

Fumigants & Pheromones

Issue 85
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Routing:



A Newsletter for the Insect Control & Pest Management Industry

Mueller Brothers Receive Awards

Brothers John and David Mueller were recently awarded the 'Best-of-the-Best' Stratospheric Ozone Protection Award for Leadership by the EPA in Montreal. The Montreal Protocol has often been referred to as the most successful international environmental agreement. During recent years, the atmospheric concentrations of harmful ozone depleting substances, like chlorines and bromines, have declined.

The U.S. Environmental Protection Agency (EPA) established the annual Stratospheric Ozone Protection Awards to recognize the significant contributions of individuals, associations, and corporations around the world for protecting the stratospheric ozone layer. The Best-of-the-Best Awards were presented on the occasion of the 20th Anniversary of the Montreal Protocol to those previous award winners who made the most exceptional of these contributions.

EPA Administrator Stephen L. Johnson stated: *"By embracing cooperation over confrontation, EPA and our vital partners like Fumigation Service & Supply are continuing to create a better tomorrow by protecting the Earth's atmosphere today. We at EPA join the global community in celebrating the anniversary of the Montreal Protocol—a shining example of how human ingenuity, leadership,*



John and David Mueller, Fumigation Service & Supply, Inc. of Westfield, Indiana were presented the "Best of the Best" by Ms. Drusilla Hufford, EPA Director, Stratospheric Protection Division

and determination can create a healthier, better world."

The Innovator Award was presented to David Mueller and John Mueller by the United Nations Environmental Programme (UNEP) for 'Innovation in Methyl Bromide Alternatives' at the 20th Montreal Protocol Awards ceremonies. The Montreal Protocol is an international treaty signed by 191 countries that focus on finding alternatives to products that cause damage to the stratospheric ozone layer.

Marco Gonzalez, Executive Director for UNEP stated: *"Mr. David Mueller and John Mueller have*

consistently demonstrated leadership in the development and promotion of alternatives to the use of methyl bromide in the post-harvest sector. Their work has benefited many countries around the world and enabled significant reductions in this key sector."

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VISIT US AT: www.insectslimited.com

Fumigant Deaths

Three people have died in the U.S. from phosphine generated fumigant in recent years. These tragedies occurred because of the illegal use of the restricted solid fumigant Phostoxin®. Clearly restricted fumigants are getting into the hands of non-certified applicators and being illegally used to fumigate pests in homes.

Phostoxin (aluminum phosphide) is a restricted use fumigant. It is not labeled for general pest control in a home and is not available to the general public. Only licensed suppliers and applicators are supposed to have access to the product. It is used as a fumigant in industrial sites such as grain bins, warehouses, and for burrowing rodents and moles.

In July 2007, in Lubbock, Texas, a family trying to rid their home of roaches, used a professional fumigant, Phostoxin. The restricted use fumigant was apparently supplied to the family by an acquaintance and the application was not supervised by a certified applicator. The application killed a toddler and sickened four adults.

Phostoxin pellets were placed in four locations in the house around noon. By the next morning, every-



one in the home was in respiratory distress. Two of the adults were treated and released and two women, age 56 and 58 remained hospitalized in satisfactory condition. Children are more susceptible than adults to the effects of a fumigant because of their lesser body weight.

Criminal charges against the man supplying the Phostoxin to the homeowner were announced. The toddler's great aunt explained: "I went to the bathroom and kind of blacked out. I was feeling real bad." When she went to check on her niece, she found the girl vomit-

ing. She tried to pick the girl up but was too weak so she went to get her sister to help. Her sister couldn't get up either. That's when she called 911.

In Alabama, another tragic accident occurred where two adults died when Phostoxin was placed in their home to kill rats, mice, and roaches. A 30 year old man and a 75 year old lady were asleep in their home where the solid fumigant was earlier scattered on the floor and in cabinets. Neither awakened. The fumigant was apparently illegally taken from a local business and given to a neighbor who treated the home against federal label recommendations.

