200 ATTEND SEMINAR

The 1990 Fumigants & Pheromones Technical Seminar was held in Indianapolis on December 11 & 12. This two-day conference featured over 25 speakers who specialize in advanced insect control techniques. Over 200 people attended this every-other-year seminar sponsored by Insects Limited, Inc. and Fumigation Service & Supply, Inc. The theme for this seminar was Well-Balanced Pest Management.

From the keynote speaker, Dr. John V. Osmun, to the last speaker Dr. Vincent Garry, the program was packed with good information about the ever advancing field of pest management for stored product protection. Such topics as “IPM; What it means in the 90’s,” “The Role of Food Plant Sanitation in a Well-Balanced IPM Program,” “Well-Balanced Pest Management in the Grain Industry,” “Bird Control . . . My Way,” “Modern Pest Control,” “Abamectin; A new compound with a bright future (Avert),” “The J-System; An Advanced Fumigation Technique,” and others were presented by a cast of speakers that represented some of the best available.

This seminar was held at the University Place Hotel and Conference Center in downtown Indianapolis. This facility is exceptionally well-suited for developing effective educational exchange in a comfortable surrounding.

“In order to stay professional, we must stay current.”

It is important that we stay current on changes in our field. It was the goal of this advanced training program to offer the attendees a guide for the type programs that are needed to allow pest management to successfully advance in the future.

PHOSPHINE BADGE NOW AVAILABLE

The personal phosphine fumigant monitoring badge manufactured by Dragerwerks is now available from Fumigation Service & Supply, Inc. The New Phosphine Badge will come as a set of three plastic badge holders (#6400179) and ten badges (#6400171) in a kit. Each Phosphine Draeger Badge can be used up to 8 hours to screen for low levels of phosphine (hydrogen phosphide) gas. The cost of three badge holders is $19.50 and a pack of ten badges is $55.00.

To order your Phosphine Badges call 1-800-992-1991.

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CURRENT REGULATORY STATUS OF METHYL BROMIDE

Since 1981 the U.S. Environmental Protection Agency has been reviewing the labeling of methyl bromide for post harvest and soil fumigation. The review process is long, tedious and costly. Here is the current regulatory status of methyl bromide as prepared by Dr. Ray Liscombe at this year's Fumigants & Pheromones Technical Seminar:

- A Methyl Bromide Industry Panel was formed in 1983 in an effort to simplify the gathering of required data and to share the costs. The panel felt the sales for the bromide ideas prepared by Dr. Ray formed in 1983 in an effort to simplify the gathering of required data and to share the costs. The panel felt the sales for the bromide ideas prepared by Dr. Ray

Toxicology Requirement/ Present Status
- 90 Day inhalation - rat (waiver requested)
- 90 day inhalation - rabbit (waiver requested)
- Chronic rat - gavage
- Chronic dog - gavage (prestudy difficulty, waiver requested)
- Oncogenicity rat - inhalation (complete, no effect)
- Oncogenicity mouse - inhalation (complete, no effect)
- Teratogenicity (birth defects) rabbit inhalation (completed, no effect)
- Reproduction rat - inhalation - (complete, no effect)
- Reproduction rat - gavage (waiver requested)
* Mutagenicity (the ability to alter cells) - positive for some tests

*The only negative result to date for the toxicological studies of methyl bromide are for mutagenicity. Whether this is viewed as a negative study will depend on the Agency’s interpretation.

Status of Food Residue Studies
Early in 1990 the EPA rescinded the need for inorganic bromide tolerances. They agreed that they were toxicologically insignificant. This means that the only residues of concern are those of the methyl bromide per se. For post-harvest treatment only, the commodity must be analyzed for residue and then processing studies must be undertaken to see if the residue on methyl bromide concentrates during processing. The Panel will ask EPA to establish methyl bromide per se tolerance levels at 10 - 20 parts per billion for preplant use application. For post-harvest uses, no protocols have yet been approved. The Agency still has questions about how the study will be conducted. They have agreed that if foods are processed using heat, rapid air movement or grinding, then processing studies for residue determinations will not be required.

Finally, there are many more studies under review that affect residue chemistry, environmental fate and reentry. They are under review or being completed at this time.

Conclusions:
- Inorganic bromide residues are no longer of toxicological concern.
- Completed studies do not indicate a problem except for mutagenicity.
- Plant metabolism studies show no residue of toxicological concern.
- To date, all data supports the continued registration of methyl bromide, and the Methyl Bromide Industry Panel with the support of the food industry plans to maintain all labelled uses.

