

Fumigants & Pheromones

Issue 43
Fall 1996
Routing:

A Newsletter for the Insect Control & Pest Management Industry

Entomological Problems in Food Plants

By Giorgio Domenichini

Professor Giorgio Domenichini was the Keynote Speaker at the Fumigants & Pheromones Conference in Bologna, Italy

International trade widely involves an ever-increasing quantity of agricultural products. Before reaching the consumer, these products undergo movement by various means, periods spent in all kinds of storage areas, processing and use in different industrial sectors. This long interim exposes these foodstuffs to attack by many contaminant organisms; some originate in the fields, others join them by the farmer's and trader's warehouses, others during transportation and yet others during the phases of processing. Risk of attack continues during distribution and sale. During each of these phases, foodstuffs should be held in suitable conditions under the supervision of professionally trained staff for adequate protection.

The sector involved in final food processing activities is the convenience point for the infesting insects of the different products used, in addition to the organisms present in the local environment. In warehouses and on the factory floor, many macro- and micro-organisms find suitable environments for multiplying. It is here that the pests become especially dangerous, because they represent reservoirs and

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Stored product insects can carry food born pathogens on their bodies.

means of transmitting pathogens, and themselves cause food poisoning when the food is in its final stages of preparation. The filth-test, widespread only in the developed countries, helps to check on housekeeping, quality and health standards of foodstuff.

The Food Industry is highly motivated to require raw materials in good condition, since this aspect determines the possibility of rational protection of products. Widespread dispersion of dust or traces of foodstuffs in areas which are difficult to clean because of the presence of machinery, piping, shafts and other materials, provide ideal conditions for harmful agents.

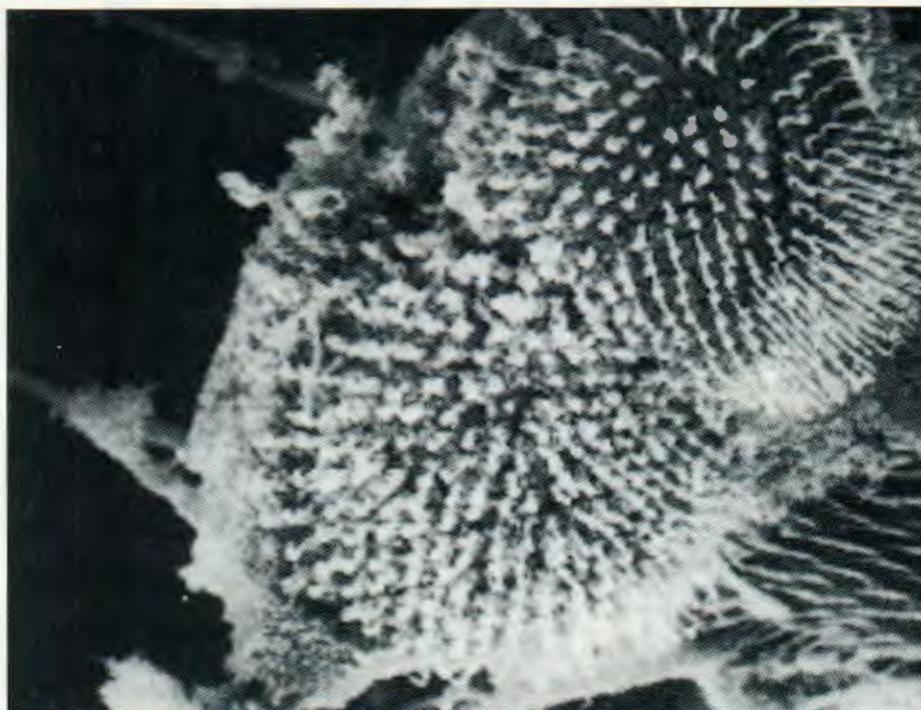
Attention must be paid to the risks of biological contamination of foodstuffs equally by distributors. These distributors which are now enormous and use outdoor warehouses instead of areas

well protected against all factors which could cause damage to the foodstuffs.

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Listeria monocytogenes on adult of Diptera *Fannia canicularis* L.

Entomological Problems

(continued from page 1)

Supermarkets, both large and small, should also be made aware of the prob-



Giorgio Domenichini is professor of Agricultural Entomology, director of the Institute of Entomology of the Università Cattolica del Sacro Cuore in Piacenza since 1965. A Filth-test method for cereal products, devised under his direction, has become official in Italy. He is the organizer of a symposium on "Pest control in food industry and foodstuff protection."

lem: Foodstuffs are held without any protection in areas exposed to many risks.