Tragedies like these point out the importance of restricting the use and possession of these dangerous fumigants. Other recent cases of human accidental deaths due to fumigants in train cars and ship holds continue to threaten the legal and necessary uses of these fumigants.

Source: Techletters, July 29, 2007



Bee hours for 1 lb. clover honey: 7000+

U.S. honey yield, 2006: 155 million lbs.

U.S. diet tied to honeybee services: 33%

U.S. beekeepers reporting colony collapse disorder: 25%

Value of pollination: \$14.6 billion a year

www.insectslimited.com

New Movies: The Circle of Life:

1. Biology of the Granary weevil.
2. The natural enemy of the Granary weevil.
3. The Flour moth and how it enters packaging.
4. The natural enemy of the Flour moth.
5. Did You Know?: A fascinating video about change in technology and education.

Insects Limited will be providing more insect video clips in the coming year on its website about stored

product pests. Visit the IL website www.insectslimited.com often.

Last month over 5000 people visited IL and FSS websites. We are working hard to provide you with the information and products necessary to help you do your job better.

Five new educational video clips can now be found on www.insectslimited.com.

Dave's Soapbox

...for what it's worth



Climate Change

The pendulum is moving. I squirm when I see or say the words Climate Change or Global Warming. It may be Halloween time but this is a really scary subject and something we will all have to deal with whether we believe the science or not.

America is a great country and we rally behind a cause when we believe in it. Sometimes, it takes a while to convince most Americans. I have noticed that when Americans are convinced and focused, we form committees, fund research, join groups, march the streets, and make this a priority in our lives, no matter how inconvenient truth may be. For example, Susan G. Komen Relay for Life, a cancer grassroots organization motivates armies of people to walk and learn about cures for this hideous disease that kills millions of women and men all over the world each year. The colored ribbons and clothing are worn and displayed proudly year round. When Americans face a serious challenge, they roll up their sleeves pull out their wallet and checkbook and participate.

During World War II, Americans and the British along with many others changed their lives to fight oppression in Europe and Asia with every ounce of strength they had, and they changed the face of the world for decades. My father told those WWII stories at the

Sunday dinner table often. Today we still are infatuated with how we were able to rally the masses to build ships, airplanes, and create a new culture virtually over night in 1941.

The pendulum of change is moving...and people are starting to mobilize on the side of the planet.

Everyday I see articles in the newspapers about climate change. I even saw one the other day that said that the current Bush Administration even accepted the science that the climate is changing after thumbing their nose at the Kyoto Treaty and various climate change conventions in the past seven years. I guess it is hard to turn against the many rich Texan oilmen and energy companies that helped pay for this presidency.

The advertisements we see today have the 'earth friendly' glow to them. At a recent concert I attended they were passing out booklets that rated the various consumer product manufacturers on their stance of producing 'earth friendly' products. This campaign was aimed at 18-25 year olds that control the future buying

and voting potential.

The recent meeting of the Montreal Protocol showed progress in reversing a man-made effect on the atmosphere where ozone is chemically transformed into oxygen and O molecules. The ultraviolet light from the sun is filtered by the ozone layer and the planet needs this protection to prevent skin cancers, eye cataracts, and other human and plant related diseases. The changes that have been made by removing and reducing man-made bromines and chlorines have helped reach the first reduction level set by the Kyoto Protocol on Climate Change. After 20 years and \$2.4 billion spent for the Montreal Protocol, Dr. Robert Watson, former NASA



"Global warming presents the greatest test humans have yet faced. New technologies and new habits offer some promise, but only if we move quickly and decisively."

scientist, recently stated in Montreal: "We have learned that it is less expensive and easier to prevent global change than it is to correct global change."

W. K. Mueller

**10TH FUMIGANTS & PHEROMONES
INTERNATIONAL TECHNICAL CONFERENCE**

March 10-12, 2010 • Valencia, Spain

Carbon's New Math

by **Bill McKibben**

Here's how it works. Before the industrial revolution, the Earth's atmosphere contained about 280 ppm of carbon dioxide. Carbon dioxide traps heat near the planet's surface that would otherwise radiate back out to space. Civilization grew up in a world temperature of about 57° (F) which in turn equated to all the places we built our cities, all the crops we learned to grow and eat, all the water supplies we learned to depend upon.

