

Fumigants & Pheromones

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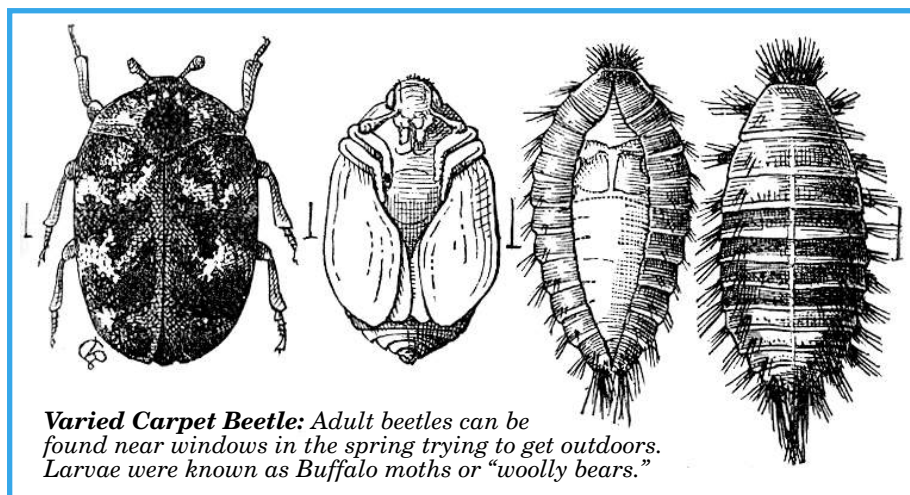
A Newsletter for the Insect Control & Pest Management Industry

The Carpet Beetle

C.V. Riley
First US Government
Entomologist
circa. 1880

The recently introduced Carpet-beetle (*Anthrenus scrophularieae*), the larva of which is known under the rather misleading name of 'Buffalo moth,' bids fair to be even more injurious to carpets and woolen goods generally, than the old and familiar clothes moths belonging to various species of the genus *Tinea*. It has certainly become widely disseminated in this country, for many of our correspondents who employ a sweep-net in collecting, whether in Oregon, California, or any intermediate locality, obtain specimens every season.

For several seasons we were at a loss to know upon what kind of plant or plants the perfect insect fed, as it was quite evident that the persons who sent them had made their collections in the field and not in the house where the larva pursued its mischievous work. Last summer, however, in collecting pollen-loving beetles on



Varied Carpet Beetle: Adult beetles can be found near windows in the spring trying to get outdoors. Larvae were known as Buffalo moths or "woolly bears."

Spiraeas, I was surprised, as well as pleased, to find this very carpet pest at work among the white flowered bushes, likewise feeding upon pollen of the flowers. Every day for several weeks I caught some of these beetles on the same plants, but on no others in my garden.

The carpet beetles, after casting their pupa skin, pass out of the house into the open air to obtain food and meet their mates, the females returning to deposit their eggs around edges of carpets, or in almost any woolen stuffs, that are most convenient, though they seem to prefer carpets.

Appearance

The beetles are so small, (1/12 of an inch) that they can readily crawl in and out of any ordinary room without being observed, and if they were seen there are few persons would take them to be

anything more than some kind of seed, or lump of dirt, unless caught crawling or flying. But the larvae are larger, being nearly a quarter of an inch long, and covered with erect bristling hairs of a dark brownish-color-their appearance probably suggests the name of "Buffalo moth" in connection with the fact that the insect was first noticed as injuring carpets at Buffalo, N.Y. No matter what common name that this insect

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Spiraea bushes attract carpet beetles

Mueller Receives EPA Award



John Mueller

John Mueller, President of Fumigation Service & Supply, Inc. is a recipient of the 2006 Stratospheric Ozone Award for his contribution to protecting the environment by eliminating uses of methyl bromide in flour mills and food plant structures. The award was presented to John Mueller at a ceremony at the Mayflower Hotel in Washington, DC on May 17, 2006.