Until now, fumigants have been used in large grain stores and mills for disinfestation. Ever-increasing legal restrictions on their use for toxicological reasons threatens a technique of disinfestation which is suitable for stopping infection by arthropods which put the quality of the foodstuffs at risk. The use of pheromones and their sophisticated applications contributes to monitoring, both for improving techniques of using fumigants and more generally in pest control. Controlled atmospheres and grain protectants can be also useful.

Pheromones can also be very useful in secondary processing where fumigation is difficult to carry out and where the use of insecticides has many negative side effects. Integrated pest management (IPM) which uses the many different means available, requires an understanding of the target pests and should be used together with preventive intervention.

Training in pest control and environmental health education underlie the formulation of a suitable strategy free from undesired effects.

—interpreted from Italian to English by Carlo Albertazzi, Ph.D.

London Pride

Its a sunny 21 and the shoes are off. The Thames runs fast under the newly painted Hammersmith Bridge. Its summer, so the pollen is exploding and the nose is running. People are talking and laughing and rolling cigarettes only to be washed down with another pint of warm beer. The bar maid has purple hair which matches her toe nails. Not too loud please, it is not the English way.

Heathrow is upstream as the planes march by one by one. Big ones, small ones, fast ones, but always one.



An old man with no teeth is sporting a blazer but he forgot his pants. It's a good look. The cigarette butts under the benches are as thick as fallen leaves.

Its Friday and the workers in London crave their first pint. The weekend starts here.

The bicyclists are ever present and the strolling couples are dressed for the evening - all stop to stare at each ale house from top to bottom and back up again. The hanging baskets are full of color and the flower boxes can't get any prettier. That is London in the summertime.

Proceedings Available

The Proceedings of the 2nd International Conference on Insect Pests in the Urban Environment, edited by: Ken Wildey, Ph.D.

This hard bound book offers the latest scientific information in the field of Urban Pest Management. The first volume from 1993 in Cambridge has become a standard reference manual.

83 formal posters, 38 posters, 640 pages

Cambridge and Edinburgh Conference: US \$85.00

To order Call: 1-800-992-1991 or Fax: 1-317-846-9799

Edinburgh 1996

The 2nd International Conference on Insect Pests in The Urban Environment (ICIPUE) was held on 7-10 July at the Edinburgh Conference Centre at Heriot-Watt University, Edinburgh, Scotland. It followed three years after the successful inaugural conference held in Cambridge, further providing for and promoting the discipline of Urban Entomology. These Proceedings record the content or summaries of presentations to the conference in Plenary Sessions, as well as in Special Topic Sessions, Workshops and Poster Sessions.

The Conference drew 400 delegates which presented 83 formal papers and 38 posters on display.



"Program chairman Dr. Bill Robinson could be an ambassador to Scotland if he ever gives up his Urban Entomology career." M. Rust

Delegates from 43 countries attended the Edinburgh meeting. Much interchange occurred even after the close of scheduled sessions in the halls and pubs between

delegates from all over the world. These delegates represented interests from pest control companies, pesticide manufacturers, research scientists, university staff and students, policy makers and others with an interest in public health and pest control matters.

The next conference will be held in Prague, Czech Republic, in the summer of 1999.

Talent Wanted

Food Processing Pest Manager, Fumigator/ Sales and Area Manager positions open immediately.

Send resume, references, and transcripts to David Mueller

P.O. Box 40641, Indianapolis, IN 46280-1451.



Chicago Meeting

Fumigants & Pheromones Technical Conference

March 18-19, 1997 - Conference

March 20-21, 1997 - Workshop

First Announcement

Program

Michael Rust, Ph.D.,
Managing Pests

David K. Mueller, BCE, *New Technologies in Fumigants & Pheromones*

Gerrit Cuperus, Ph.D., *Grocery Store Survey...a breakdown in the food chain.*

Angie Richards, *Stored-product insect national survey*

Gerhardt Binker, Ph.D., *New Fumigation Technologies from Europe*

Joe Barile, BCE, *New Developments in IGR's*

Dean Stanbridge, *Using Raptors for Commensal Bird Control and Bar Coding Technology In Pest Control*