Once we started burning coal and gas and oil to power our lives, that 280 number started to rise. When we began measuring in the late 1950's, it had already reached the 315 level. Now it's at 380, and increasing by roughly two parts per million annually. That doesn't sound like very much, but it turns out that the extra heat CO₂ traps, a couple of watts per square meter of the Earth's surface, is enough to warm the planet considerably. We've raised the temperature more than a degree (F) already. It's impossible to precisely predict the consequences of any further increase in CO₂ in the atmosphere. But the warming we've seen so far has started almost everything frozen on Earth to melting; it has changed seasons and rainfall patterns; it's set the sea to rising.

No matter what we do now, warming will increase some—there's a lag time before the heat fully plays out in the atmosphere (chlorine has a 50 to 100 year half life, bromines have 0.8 year half life). Our task now is to contain the damage and to keep things from getting out of control.

Reports now are showing that 450

ppm of CO₂ is a threshold we'd be wise to respect. Beyond that point, scientists believe future centuries will likely face the melting of the Greenland and West Arctic ice sheets and a subsequent rise in sea level of giant proportion.

If concentrations keep increasing by two parts per million per year, we're only three and a half decades away from the critical 450 ppm level.

It is estimated that if Greenland only melts, one third of Florida and most of the coasts of Great Briton and Ireland will disappear.

In the end, global warming presents the greatest test humans have yet faced. Are we ready to change, in dramatic and prolonged ways, in order to offer a workable future to future generations and diverse forms of life? If we are, new technologies and new habits offer some promise. But only if we move quickly and decisively—and with a maturity we've rarely shown as a society or a species. It's our coming-of-age moment, and there are no certainties or guarantees. Many of the paths to stabilization of carbon dioxide in our atmosphere runs straight through our daily lives, and in every case they will demand difficult changes.

Source: Bill McKibben, National Geographic Magazine, October 2007

Good News from Montreal

New adjustments have been made for methyl bromide and the refrigerant HCFC at the recent Meeting of the Parties to the Montreal Protocol in Montreal on September 17-21. The adjustments agreed by the 191 countries attending are:

- **The level of critical use exemptions requested by the United States of 19.5% of their baseline level (average of 1995-1998) was reduced by the Methyl Bromide Technical Options Committee (MBTOC) to 16.9%. This additional 13% reduction of critical use exemptions represents progress in finding viable and economical alternatives to methyl bromide for soil and post harvest uses.**
- **In 1995, the issue of replacing the popular refrigerant CFC (Freon) with HCFCs was a compromise to allow for an immediate replacement for this widely used ozone depleting substance used worldwide in refrigeration systems. In Montreal this year, the countries voted to start phasing out the replacement HCFCs that had a fraction of the ozone depleting capacity of CFCs. In a landmark decision, the HCFC's will now be phased out by developing and developed countries around the world. This is a huge step for the Montreal Protocol and continues to show the spirit of compromise by countries like China, the United States, and Europe to be leaders in solving the environmental problems on this planet. Refrigeration consumes 17% of all the electricity in the world. To eliminate a harmful chemical that affects our atmosphere and climate change is a huge step forward for the most successful international treaty ever. The Montreal Protocol is working and will continue to make an impact on reversing the harmful effects of ozone depleting substances caused by manmade chemicals.**

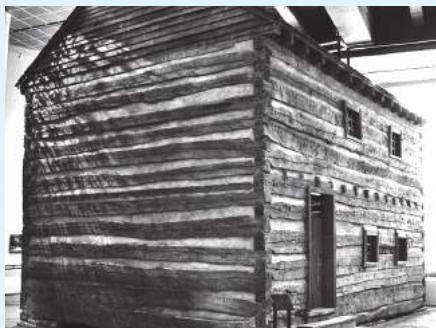
Preserving Our History

MUSEUM PEST MANAGEMENT



by Pat Kelley

Since Insects Limited's humble beginnings in 1982, we have been actively involved with the specialized issues of pests that attack museums and museum artifacts. This relatively small, yet extremely important, topic is essential in keeping the natural treasures of the world safe and intact.