John has worked since 1994 to find alternatives to methyl bromide, a serious ozone depleting substance for structures. He has researched, tested, and presented many different ideas to this complex problem of methyl bromide replacement.

John Mueller and his fumigation crew have replaced over 150 metric tones of methyl bromide in about 200 field applications to demonstrate the potential and practical applications of methyl bromide alternatives. These applications were performed while having to carry the burden of distracters and 'naysayers' in the background. Methyl bromide is listed under the Montreal Protocol as a controlled substance in 185 countries throughout the world.

John Mueller is a pioneer in the field of methyl bromide replacement, and his leadership, belief in alternatives, and commitment to making this a better planet on which to live has shown in his daily work as a fumigator and as an industry leader.

He stated: "This award is the result of the many hard working, environmentally oriented, and dedicated employees of Fumigation Service & Supply, Inc."



The Award: David S. Godwin, Stratospheric Protection Division, U.S. Environmental Protection Agency stated: Winners of the Stratospheric Ozone Protection Awards are leading by example. Their demonstrated commitment and extraordinary contributions inspire other individuals and organizations to make a difference in protecting the environment. Their significant contributions help mitigate the health and environmental risks of ozone depletion, including:

- Skin cancer
- Suppression of the immune system
- Cataracts
- Damage to marine life and crops
- Deforestation

History of the Ozone Award:

In 1990, EPA established the Stratospheric Ozone Protection Awards to recognize exceptional leadership, personal dedication, and technical achievements in protecting the Earth's stratospheric ozone layer. In the first sixteen years, the Stratospheric

Ozone Protection Award has been presented to 485 individuals, organizations and teams from 40 countries. In 2006, 10 individuals, organizations, associations, and teams earned the award through originality and public purpose, moral and persuasive leadership, and elimination of emissions of ozone-depleting substances. John was the only individual given this award this year.

What are the Award selection criteria?

Applicants must demonstrate one or more of the following criteria:

- Originality and public purpose;
- Leadership and corporate responsibility;
- Global perspective and implication;
- Actual elimination of ozone depleting substance emissions.

An international panel of judges representing government, industry, and non-governmental organizations review recommendations and EPA makes the final award selections.

The Carpet Beetle

(continued from page 1)



Chas. V. Riley, editor The American Entomologist 1880

goes by, it is doing a great amount of damage and in some parts of the country has become so abundant that housekeepers have had to dispense with all kinds of floor coverings made in part or wholly of wool, and use various kinds of matting instead.

Dr. H. A. Hagan, 1879, Boston Society of Natural History stated about carpet beetles:

"In Europe the species is very common everywhere. There it likes to enter through the attic windows, and prefers to live on dead flies common in such places. Every woolen thing, collections of objects of natural history, plants, insects, birds, rawhides, hair, furs, and similar things are quickly destroyed."

Farmer's Review in 1879 stated about Carpet beetles:

"Boiling hot water, which I recommend first, is much less objectionable than either kerosene or benzene, and will certainly prove as effectual. All methods of destruction must, however, from the tenacity of life possessed by the insect, prove annoying and troublesome. Hence the importance of prevention."

FlashPoint.

The first *Flashpoint* discussed in Issue 76, Fall 2006 was how the issue of food safety became a *Flashpoint* for our industry. The consumption of meat after *The Jungle* was published, dropped 50% and helped create the federal food purity laws.

Flashpoint #3

Silent Spring
by Rachel Carson, 1962



Interview with
Dr. John Osmun,
professor emeritus,
Purdue University

What did people say in 1962 about *Silent Spring* and Rachel Carson?

“The book, *Silent Spring* was a shocker. Initially, many of us were very negative about it, yet later we came to respect it. We really owe Rachael Carson a big debt of gratitude.”