DEFINITIONS OF TERMS

Often we hear terms but we are not sure what they mean. Here are some terms used with the re-registration of Methyl Bromide:

Mutagenicity - Genetics, the study of mutations, as x-rays.
Toxicology - The science of poisons, their effects, detection.
Oncogenicity - The study of tumors, the ability to cause cancer.
Teratogenicity - The study of malformations in the plant or animal kingdom (i.e., birth defects).
Gavage - Forced feeding, by means of a flexible stomach tube and a force pump.
Pharmacokinetics - The special preparation of a compound to be used in testing.
Organic - A class of chemical compounds which formerly existed in or were derived from plants or animals, but which now include compounds of carbon. (e.g. the true methyl bromide molecule and not its derivatives).
In-organic - pertaining to compounds which do not contain hydrocarbons; non-living.
**THIRTY YEARS OF CHANGE SINCE SILENT SPRING**

Keynote Speaker
Dr. John V. Osmun

Dr. Osmun took the audience through a fifty-year history of the evolution and the discovery of control tools for insect pests that affect mankind. He told of the benefits of pesticides to turn the tide of World War II and the increases in crop production. He told of the optimism throughout the pest control industry that DDT was the greatest chemical discovered by mankind.

**Silent Spring**

by Rachel Carson

Regarding his views on the book, *Silent Spring*, Dr. Osmun stated, "1962 was a pivotal date in the use of pesticides. That was the year that Rachel Carson wrote *Silent Spring*. This was a devastating book. It was eloquently written, it was compelling. Here we had someone who was a writer and a scientist." Dr. Osmun stated that, "Now that I look back on it, it was quite courageous that Rachel Carson published this book. She was condemned and praised by many people. In 1962 it was easy to dislike her."

"We didn't know that there were problems, we just accepted things as they were at that time. The greatest chemical discovered by mankind was helping to win the war. It was used to wipe out typhus in Italy. Of course it later was known as DDT."

The feelings of the time were explained in detail by Dr. Osmun to show what people felt about the impact of this book. He recited,

"We should be thankful that it was Carson and not the regulatory, not the media that brought these things to our attention and awakened us from our misdirected complacency. The new discovery of ecology and the environment did arise."

The effects and spinoffs from *Silent Spring* have given us favorable and unfavorable awarenesses:

1. The World Around Us; the environment
2. The Impact of Pesticides; time delayed consequences
3. Age of Discontent; the 60's
4. Overreaction; "Worthy chemicals were lost on the battlefield of public controversy."
5. The Search for Zero; as our analytical equipment improves so do our fears
6. Heavy Regulation; F.I.F.R.A. is a good law.
7. Education and Training; we train to practice the art.
8. Dollars; funding was a bonanza for training and research
9. IPM; systems approach to handling populations of insect pests.
10. Cost of Development; cooperative efforts between government and industry is needed in the future.
11. Benefit vs. Risk; it negates the idea of absolute safety.

"But there is no question that Rachel Carson had insight, and intuition. And she set many events in motion. Our early unhappiness with her has changed and turned to admiration."

It is easy to believe that someday someone will stand up and review the accomplishments of one Dr. John V. Osmun and the impact that he has had on the pest management industry as he did on December 11 in Indianapolis when he so eloquently spoke of *Silent Spring* and Rachel Carson.

**PARASITIC & PREDACEOUS INSECTS**

The U.S. Environmental Protection Agency is re-evaluating its position on the use of parasitic and predaceous insects used to control insect pests. The E.P.A. has exempted these beneficial insects from registration requirements in the past but now with the cooperation of USDA and FDA, EPA is proposing to exempt from the requirement of a tolerance requirement. (Federal Register/ Vol. 56, No. 2/ January 3, 1991/ Proposed Rules)

"Parasitic (parasitoid) and predatory insects are exempt from the requirement of a tolerance for residues when they are used in accordance with good agricultural and pest control practices to control insect pests of stored raw whole grains such as corn, small grains, rice, soybeans, peanuts, and other legumes either bulk or warehoused in bags where these insects are not expected to become a component of food. These insects may also be used as control agents in facilities and structures used for such storage, as well as general purpose food storage warehouses for disinfection of areas not accessible to standard control measures where these insects do not become a component of food."

**NEWSLETTER WINS AWARD**

The National Pest Control Association awarded this newsletter, *Fumigants & Pheromones*, as a winner in the First Annual Recognition of Advertising Merit. It was judged as an example of positive image advertising for its companies and the industry. The newsletter was successful in the brochure category of the competition. It was displayed at the 57th Annual NPCA Convention and Exhibition in Miami. Joel Paul, Director-Communications for NPCA stated: "Congratulations on being selected for this auspicious First Annual Recognition of Advertising Merit certificate, and through your example may the industry strive to communicate a better image through advertising."
DDVP UPDATE

DDVP is a pesticide used by the stored grain, food processing, and dairy industries to kill insects. This product has drawn much attention in the recent past because of its toxicity and its rating as a possible carcinogen (C).