The Slave Pen; National Underground Railroad Freedom Center, Cincinnati, was fumigated by FSS.

Insects Limited's simple and effective philosophy is as such; we like to start with the pest identification first. We determine what this pest doesn't like and what it does like. We then want to create an environment that this pest cannot tolerate and it will then leave or it will die. We strive to create a condition that is no longer conducive to pest infestations through habitat modifications and by the education of personnel including housekeeping.

The uses of low impact and least toxic products or methods are

utilized first (e.g. hot and cold temperatures) and more toxic avenues only as a last resort. Before any form of treatment is made we first consider how it may affect people, the environment, and the individual collection piece. We acknowledge that each item is irreplaceable and the expertise of its management in the museum lies with the conservators and collections managers.

Our Museum Training and Services

- Museum Consultation
- Local, Domestic, and International
- Domestic and International Research and Development
- Always researching innovative approaches to pest management in museum settings
- Specialized Treatments
- Carbon Dioxide and Nitrogen Fumigations
- Fumigation "Bubble"
- Heat and Freezing Treatments
- Anoxia Treatments
- Mold Inhibitor Treatments
- Sulfuryl Fluoride Fumigation
- Hundreds of small scale fumigations of collection pieces and antiques
- Contract Pest Management Service
- Several large and small museum houses

Give us a call at Insects Limited 1-800-992-1991 if you have a need for any of the services listed above and sign up for the next Educational Training Program for Museum Pest Management on March 25, 2008 in Indianapolis.

THE BOOKSTORE

The book **STORED PRODUCT PROTECTION... a Period of Transition** offers the reader alternatives, options, strategies, and hands-on practical alternatives to the serious ozone depleting product methyl bromide. What will replace methyl bromide? Will it be another fumigant or will it be the reduction of the need for fumigation?

Price: \$68., 339 pages, hardback, ISBN 0963437348: visit The Bookstore at www.insectslimited.com or call 1-800-992-1991.

Bed Bug Handbook The Complete Guide to Bed Bugs and Their Control

By L.J. Pinto, R. Cooper, and S.K. Kraft

new

Dealing with bed bugs is never easy. When they become widespread in a building, bed bugs are the toughest problem in pest control. There are no magic bullets to eliminate bed bugs and no easy solutions to bed bug problems. The Bed Bug Handbook is a complete and up-to-date guide to bed bugs and their control. Extensively illustrated and approximately 300 pages, the handbook provides practical step-by-step guidance for preventing bed bug infestations and for controlling bed bug outbreaks. It includes details on bed bug inspections and methods of control including mechanical (encasements, vacuuming), thermal (dry heat, steam, and cold), insecticide treatments, and fumigation. The Bed Bug Handbook also includes chapters on bed bug biology and habits, how bed bugs spread, business and management considerations, and medical and social impacts. There are also checklists for preventing and controlling bed bugs in apartments, hotels, furniture rental warehouses, and other sites.

Cost: US\$ 75. order at www.insectslimited.com

Organic Pest Management



Part 1

by David K. Mueller, BCE

The best way to control a pest is to prevent it from entering your facilities or product in the first place. The goal of any pest management program in the organic food industry should be zero defects and no customer complaints. This is not easy when the number of insecticidal products that you are allowed to use to reach this goal is very limited. But, providing a wholesome food product without pest insects included is possible if you are willing to change your mindset on how to approach this job.

A well balanced pest management program starts with the big circle called **PREVENTION**. It is the largest circle of the three because the most time and resources should be allocated to it. This includes such things as cleaning up spills, caulking cracks, replacing screens on doors and windows, painting the 18 inch white line on the perimeter of the warehouse, a 30 inch gravel pest prevention

barrier on the outside perimeter, correcting improperly installed outdoor lights, replacing door sweeps that are worn out or non-existent, inspecting pallets for carpenter ants and mouse droppings, sweeping and vacuuming spider webs in the warehouse, to name a few. Prevention takes time and constant diligence, but it pays huge dividends in a balanced food safety program.