“What happened when we heard about *Silent Spring* is typical of what happened across the country. Many of the people that were involved with pesticides had just come from experiencing first hand the wonders of DDT and what it and other insecticides did to help mankind. By-in-large many of us who had worked with pesticides had only focused on the benefits of these new classes of chemicals. *Silent Spring*, when it was published in three parts in the *New Yorker*, caught us off guard. Carson didn't seem to have the ability to present sound data and science and *Silent Spring* really represented her personal feelings. At the same time, she did get her points across.”

Regretfully we had not spent time, money, or thought on the consequences of excessive use or misuse of pesticides.

“We were carried away with the success of pesticides.”

“Our legislators were confused about this book and the questioning opinions of the scientific community. Many people began to rise up and released their energy and went forward with a crusade of challenging anything out of place in the environment. This was the beginning of the environmental movement in this country.”

“In the beginning, many people denied what was said in her writings. They vehemently denied the teachings in this book. As an example, a group out of Californian organized opposition to Rachel Carson's book and spoke against it. I can't think of any person in our department at Purdue who was positively moved by Rachel Carson. Most thought she was way off base. They thought this book was not written like a scientific paper; it was more like a novel.”

“Environmental science was a new concept and courses and studies in this field scarcely existed in 1962. They now are available at most universities. One of the earliest things that I remember about research in this field is that Dr. Leland Chandler at Purdue did some early work with insects found in water and he used them as indicators of pollution in water discharged into the Wabash River. He used these insects as bio-indicators.”

“The changes resulting from this book were not immediate. It took several years before any serious funding was available to pursue the type of research needed to explore contaminates in our environment, including those in addition to pesticides. However, funding did come and perhaps there should be a statue of Rachael Carson placed in front of entomology departments because of the increased research support that grew out of her now famous book, *Silent Spring*.”

—Dr. J.V. Osmun

Silent Spring

by Rachel Carson, 1962



Before there was an environmental movement, there was Rachel Carson who focused attention on the effects of DDT on birds.

Some people have strong beliefs and causes. Those beliefs are often challenged and the one that sounds the alarm is often persecuted. History washes away the ignorance and time honors those who are daring enough to step up and challenge the system and make it better for future generations. Fifty years ago Rachel Carson sat down with strong passion and mixed knowledge and background to write the first of a series of magazine articles about birds, indiscriminate use of pesticides, and the environment. The book *Silent Spring* is the “stake in the ground” where new environmentalism began. She inspired a generation of activists. Some of the things Rachel Carson said in her book have been proven incorrect. Much of what she said was true. The effect of her book was a movement in which people began to think and talk about the destruction that man was causing with the unbridled use of synthetic chemicals. Her love for birds led her to the conclusions she shouts in her book.

The naturalist Louis Halle described Carson as “A shy, quiet,

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Flashpoint.

(Continued from page 3)

defiant, neat, proper lady without affection.” She had a mischievous streak, a tart tongue and confidence in her own literary worth.

Success permitted Carson to retire from her government job in 1952 to write full time. She bought land and built a cottage on the Sheepscot River on the West Coast of Maine. Her new celebrity also gave her the opportunity to speak out on concerns about which she felt strongly. As early as 1945, Carson had become alarmed by government abuse of new chemical pesticides such as DDT, in particular the “predator” and pest control programs, which were broadcasting poisons with little regard for the welfare of other creatures. She tried to submit an article to *Reader’s Digest* about the effects of DDT but the *Digest* was not interested in this grim story. In the meantime, other chlorinated hydrocarbons like dieldrin, parathion, heptachlor, methoxychlor, malathion and other powerful insecticides were being promoted by the Department of Agriculture for public use and commercial manufacture.

“The more I learned about the use of insecticides, the more appalled I became,” Carson recalled. “I realized that here was the material for a book. What I discovered was that everything which meant most to me as a naturalist was being threatened, and that nothing I could do would be more important.” With her fame and eloquence and reputation for precision, Carson could count on the support of leading scientists and conservation organizations, and was well positioned to write her next book.