DDVP (Vapona, dichlorvos, V-500) has had a change in its respiratory equipment recommendation. Mine Safety Appliance (MSA) has confirmed its recommended ruling on the use of Self-Contained Breathing Apparatus (SCBA's) for DDVP. This is definitely a change in the normal use of this product. Most people in the past have used a full-faced gas mask and a canister-type filtering device for protection against this organophosphate.

In an interview with Bob Babariak of MSA, he stated: "MSA went to NIOSH (National Institute of Occupational Safety & Health) and asked for more clarification for the use of respiratory equipment for DDVP. NIOSH stated that the product had poor warning properties." Bob went on to say, "Because of some of the new toxicological information being developed on dichlorvos, MSA decided to recommend SCBA's when exposures to DDVP go above the 0.1 ppm level."

The result of this ruling is that organic vapor gas mask canisters are no longer legal for entering an area where DDVP is present. However, air-purifying full facepiece respirators (gas mask) with a chin-style or front- or back-mounted organic vapor canister having a high efficiency particulate filter (GMA) would still be legal for escape purposes. The SCBA will become the normal equipment for space treatments where in-place units need to be filled and when personnel must enter areas where the concentration is 0.1 ppm or higher.

FIFRA 1991

The 1991 Congress will have a real struggle when they vote to re-authorize the FIFRA (Federal Insecticide Fungicide, Rodenticide Act)," according to U.S. Senator Mitch McConnell of Kentucky. Senator McConnell was a guest speaker at this year's Kentucky Feed and Grain Association meeting in Louisville. He sits on the Senate Ag Committee. Some of the struggles that may occur in this re-authorization could be the unfinished issues from 1988's amended FIFRA "ite".

Later on in this program attorney Hank Graddy, Sierra Club Agriculture Committeeman, stated that one of the major issues that Senator Leahy, chairman of the Senate Ag Committee, was committed to change in FIFRA was the issue of the Circle of Poison. This is where pesticides that are not legal or registered with the E.P.A. are shipped by companies in the U.S. to foreign countries. These pesticides are then used on crops that are being imported back into the United States. Mr. Graddy stated: "These pesticides are finding their way back to our dinner tables and the dinner tables of those countries to which we sell the products." Another area to watch is for FIFRA to require more information on the use of pesticides to be accessible to the general public. Seemingly, a general dissatisfaction that the public is not receiving adequate information exists. The burden of proof will fall on those that use and sell these pesticides.

"Ethics: The way a just person deals with another just person compared to how an unjust person deals with another unjust person - being consistent." Dr. Roger Gold, ESA, New Orleans, 12/90.

"No longer can we depend on the ignorance of our client to justify poor effectiveness." Dr. Chris Christensen, St. Paul, MN, 10/90.

FREEZING INDIAN-MEAL MOTHS

Indianmeal Moth (Plodia interpunctella) is 'public enemy number one' when it comes to infesting stored products throughout the United States. This moth is capable of causing customer complaints on a wide variety of nuts, dried fruit, processed cereals, dog food, beans, and even red peppers. Processors are particularly concerned about survival of the egg stage because it is the most tolerant stage to kill with conventional applications and because of its size, it is often overlooked.

The increased interest in the marketing of organically grown and processed products along with a search for alternative methods to control pests has fueled an interest in using temperature extremes for postharvest disinfection on many commodities.

Judy Johnson and Pamela Wofford recently published an article in the Journal of Economic Entomology (February, 1991) about the effects of subfreezing temperatures on the eggs of the Indianmeal moth. Their results showed that the age of the eggs was important when prescribing a temperature that would be effective in controlling this pest of food. "Because of their comparative tolerance to low temperatures, middle-aged eggs are the most suitable for development for low temperature treatments of between -15 °C (4-5° F) and -19 °C (-2° F)." The moth eggs were exposed to subfreezing temperatures for up to one hour.

Judy Johnson and Pamela Wofford are from the Horticultural Crops Research Laboratory, USDA-ARS, Commodity...
Protection and Quarantine Insect Research Unit, Fresno, California 93727.

**Editor’s note:** In order to effectively kill all stages of the Indianmeal moth with temperature, it may be necessary to freeze (32 C /0 degrees F) for 24 hours. This will allow the product to reach equilibrium and for various tolerant stages of the Indianmeal moth eggs to expire.

