congress of Entomology—Strength in Diversity**, Brisbane, Australia, 15-21 August 2004, www.ccm.com.au/icoe

**November 25-26, 2004\***

**The Federation of Asia and Oceania Pest Managers Association (FAOMPA) is holding its 16th Conference in conjunction with the 37th Indian Pest Control Association Annual Convention** at the J.W. Marriott Hotel in Juhu, Mumbai (Bombay), India, Balreet Pruthi, info@faopmaindia.org

**January 25, 2005**

**Basic Insect Identification Workshop, "Start with the Insect First"** Westfield, IN, Barb Bass, insectsltd@aol.com, insectslimited.com.

**January 26, 2005**

**Fumigation Training for State Certification**, Westfield, IN, Barb Bass, insectsltd@aol.com, www.insectslimited.com

**March 8-10, 2005\***

**1st Latin America Fumigants & Pheromones Conference & Workshop** Monterrey, Mexico. Contact: Barb Bass, barblbass@aol.com, InsectsLtd@aol.com or www.insectslimited.com

*\*See you there!*

Fumigants & Pheromones  
INTERNATIONAL  
CONFERENCE:

Monterrey, Mexico

March 8-10, 2005

[www.insectslimited.com](http://www.insectslimited.com)



Several auditing groups are requiring that food plants get verifiable training for their food safety workers on proper **Insect Identification**. Alain Van Ryckeghem, Board Certified Entomologist and technical director and David Mueller, Board Certified Entomologist will be offering onsite and classroom training during 2004. This training will cover the most common beetles, moths, flies, and cockroaches that occur in food plants in North America. Alain is a former college instructor and David has over 30 years experience in this field. *"Your employees will learn a lot about the biology, habits, and of identification of these pests with hands on personalized training."* For available dates and fees contact David Mueller at 1-317-896-9300, insectsltd@aol.com

## NEWSLETTER

Fumigants & Pheromones is published by Fumigation Service & Supply, Inc. and Insects Limited, Inc. We hope that the information that you receive from this newsletter will help you in your business, and you, in turn, will support our business efforts. If you have an associate who would be interested in receiving this newsletter, please contact the address below. We would welcome any comments or suggestions for topics. Address correspondence to: David K. Mueller, Fumigation Service & Supply, Inc., 16950 Westfield Park Rd., Westfield, IN 46074 USA.



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