The second circle in a well balanced pest management program represents the percentage of time and effort that should be devoted to **MONITORING** for pests, defects, and customer complaints. Think of this as a virtual thermometer for pest activity. If the pest population starts to rise, the monitoring tools will give you an early warning before there is a pest outbreak that could seriously affect the reputation of your company and its products.

Monitoring includes the following:

- Pheromone traps (indoor and outdoor)
- Mechanical wind up mouse traps
- Sticky board traps (blunder traps)
- Black lighting for rodent urine
- Flashlight for those hard to inspect areas
- 18" white lines
- UV Rodent Monitoring (fluoresces rodent droppings)
- Rodent census baits (non-toxic)
- Spider webs

The presence of spiders are an excellent indicator of insect activity. Spiders eat insects and their existence depends on insects.

Old Code Dated Product: It is important to check questionable code dates because such contain-

ers can harbor insects. The rancid odor of the old product attracts female moths and beetles to this product to lay their eggs. Here they have a higher probability to survive and thrive. Rotation, Rotation, Rotation is all important in reducing insect infestations. By allowing even one bag of old code dated grain based ingredient to sit on the shelf for one to two years could become the "nova" for a large insect outbreak. Always ask: "How long has this been here?"

Part 2 will appear in Issue 86, Winter 2008.

Quotable Quotes

"I think there are times when I believe God welcomes the circus into our lives to give us an opportunity to show that there's another way to live and respond to things."

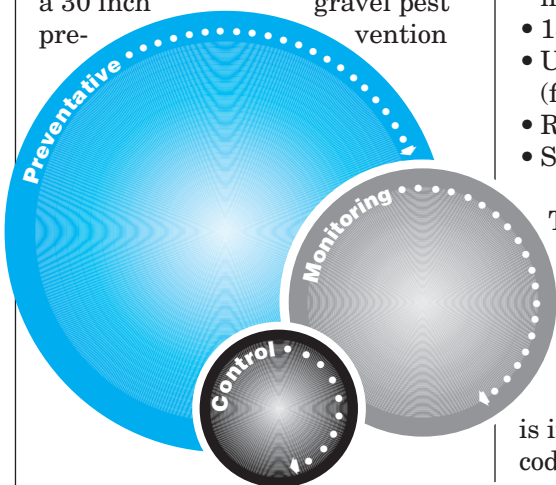
— Tony Dungy
Indianapolis Colts, Head Coach

"Make no small plans. They have no magic to stir men's blood and probably will not themselves be realized. Make big plans, aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever growing insistency. Remember that our sons and grandsons are going to do things that would stagger us. Let your watchword be order and your beacon be beauty."

— Daniel H. Burnham
Architect, Planner of Cities

"The more we know, the more we see. Attentiveness counts for everything."

— S. Trimble, "The Sagebrush Ocean"





Shift Happens

Did You Know?...