Even the National Pest Control Association recognizes the positive image that the words “Pest Management” proclaim by naming their magazine PEST MANAGEMENT. IPM and UPM are used in our field every day. The goal of using every method available to manage a pest population is the future of our industries.

“So what do you do for a living?” I work in Pest Management. “What do you do?”

announced in the Federal Register that a proposal will be filed to revoke the tolerance exemptions on food products and food packaging materials for dichlorvos and six other pesticides. This was in response to a petition filed by the National Resources Defense Council, the State of California, AFL/CIO, and several others. The reason for this petition is that these seven products have been shown to be carcinogens in test animals and are used in the food industry. Section 409 (Delaney Clause) has been challenged by the EPA when it has been determined that there is a deminimis, trivial, or negligible risk involved with the use of the product. However; in the case of dichlorvos, the EPA believes that the registrants have not submitted the data required to prove this. One study showed that tolerance levels exceeded the limits by three fold after an application of dichlorvos. Mr. Beringer stated that: “If we have reason to believe the risk is negligible, we would not revoke tolerances – we don’t have that data. We are going to request an additional degradation study to show how dichlorvos breaks down over time. This study could change our estimates.”

When this proposal appears in the Federal Register in early summer, there will be a comment period of 45 to 60 days before any final decision is made.

**FEDERAL REGISTER ALERT**

Early this summer the Special Review Division of the Environmental Protection Agency will submit a proposal in the Federal Register to eliminate any tolerances for DDVP on food products and packaging materials. This is important because it is the first case ever where the EPA has removed tolerances and not removed the products from commerce. It could have a big effect on other pesticides in the future. In essence it could be legal to use the product according to the label and FIFRA but there can be no residue left on the food product or packaging material in accordance with The Food, Drug and Cosmetic Act.

The following information is from Mike Beringer, Special Review Manager for DDVP: On February 25, 1991 the E.P.A.
**HAWAII**

Insects Limited, Inc. has signed an agreement to work directly with Food Protection Services, under the direction of Consultant, Lawrence Pierce. This expansion is in response to the growing demand for pheromone-baited traps and other bio-rational pest management supplies in the Pacific region.

Besides the excellent understanding that Lawrence has for the implementation of pheromone-baited traps, he offers a testing site for year-round development and evaluation of new trapping systems. Food Protection Services will be a stocking supplier of many of the stored-product insect monitoring devices.

Food Protection Services  
Lawrence Pierce  
95-715 Hinalii St.  
Mililani, HI 96789  
(808) 625-1599

**Advanced Pest Management Seminar Honolulu, Dec. 3, 4, and 5, 1991**

One of the services offered by Insects Limited, Inc. and Food Protection Services of Hawaii will be an advanced training course to the food industry on pest management. This will include the effective use of pheromone-baited traps. This course is scheduled for Honolulu December 3, 4, and 5, 1991. George Okumura, Okumura Biological Institute, will be the group leader for this three one-half day program.

If you are interested in receiving more information about this advanced training program, contact Larry Pierce or Insects Limited, Inc. at 1-800-992-1991.

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**"ANOTHER SET OF EYES"**

More and more there is a need for consultation in the field of Pest Management. Whether it be on-site or on the phone, Insects Limited, Inc. offers several services that will help you solve your sanitation needs. They include:

1. **In-house Company Training:** This can be a state approved, tailored certification program or an initial pheromone trapping program start-up session. Instead of sending your certified applicators for several days to some far-off university each year to gather general information on fumigation that may or may not pertain to your needs, bring in speakers that will tailor the program you need to genuinely offer continuing education that will be directly useful to your company. The cost is often less than the alternative.

II. **Litigation:** Expert witnesses who have direct experience in fumigation and stored-product insect control can assist in your legal court cases.

III. **Food Plant Audits:** "Another set of eyes" are often needed to evaluate the sanitation condition of a food operation or stored-product storage facility. We use a numerical scoring program that helps you rate the severity of the sanitation defects and police your own sanitation needs. These audits can show you how well you are improving (or downgrading) over a period of time.

IV. **Articles for Magazines/Newsletters:** We have written numerous articles on specific pest management topics.

V. **Insect Identification:** We can help you identify specimens that your customer or others send in to be identified. Knowing whether it is a serious stored-product insect or just an occasional invader may help locate the problem source. Also, packaging materials need to be examined for internal or external emergence.

VI. **Pheromone Trapping:** Because of the newness of this type of monitoring and mass trapping procedure, people often ask Insects Limited, Inc. to lend a hand in setting-up programs in food plants, food warehouses, grocery stores, popcorn operations, etc. This can be an initial training session coupled with trap placement and finally data interpretation.