Larry Pierce, *Pest Management in Paradise*

Ed Hitch, *How to Prepare for an AIB Audit and How to Select a Pest Control Company for your Food Plant*

Roger Cole, *Developing a Food Plant Pest Management Program*

Paul Cogan, *New Technologies from Central Science Laboratory in York, UK*

Rudy Plarre, Ph.D., *Pheromones and Fumigants*

Course Certificates - Continued Education Credit 25 states

Registration cost: Seminar: \$350
Workshop: \$300

Fumigation Workshop

A BOC Gases Approved Stewardship Program

March 20-21, 1997

Purdue University
Agriculture Research Farm

Day 1: Classroom

Principals of Fumigants
Carbon Dioxide
Phosphine

Gas Monitoring

Respiratory Protection

Fumigant Storage

Fumigant Disposal

Fumigant Transportation

Day 2: Practical Hands-on Fumigation Experience

"There are few places in the world where you can gather practical field experience from seasoned fumigators. This Fumigation Workshop is one of the finest available."

Using BOC's New Cylinderized Phosphine; Eco₂Fume™

Combination Fumigation

Mill Fumigation

Warehouse Fumigation

Trailer Fumigations

Grain Bin Fumigations

Instructors:

John Mueller, *Course Coordinator, FSS*

Bob Ryan, *Technical Manager, BOC Gases - Australia*

Jerry Sullivan, Ph.D.,
Sullivan & Associates

Patrick Kelley, *FSS*

Tim Hodgson, *FSS*

Gerrit Cuperus, Ph.D., *Oklahoma State University*

Gerhardt Binker, Ph.D., *Binker Materialschutz, Germany*

Ray Liscombe, Ph.D., *Consultant*

David K. Mueller, BCE, *Program Chairman*

John V. Osmun, Ph.D., *Moderator*

Continued education credit is being applied for in over 25 states.

From Bologna...



New Technologies in Rodent Control

Robert M. Corrigan, Ph.D.

New Technologies have emerged for non-chemical and chemical rodent pest management. An IPM approach relative to rodent control in the food industries is critical. Improvements and changes continue to be made with multiple-catch mouse traps (MCTs). Food industry and pest management professionals should review new and revised models of traps. Moreover,



mechanical mouse traps should be thoroughly studied as to efficacy and practicality. Many "myths" and much misinformation exists regarding the correct use of MCTs. Brand preferences, placement criteria, cleaning, spacing, and specific location criteria to maximize these traps needs to be based on a practical approach. Research has shown that there is little difference in mouse behavior between different trap brands.

The use of glue boards inside multiple catch traps offers unique advantages for commercial facilities—especially relative to reducing the biohazards as-

Bio-Assays



More and more professional companies are using mixed cultures (egg, larvae, pupae, and adults) of live insects to evaluate fumigations and fogging programs.

Insects Limited, Inc. raises over twenty species of insects to use as bio-assays.



Ask for Angie Richards at
1-800-992-1991.

sociated with rodents. The effectiveness of glue traps vs. non-glue traps for mouse protection warrants careful attention relative to mouse pressure. In areas and plants under low mouse pressure, the value of glues for insect/mouse monitoring is important.

Non-toxic bait blocks have been introduced by Zeneca for inspection and monitoring programs for rodents. These Census® blocks are designed for exterior use only. The correct evaluation of these blocks is critical for efficient rodent protection, and to avoid unnecessary attention to non-rodent activity (insect feeding activity).

Improved formulations, and additional anticoagulant rodenticides have recently become available. New bait stations, and bait securement systems are receiving attention by the food processing industry. The specific level of tamper-resistance and bait availability should be determined via a situation analysis for commercial facilities. The use of the bait blocks formulation provides additional baiting safety as compared to packet-style baits and loose pellets.

Additional ultrasonic technology, and other novel mechanical rodent control devices are being introduced in the Japanese market, but thus far lack formal research in real-world environments.



From Bologna...

FIPRONIL a new insecticide for PCO and Wood Preservation

Sylvestre Jobic

Fipronil is a new active ingredient for insecticides. It has a different field of application.

It is a white solid compound (becomes liquid at 210°C) and it is active at very low dosages (less than 10 g/ha). It is a member of the metilpirazoli family and competes with the neurotransmitter GABA, gamma-amino-butyric acid, causing insects hyperactivity leading to death.