Silent Spring, serialized in the *New Yorker* in June 1962, gored corporate oxen all over the country. Carson was violently assailed by threats of lawsuits and sugges-

tions that the meticulous scientist was a “hysterical woman” unqualified to write such a book. A huge counterattack was organized and led by Monsanto, Velsicol, American Cyanamid and indeed the whole chemical industry—duly supported by the U.S. Agriculture Department. *Time* magazine reported: “oversimplifications and downright errors...Many of the scary generalizations—and there are lots of them—are patently unsound.”

This controversy only increased public awareness. *Silent Spring* became a runaway best seller, with international reverberations.

Carson was not a born crusader but an intelligent and dedicated woman who rose heroically to the

occasion. She was rightly confident about her facts as well as her ability to present them. Secure in the approval of her peers, she remained remarkably serene in the face of her accusers.

In a letter to a friend Carson wrote, “I have felt bound by a solemn obligation to do what I could—if I didn’t at least try I could never be happy again in nature. But now I can believe that I have at least helped a little. It would be unrealistic to believe one book could bring a complete change.”

Two years after *Silent Spring* shocked the world, Rachel Carson died of cancer at the age of 56.

Source: Peter Matthiessen



Excerpts from *Silent Spring*

by Rachel Carson

“The “control of nature” is a phrase conceived in arrogance, born of the Neanderthal age of biology and philosophy, when it was supposed that nature exists for the convenience of man. The concepts and practices of applied entomology for the most part date from the Stone Age of science. It is our alarming misfortune that so primitive a science has armed itself with the most modern and terrible weapons, and that in turning them against the insects it has also turned them against the earth.”

“Only within the moment of time represented by the present century has one species—man—acquired significant power to alter the nature of his world. During the past quarter century this power has not only increased to one of disturbing magnitude but it has changed in character. The most alarming of all man’s assaults upon the environment is the contamination of air, earth, rivers, and seas with dangerous and even lethal materials.”

“It is the public that is being asked to assume the risks that the insect controllers calculate. The public must decide whether it wishes to continue on the present road, and it can do so only when in full possession of the facts. On the words of Jean Rostand, “The obligation to endure gives us the right to know.”

“We are rightly appalled by the genetic effects of radiation, how then, can we be indifferent to the same effect in chemicals that we disseminate widely in our environment?”

“As crude a weapon as the cave man’s club, the chemical barrage has been hurled against the fabric of life—a fabric on the one hand delicate and destructible, on the other miraculously tough and resilient, and capable of striking back in unexpected ways. These extraordinary capacities of life have been ignored by the practitioners of chemical control who have brought to their task no “high-minded orientation,” no humility before the vast forces with which they tamper.”

Rachel Carson, *Silent Spring*, 1962.

Strengthening our Museum Ties

Preserving Our History



Pat Kelley

Pat Kelley of Insects Limited recently traveled to New York City to participate in the 3rd meeting of the IPM Working Group for museums held at the American Museum of Natural History. The group is comprised of conservators, museum collection managers

and museum consultants that are interested in providing resources and educational tools regarding pest management issues in museums and historic settings. The group's main focus during this formative time is the creation of a website (museumpests.net) that will be the cornerstone of this idea exchange. Kelley says, "It's exciting to be a part of this collaboration that combines the knowledge of so many talented people in the area of museum pests."

Meet Victoria



Have you ever been able to speak with someone on the phone and been able to tell that they have a smile on their face or that they are having fun

doing whatever it is that they are doing? If this has happened when you call a business where someone is working, it is rare. However, if you have ever spoken with Victoria 'Vic' Meerhoff at ext. 20, you get this impression.

If you have ever placed an order with us, had a question about a shipment, or wanted additional information on a product, you have more than likely spoken with Victoria. In addition to the responsibilities of manager of shipping and handling, Victoria is in charge of purchasing, inventory, international export documentation/shipping, gathering supplies for fumigation services, and putting smiles on everyone's faces at FSS and IL.

This all sounds like a tough job but Victoria has experience in logistics that started with a supervisor's job in a warehouse for Atlantic Records that housed 45 million CD's and moved many packages in and out everyday. Then she worked as a supervisor at Emery Worldwide where making sure many packages were delivered by air and ground...on time.