VII. **Public Speaking:** If you are planning a training program for your company or organization, we can offer speakers for a wide variety of topics.

Our staff at Fumigation Service & Supply, Inc. and Insects Limited, Inc. is available to assist you in your sanitation needs. Call David K. Mueller, R.P.E. at 1-800-992-1991 if you have a need for these consultation services. "Another set of trained eyes" may be all you need to solve that pest problem.

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**GRAIN FUMIGATION**

The Soviet Union has received $1 billion in credits that the U.S. Agriculture Department granted for Soviet purchases of U.S. Foodstuffs.

According to the Wall Street Journal, the Soviets have said they want to use the bulk of the credits to buy corn. The USDA, contending that the U.S.S.R. has not bought enough wheat to comply with its long-term trade agreement with the U.S., wants the country to buy a combination of wheat and corn.

The fumigation companies from the various ports have confirmed that much of the grain being exported from the U.S. is corn. This means the ports in New Orleans are busy and the Texas ports are not. People that fumigate wheat should be rather busy this summer. The abundant corn storage from a good crop in 1990 could be greatly reduced before the warm summer months.
INSECT DETECTION IN GRAIN

A new trap for detecting insects in grain is now available. The PC Trap has been designed and tested by the Central Science Laboratory in Slough, England. Peter Cogan stated recently during a trip to Indianapolis, "In bins and flat storages, the PC Trap is effective for the detection of all the beetle pests in grain. The PC Traps are most effective when one trap is placed above the one below the grain surface at each monitoring point."

How do these traps work: The key to capturing insects in the PC Trap is the configuration of the holes in the bright red top and the liquid Teflon coating that prevents the insects from escaping. The grain beetles crawl over the surface of the trap and fall in the 'V' shaped plastic collection device.

Setting up the trap: A string is used to secure each trap. The string can be attached to a flag or a cane pole for ease in locating the 4 inch in diameter trap.

MALLIS HANDBOOK NOW AVAILABLE

The 7th Edition of the Mallis Handbook of Pest Control is now available from Fumigation Service & Supply, Inc. It contains over 1,100 pages and 500 illustrations. Twenty-nine chapters have been updated and compiled by some of the most respected names in the industry: Mampe, Carr, Rambo, Jackson, Russell, Rust, Story, and Gold to list a few.

David Mueller of Fumigation Service & Supply, Inc. was asked to rewrite the chapter on Fumigation (chapter 24). "The field of fumigation has changed tremendously in the last decade. The chapter on fumigation offers the latest information on fumigation for the professional applicator."

- Two years in the making. The Mallis Handbook has been updated to reflect the latest advancements in pest control technology.
- The 7th Edition of the Mallis Handbook reflects the challenge of pest control in the 90's, with new chapters on rules and regulations, safety, litigation, and pest management in sensitive environments.
- Hundreds of full-color and other high-quality illustrations developed especially for this edition are the professional's guide to accurate pest identification.

ORDER FORM

☐ YES, I would like to order my copy of the 7th Edition of the Mallis Handbook of Pest Control.

Name ____________________________
Address ____________________________
City ____________________________ State ______ Zip ______

Please send me __________ copies

Cost: $89.00 plus $5.00 per copy for shipping and handling

☐ Payment Enclosed ☐ Bill Me
BIO-RATIONAL TIP

Clockroach monitoring sticky boards can capture more roaches by placing them upside down on a small spacer. Jim Fegenbush, Director of Maintenance, Jefferson County Schools in Louisville, Kentucky has found that by propping conventional sticky boards up-side-down on pieces of styro-foam or plastic coffee stir sticks, he captures more roaches. This ¼ th of an inch gap creates a crack that resembles a harborage for roaches. After the roach crawls under the glue board their wings become stuck from above. Roaches seem to prefer close contact on their underside and their topside.

"Knowing the pest is half the battle in controlling it."

SUBSCRIPTION RENEWAL

Request... In order to continue to send you this publication, we need some information.

Every year for the last ten years this newsletter has tried to provide you with the best information available for pest management. Could you take a few minutes to check the label on the front of this newsletter and make any changes.

- I would like to continue receiving Fumigants & Pheromones Newsletter
- Please stop sending this publication
- Please change my name/address to read:

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  ____________________________________________

  New Address: ____________________________________________
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Please return this slip at your earliest convenience.

Fumigants & Pheromones is published by Fumigation Service & Supply, Inc. and Insects Limited, Inc. for the professional pesticide applicator. 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., P.O. Box 40641, Indianapolis, IN 46280 (317) 846-5444.

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