Fipronil can control roaches, ants and termites with big advantages in respect to the other insecticides: it has low water solubility and also low risk of pollution, and it is ten times less toxic than the similar insecticides, giving good impact in terms of ecotoxicity (it is used for rice fields in Japan).

From Bologna...



Best Uses of Pheromones

Lawrence H. Pierce



Introduction

Insect pheromones are specific, organic, chemical perfumes, secreted by insects to locate and attract mates. For over 7 years, Food Protection Services has used pheromones extensively, as part of an integrated food protection program in Hawaii. These programs provide biological approaches to the age-old problem of food protection and have advantages over traditional control techniques such as general fogging.

Monitoring and Locating Infestations

Pheromone lures are placed in a variety of specialized traps to detect the presence of stored-product insects. Food Protection Services has developed fixed grid triangulation monitoring which is now widely used by the food industry in Hawaii. Large numbers of pheromone traps are deployed in a grid pattern throughout a food facility to indicate which species are present and locate hidden infestations. The grid triangulation technique relies on the fact that the greatest number of insect captures will occur in the traps closest to the infestation. The capture data from the two or three most active traps can be converted into relative distances from each of the traps to the source of the insects. While this technique has some limitations, it has proven to be an effective means of monitoring and locating stored-product insect infestations in food warehouses.

Pheromone Enhanced Mortality - PEM

Location and removal of infested materials are the key components in a food plant IPM program, but the manpower and time required to monitor and maintain large numbers of traps in heavily infested, dusty areas has led to the development of several hybrid methods of population suppression termed: Pheromone Enhanced Mortality or PEM. These techniques use a

pheromone lure to attract insects into chemically lethal environments rather than simply trapping them.

One PEM technique involves placing pheromone lures in close proximity to time-mist foggers which discharge timed bursts of pyrethrin. Normally insects would be repelled by the pyrethrin, but the nearby pheromone lure draws them out and into harm's way. The advantage of this technique is that the time-mist foggers can operate continuously. This technique has proved effective in suppressing cigarette beetles and *phycitid* moths in both food plants and warehouses.

Another PEM technique employs pheromone lures to attract insects onto surfaces which previously have been treated with the residual insecticide, cyfluthrin. This residual insecticide (Tempo WP) is lethal but highly repellent to insects. By placing a pheromone lure on a treated surface such as a wall, silo cone, or hatch cover contact between the insects and the insecticide is increased and mortality is enhanced.

A third PEM technique developed for dusty, heavily infested feed warehouses employs both time-mist foggers and cyfluthrin treated wall surfaces near groups of pheromone traps. This technique has proved effective in quickly reducing the number of flying insects and continuously suppressing insect populations in feed warehouses. Thus, PEM = Bio-Rational Fatal Attraction.

Regularly scheduled monitoring by trained personnel, proper insect identification, accurate record keeping, and good data analysis are the keys to the effective use of pheromones.

New Pheromones Available from Insects Limited

- Powderpost Beetle
- Drugstore Beetle
- Rice and Maize Weevil
- New Improved Flour Beetle
- New Improved Cigarette Beetle

Dave's Soapbox

...for what it's worth



The Election

1960's

Thirty years ago this country was in the middle of a civil war that was only overshadowed by the North vs. South war of the 1860's. This civil war was not a war about slavery, but of a feeling of dishonesty, useless dying, and civil disobedience.

Richard Nixon and Spiro T. Agnew just won a nomination in bloody Chicago. President Johnson had decided that the war in Vietnam had taken its toll on him and his family and decided not to run for a third term.

Music filled the air from Woodstock to Main Street. People were talking about politics, Vietnam, Cambodia, voting, and things like: Silent Majority, Peace, Civil Rights, Martin Luther King, Jr., the Kennedy's and Hippies.

People were also starting to talk about the environment. Earth Days and the environmental movement were being conceived. Rachel Carson's *Silent Spring* was being read and believed by people all over the world. The world was beginning to ask questions about pesticides and their effects on mankind.

The Moral

Pull out your pen and mark the date November 5 on your calendar. It is one of the most important dates of the year. November 5 is Election Day. We have some very important decisions to make on who will run this country along with our state and local governments. Thirty years ago this country was in trouble. Don't let the glare of your shiny 'Wing-tip' shoes blind you into forgetting the problems that this country went through in the 1960's.