- The 25% of the population in China with the highest I.Q.s are greater than the total population of North America. In India it's the top 28%. Translation: They have more honors students than we have kids in the U.S.
- While reading this article there will be 60 babies born in the U.S., 244 born in China, and 351 babies born in India.
- China will soon become the number one English speaking country in the world.
- If you took every single job in America and shipped it to China, China would still have a labor surplus.
- The U.S. Department of Labors estimates that today's learners will have 10-13 jobs in the U.S. by the age of 38.
- The top 10 jobs that will be in demand in the year 2010 did not exist in 2004. We are preparing students for jobs that do not exist yet...using technology that hasn't been invented yet...in order to solve problems that we don't even know are problems yet.
- The U.S. is 20th in the world in Broadband Internet penetration (Luxemburg just passed us).
- 1 in every 8 couples married last year in the U.S. met online.
- There are over 106 million registered users of MySpace. If My Space was a country it would be the 11th largest in the world between Mexico and Japan. The average MySpace site is visited 30 times a day.
- There are over 2.7 billion searches performed on Google each month. To whom where these questions asked B.G. (before Google)?
- The number of text messages sent each day exceeds the population of the planet.
- More than 3000 new books are published....*daily*.
- The amount of new technology information is doubling every two years.
- For students starting a four year college or technical degree this means that 50% of what they learn their first year of study will be outdated by their third year.
- Third generation fiber optics has recently been tested by NEC and Alcatel that pushes 10 trillion bits of information down one strain of fiber per second. That represents 150 million phone calls per second. The fiber is already in place, the only cost will be in the switches at each end.
- 47 million laptops were shipped last year. 50-100 million \$100 laptops will soon be sent to developing countries.
- It is predicted that today's first graders that will be entering their career when they are 23 years old will be able to purchase a computer for \$1000 that will exceed the capabilities of the human brain.
- What does this all mean? We are living in exponential times and Shift Happens.
- To see this "Did You Know?" presented in its entirety on video with music, go to www.insectslimited.com.

Sharing through Education

Do you need credits for your pesticide license?

The sessions that contain the Fumigation Updates will discuss: Stored Product Insects and their Pheromones, Wood Destroying Insects, Bird and Rodent Control, Fumigation, Pesticides and Their Importance, Sulfuryl Flouride (ProFume™), Grain Management, and much more.

There will be Skill Building Workshops that will discuss Pest Management in Museums and Historic Houses, along with an Advanced Pheromone Monitoring & Control Workshop.

Speakers include: Dr. Tom Phillips, Kansas State University; David Mueller, Insects Limited, Inc.; John Mueller, FSS; Pat Kelley, Insects Limited, Inc.; Alain Van Ryckeghem, Insects Limited, Inc.; Dan Collins, Collins Pest Management; Dr. Dirk Maier, Purdue University; Jeffery Waggoner, FSS; Dustin Corlett, FSS; and Larry Pierce, Food Protections Services.

To register or receive more information about these training seminars, please go to www.insectslimited.com or www.fumigationzone.com, or contact Kalah at k.stocker@insectslimited.com, (800) 992-1991.





Insects Limited / Fumigation Service & Supply will be speaking, attending, or organizing the following. We hope to see you there.

November 6 & 7

Indiana Seed Trade Association Annual Meeting, Indianapolis

December 8-11

Entomological Society of America, San Diego

January 1-4, 2008

G.T.Z. Flour Mill Sulfuryl Fluoride Demo Fumigation, Pt. Louis, Mauritios

February 6-8

Indiana Hardwood Lumberman's Association, Indianapolis

February 23-26

GEAPS Exchange, Omaha

Do you need continuing education credits?

A series of continuing education seminars and workshops have been organized by Insects Limited and Fumigation Service & Supply for the winter of 2007-2008. These continuing education seminars will discuss updates and review current pest management and fumigation techniques and offer credits for re-certification. Visit our website, www.InsectsLimited.com for more information and registration. Continuing Education credits have been applied for in the following states: IN, IL, KY, OH, and MI. If there are others states that you are interested in credits, contact k.stocker@insectslimited.com.

TRAINING DATES

December 4 / 5

Fumigation Continued Education Training, Westfield, IN

December 10 / 11

Pest Control Update, Evansville, IN

January 23

Stored Food Insect Identification Workshop, Westfield, IN

January 24

Fumigation Certification Training & Fumigation 7D Exam, Westfield, IN

March 12

Fumigants & Pheromones Cont. Education Workshop, Kankakee, IL

March 19

Fumigants & Pheromones Cont. Education Workshop, Dayton, OH

March 25

Museum and Historic House Pest Management, Westfield, IN

April 1

Advanced Uses of Pheromones for Monitoring & Control, Westfield, IN



2nd Latin America Fumigants & Pheromones CONFERENCE & WORKSHOP



MARCH 8 - 10, 2009

ARGENTINA

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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