Victoria is married to Don and has two girls: Shelby and Bailey. Victoria is very involved in activities with her daughters including soccer and Girl Scouts.

So, the next time that you call us to place an order, need the status of a shipment, have an inquiry about a product, ask for Victoria and she will give you something for free that is sometimes rare these days...a smile!

— *Kalah Stocker*

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No
Weevil.**



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Integrated Pest Management System



*Dr. Zurab Lodadze
IPM Expert,
Tbilisi, Georgia*

In developing countries you must be resourceful. Integrated Pest Management is a luxury in most countries, but for Dr. Zurab Lodadze, entomologist, in the former Soviet country of Georgia, it is essential.

Georgia is a country in transition. It has witnessed the best and worst of a 200 year occupation of Russia, including 75 years under strict Soviet rule. Joseph Stalin was born in Gori, Georgia and he is still recognized in parts of this country of 5 million people located on the Black Sea located between Turkey and Russia.

Georgia is also the bread basket of Eastern Europe. They grow wheat and mill that wheat in large flour mills built in the 1970's by the Soviet government to supply flour to the Soviet Union. Bread is a staple in this part of the world.

These four large flour mills and four medium sized flour mills have had little upgrading in the past 40 years. Insect control is mostly achieved with cleaning by a large staff of people that sweep the mills everyday. The second way to control pests is with spraying contact insecticides and one fumigation per year with methyl bromide or phosphine. Georgia has committed to a phaseout of MB by 2010. But the last piece of the pest control puzzle is in a monitoring program that allows for decisions to be made based on the biology of the pest insects.

Monitoring Insects with Temperature

Insects are cold blooded. They can not regulate their tempera-

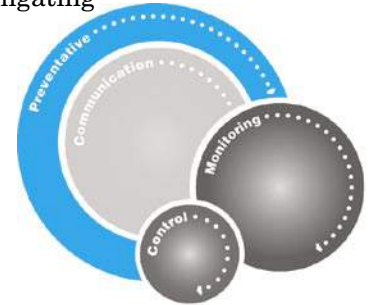
ture like humans do. Insects are inactive and non-reproductive at temperatures below 53-65° F (10-15° C). With this knowledge, Dr. Zurab Lodadze set out to find a way to monitor for insect activity and direct a control program based on the biology of the pest.

Twice a month Dr. Lodadze and his colleagues would visit the flour mill and take over 75 temperature readings at set positions in the flour mill. They would record this temperature and look at a profile of the entire flour mill floor by floor and section by section.

It is interesting to note how the temperatures warm up first in the upper floors first. This is where cleaning and hygiene can be prioritized. Spraying and fogging programs can be made only to those areas showing temperatures over 54° F (10° C). In March when the temperatures in the upper 1/2 of the building get warm, this control strategy can shift to those floors warming up. When the entire building is hot in the summer time, (August), a general fumigation can be recommended if it is needed.

Steps of an integrated pest management program:

1. Monitoring temperature
2. Visual inspection
3. Cleaning
4. Spraying
5. Fogging
6. Fumigating



Summary: Prevention, Monitoring, Communication, and Control are the key ingredients in a pest management program that offers the best control while reducing the impact to the environment and a safety to the applicator or workers. Dr. Zurab Lodadze recognized that insects are cold blooded and their activity is directly proportional to the surrounding temperature. His IPM program started with the insect first and the understanding of temperature and biology and pinpointed the sections of the flour mill that needed prioritizing first.



This flour mill's infrastructure may have needed updating but its pest management program was very modern.