I'm not telling you who to vote for, but to tell you to VOTE!

Vote for: The people who can lead us into the next century with the best plan to protect, defend, and provide a strong democracy for America.

W. K. Mueller

IGR Questions

Will extreme heat affect the IGR Gentrol™?

According to Joe Barile of Sandoz, "Gentrol can take extreme heat without losing its integrity or effectiveness. In fact, when flea collars are extruded, the impregnated plastic may reach a temperature of over 300 degrees."



Is Gentrol IGR approved for an F2 (residual) compound by USDA?

Joe Barile also stated: "Gentrol concentrate is approved for use in food areas of USDA inspected meat, poultry, and egg facilities as an F2 (residual) compound by USDA but the approval letter we received from the USDA only approves the use of Point Source (plastic breakable vial formulation) in a Crack and Crevice application. Due to the nature of the formulation and mode of action defined by USDA., at this time, I recommend that you do not advise your customers to use Gentrol Point Source in these USDA facilities."

Vapona Revisited

Vapona (Dichlorvos), registered since 1948, is a powerful insecticide (LD₅₀ of 53 mg/kg.). It was very popular with the homeowner in the 1970's when the Shell Pest Strip was found in most homes throughout the country. In 1988 the EPA recognized that it was a potential carcinogen and a powerful cholinesterase (a chemical which helps to transmit signals through the nervous system) inhibitor. Dichlorvos is a nerve poison.

In 1988 the Agency ran up the red flag in 1988 on this product and over the past eight years pet collar manufacturers, homeowners, formulators and food companies have stopped using this suspect product. On November 10, 1993 EPA issued a final tolerance notice for residues in or on bulk, bagged, packaged and processed food. One week later the EPA issued a stay on this revocation. This stay has been in place ever since. Dietary cancer risk

may still be a problem even though Delaney doesn't apply.

The key point that EPA acknowledged as the reason for Special Review of Dichlorvos was not so much the carcinogenicity but the fact that it is a powerful cholinesterase inhibitor. This could cause applicator safety, secondary worker and homeowner safety issues besides residues. Now the issue is not zero risk of cancer or 3.4×10^{-6} reasonable risk of cancer but worker safety due to an organophosphate that has one of the highest LD₅₀ of any pesticide used in the marketplace today.

Vapona and some 6,000 pesticides will likely be revised now that Delaney is no longer law. The time schedule will wait till after the election and a scientific panel will meet in the first or second quarter of 1997 to review the scientific evidence on Vapona. Dennis Utterback states "EPA still believes dietary risk is still a problem with dichlorvos".

In summary, The Delaney Clause was not a risk issue, it was a definitive statement of absolute and it was drastically changed after being a law for almost 40 years.

Many pesticides affected by the Delaney Clause may be revisited in the upcoming years.

Vapona will most likely be revisited by a peer panel this winter.

Vapona has its tolerances removed for two reasons, carcinogenicity risk (1×10^{-6}) and strong cholinesterase inhibition in workers. EPA seems set on eliminating this product from non-perishable bulk, bagged, packaged and processed food products. They have two avenues to accomplish a final cancellation: dietary cancer or worker safety. Time will tell.

Fumigator's Tip

by John Mueller

Carbon dioxide is becoming a popular mixture in our fumigations.

Care should be taken to use CO₂ correctly. Dr. Ed Jay, retired from the USDA, and the Israelis Moshe Calderon and Dr. Carmi from the famous Volcani Center have published numerous papers outlining the synergistic effects of carbon dioxide on stored product insects.

They say that 3-5% (30,000 - 50,000) parts per million will increase the insects respiration by 50% to 300% respectively. Less than this has little effect and more than this will not increase respiration until you reach levels of 30-40%. In an average flour mill this would be 12-18 tons of carbon dioxide quickly released in the building by a in-line processor that pulls 30-60 amps of electricity that will elevate the carbon dioxide from -20 to 20°C (0 to 67°F) at a rate of 2 tons per hour.

Now if you are using small vessels (Duras) that slowly release carbon dioxide into a building to increase the respiration of the target pests, you may cosmetically look like you are using advanced techniques but are only wasting your time, energy, and customer's money.

If we are going to use methyl bromide at a full dosage rate and then introduce carbon dioxide to increase effectiveness, why not at least reduce the level of methyl bromide by 1/2 or 2/3rds? Then we are actually doing something to reduce the amount of methyl bromide being used until it is completely eliminated.

General Notes: When using CO₂ and methyl bromide together, it becomes critical to achieve elevated (3-10%) carbon dioxide levels prior to introducing methyl bromide. Once the methyl bromide is introduced, carbon dioxide levels must be maintained at 3-5% levels. Due to the number of fumigation companies rushing to the alternative bandwagon (finally), many CO₂ applications are being performed incorrect-



"Oh, Those Pheromone Lures..."



WHERE THE BOYS ARE.

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46280-1451 USA Email-insectsltd@aol.com

ly. One of the biggest mistakes is trying to use small cylinders like Duras (460 lb. liquid cylinders) or 50-75 lb. high pressure steel cylinders. Unless you are fumigating a chamber or very small room/building, larger vessels (6 tons plus) are needed.

If you have question about carbon dioxide's role in fumigation, call me at 1-317-846-5444. John B. Mueller

Delaney Clause vs. 3.4 x 10⁻⁶

by Dave Mueller

The Delaney clause was enacted into law in the 1950's to stop an unknown risk called cancer from spreading. The Delaney Clause set the risk level in processed food at zero. Any product added to our food chain that caused any risk at all of cancer to the general public was unlawful. The various lobbies have challenged and litigated this issue for over 40 years.

New instrumentation and technology have taken the word zero and redefined it over and over and over again. It is possible to routinely measure levels in the quadrillion today. We are working on the molecular level in science rather than the milligram level.

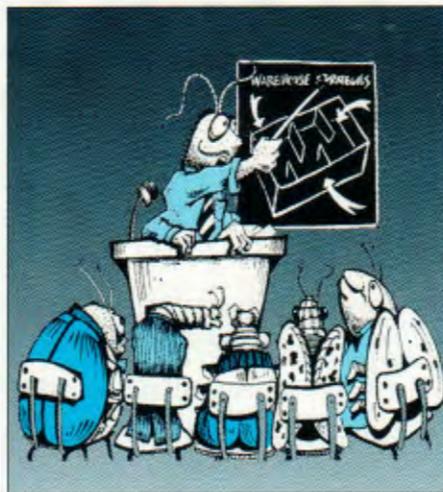
In July 1996, major changes were made to the Delaney law. Delaney still exists, but pesticides are no longer directly affected.

In a recent conversation with officials within EPA about dichlorvos, this question was raised.

The EPA has been anticipating the overturn of Delaney for several years, this is no surprise to the Agency. In September of 1995 the lawyers at EPA drafted a Position Document . PD 23 set a level of "reasonable risk" at 3.4 x 10⁻⁶ for bulk packaged and bagged food products. Dennis Utterback, Special Review-Dichlorvos at EPA mentioned: "In 1995 EPA estimated the dietary cancer risk from DDVP to be 4.4 x 10⁻⁶."

Risk assessment is not an exact science. This is not a "bright white line" according to EPA. Other consideration will be processed before a definitive judgment is made on suspect product like Vapona (dichlorvos).

Comments from industry and environmental groups will be weighed along with input from the scientific advisory panels.



Meeting Calendar

We hope to see you...

October 16, 1996, Minnesota Food Processor's Certification Program, Earle Brown Center, 218-692-3136. **

October 26-30, 1996 National Pest Control Association- San Diego, (703) 573-8330/ fax (703) 573-4116 *

October 21-13, 1996, International Conference on Ozone Protection Technologies, Washington Hilton, Washington, D.C., (301) 695-3762/fax (301) 695-0175

November 4-6, 1996, 1996 Methyl Bromide Alternatives and Emissions Reduction, Clarion Plaza Hotel, Orlando (209)-244 4710/ fax (209) 224-2610**

November 20-22, 1996, 18th ASEAN Seminar on Grains Postharvest Technology, Manila, Philippines, sponsored by: NAPHIRE and ACIAR (632) 927-40-29/19 or fax (632) 926-81-59

December 8-12, 1996, Entomological Society of America Meeting and Exhibition, Louisville, Galt House, (301) 731-4535/ fax (301) 731-4538*