Temperature in Celcius (C)

					31	29	31					
					31	30	29					
					30	29	28					
9												
8												
7												
6	12	12	13	12	13	14	12	14	15	14	15	
5	13	12	14	11	12	11	11	12	13	12	14	
4	13	13	12	11	12	11	10	11	12	13	12	
3	14	13	12	11	12	13	12	11	10	12	13	
2	13	12	13	10	10	11	12	10	12	11	12	
1	12	11	12	9	10	9	12	12	13	11	12	
		4	5	6	7	1	2	3	8	9	10	11
		Sections										

Regular temperature monitoring of a building is used to direct a integrated pest management program in this flour mill in Tbilisi, Georgia.

Quotable Quotes

In testimony before a House committee, EPA Acting Assistant Administrator William Wehrum said that the "EPA has made the registration of alternatives to methyl bromide its highest registration priority" so that it can eliminate the ozone-depleting chemical. Wehrum said it is the EPA's responsibility "to help identify, register and implement safe and effective alternatives."

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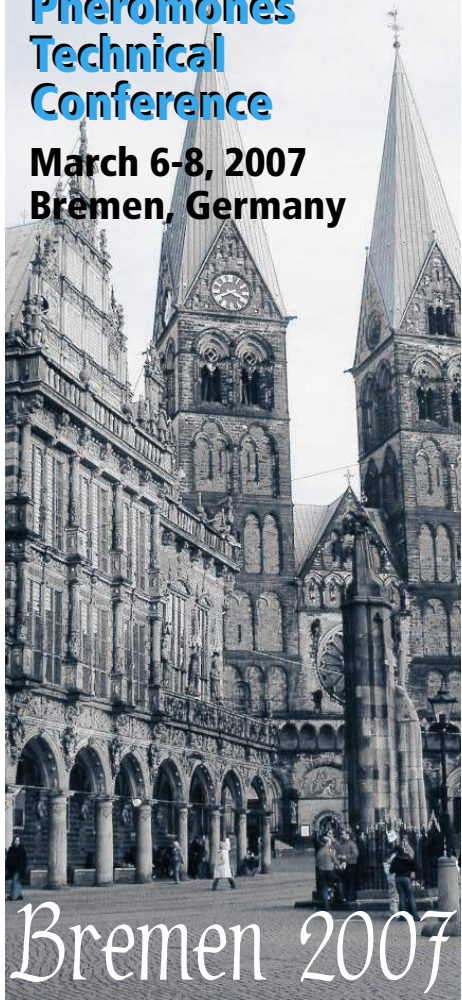


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New Lure Captures Male & Female Food Moths

8th Fumigants & Pheromones Technical Conference

March 6-8, 2007
Bremen, Germany



Bremen, Germany—Pest Managers from over 25 countries will gather in Bremen, Germany on March 6-8, 2007 to not only learn about advances in stored product protection but share their experiences. Poster displays with commercial and research topics will be available throughout the conference. Speakers will present new, practical and innovative technique to protect stored products from insects and mites regarding the topics of:

- New developments in fumigation
- Pheromones for stored product protection
- Phosphine fumigants in grain storage
- Hygiene and IPM for large and small companies
- Methyl Bromide alternatives
- ISPM-15 wood treatments
- Storage mites
- Sulfuryl Fluoride Advancements in Europe and North America
- Phosphine Generator
- Heat Treatment
- Phosphine Resistance
- Food Allergies
- The Cost of IPM
- Fumigation Panel from Eastern and Central Europe

Day 3: Touring Workshop
• Visit the Hamburg and Bremen Harbors

Insects Limited and Fumigation Service & Supply of Indianapolis, along with B M Consultants of Hude, Germany are the organizers of this international meeting where “*Sharing Through Education*” is the theme. Information about this conference and workshop can be obtained by accessing the Web site www.insectslimited.com or contact insectsltd@aol.com or 317/896-9300.

This international educational series started in 1993 in Lübeck, Germany, and continued to Bologna, Chicago, York, Indianapolis, Thessaloniki, Copenhagen and most recently Monterrey. More than 1,500 people from 44 countries have attended these conferences. “I am looking forward to gathering—once again—with this unique group of like minded people to discuss stored product protection” said organizer David Mueller.



Famous windmill in Downtown Bremen.

THE 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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