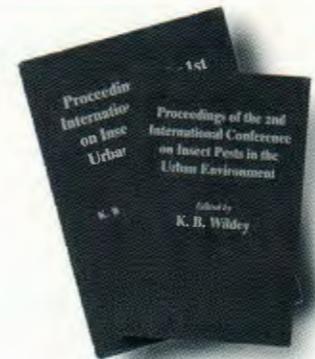
March 17, 1997, Fumigants & Pheromone Technical Seminar Chicago, Embassy Suites, (317) 846-3399/ fax (317) 846-9799***

June 18-20, 1997, Pest-Ex 97, London, (44) 1332 294 288/ fax (44) 1332 295904*

denotes: *attending, **speaking, ***organizing

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Proceedings from 1993 & 1996 International Conference on Insect Pests of the Urban Environment, 2 volumes, 640 pages.....\$84.00

Engineering for Food Safety and Sanitation...A Guide to the Sanitation Design of Food Plants and Food Plant Equipment, by Tom Imholte, 282 Pages\$74.00

Field Guide for the Management of Urban Spiders, by Stoy Hedges & Dr. Mark Lacey, 220 pages.....\$9.95

Field Guide for the Management of Flies, by Stoy Hedges, 150 pages.....\$9.95

Nutritional Ecology for Insects, Mites, Spiders, and Related Invertebrates, by Slansky & Rodriguez 1016 pages.....\$215.00

Museum Pest Management, 3rd ed., by David Pinniger 58 pages.....\$14.95

Proceedings of the 6th International Working Conference on Stored Product Protection, Held in Canberra, Australia in April 1994, 2 volumes, 1274 pages.....\$325.00

Truman's Scientific Guide to Pest Control Operations, by Bennett, et.al., 494 pages.....\$64.00

Earth in the Balance, by Al Gore, 407pages.....\$25.00

Stored Product Management, by Oklahoma Cooperative Extension Service, 242 pages.....\$15.00

New Mallis Handbook of Pest Control, 8th ed. due out winter of 1997. The Bookstore will have advance copies. Call for more information.

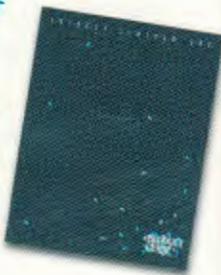
The Food Quality Protection Act of 1996

In August, 1996 Congress unanimously passed a landmark pesticide food safety legislation supported by the Administration and a broad coalition of environmental, public health, agricultural and industry groups. President Clinton promptly signed the bill known as the Food Quality Protection Act of 1996 into law.

EPA regulates pesticides under two major federal statutes. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA registers pesticides for use in the United States and prescribes labeling and other regulatory requirements to prevent unreasonable adverse effects on health or the environment. Under the Federal Food, Drug, and Cosmetic Act, EPA establishes tolerances (maximum legally permissible levels) for pesticide residues in food. Tolerances are enforced by the Department of Health and Human Services/Food and Drug Administration for most foods, and by the U.S. Department of Agriculture/Food Safety and Inspection Service for meat, poultry, and some egg products.

New Insects Limited Product Guide Available

If you would like to receive our new catalog containing new pheromones and non-insecticidal pest control products, fill out the following and mail:



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Company _____

Address _____

City/ST/ Zip _____

For over two decades, there have been efforts to update and resolve inconsistencies in the two pesticide statutes, but consensus on necessary reforms has been elusive. The new law represents a major breakthrough, amending both major pesticide laws to establish a more consistent, protective regulatory scheme, grounded in sound science. It mandates a single, health-based standard for all pesticides in all foods; provides special protections for infants and children; expedites approval of safer pesticides; creates incentives for the development and maintenance of effective crop protection tools for American farmers; and requires periodic re-evaluation of pesticide registrations and tolerances to ensure that the scientific data supporting pesticide registration will remain up to date in the future. All the details of this very comprehensive law will not be clear for some time, but what is clear is that there remained some bad laws on the books in this country in the past and this new law was passed to strengthen the environmental and health protection for all Americans.

Quotable Quotes

"Washington, D.C. — Work free drug zone." *Rep. Michan, FL*

"Life is what you do while you are making other plans." *John Lennon (From Mr. Holland's Opus)*

"Go to the ant, thou sluggard; consider her ways, and be wise." *Biblical proverb*

"The loss of biodiversity is the folly our descendants are least likely to forgive us." *E.O. Wilson, Entomologist, two time Pulitzer Prize winner, Harvard professor*

"We don't need to raise taxes, we need to raise our expectations." *Christopher Reeves*



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