PENNSTATE 1855

Pennsylvania

PESTICIDE HIGHLIGHTS

For Private Pesticide Applicators November 1998

Dennis Culley Named Outstanding Inspector of the Year

Dennis Culley became the fourth Pennsylvanian honored by EPA as the Outstanding Inspector of the Year. This award represents EPA's highest honor an Inspector can receive. EPA Region 3 presents the award each year to a state inspector who has been nominated for "work above and beyond" in service to the citizens and protection of the environment. This year each of the states in EPA Region 3 (Delaware, Maryland, Virginia, West Virginia, and the District of Columbia) had nominated an inspector. Dennis received the award while attending the Inspector Workshop held in October at Canaan Valley, West Virginia.

Dennis has served the Department and the citizens of Pennsylvania for twenty-two years. Working from PDA's Region IV office in Gibsonia, Dennis has worked on and developed many of the programs that benefit all of us. The CHEMSWEEP pesticide collections were expanded to homeowners largely due to his efforts. Dennis organized, promoted, developed educational handouts, and provided leadership to ensure that the expansion of this program would be a success.

Over the years, Dennis instituted evening testing and training sessions for applicators with day jobs and developed aids for pesticide dealers and others to enable compliance with the law. Dennis has shown the dedication and willingness to serve the people for which he works. His efforts have earned him the respect of his colleagues and those he works with in the private sector.

We thank Dennis for all he has done, and will continue to do, and congratulate him on this award.

In This Issue

Information to Cut Out and Post

The box on the left has information about finding pesticide update recertification information. The box on the right contains the main telephone number of the Division of Health and Safety (pesticides), Bureau of Plant Industry, Pennsylvania Department of Agriculture. The extensions were established to improve their service to you at the Harrisburg office. Most questions or problems can still be answered by a local Inspector at your Regional Office. However, if you need to reach the main office, please use the new telephone number and extensions listed below.

Recertification Meeting Info

FAX Back System:
814-865-1636

Toll Free Telephone Number:
1-800-PennIPM (or 736-6476)
(Only available from October through March)

Web Page:
http://www.pested.psu.edu/frame.html

PDA Division of Health and Safety

(717) 772-5231

Extension	Area
0	Operator
1	Employee Directory
2	Business/Applicator Licensing
3	Enforcement/Pesticide Complaints
4	Pesticide Product Registration
9	Repeat Options

Plastic Pesticide Container Recycling Program

In 1998, the Pennsylvania Department of Agriculture (PDA) collected 32,810 plastic pesticide containers for recycling. Containers were collected from 54 sites in 23 counties (Table 1). Plastic containers are collected for recycling from private and commercial applicators in an effort to prevent groundwater or air contamination from burying or burning used containers. Recycling also reduces the use of petroleum products used in making plastics.

Applicators prepared containers for processing by triple rinsing all pesticide residues from the inside and outside of each container after use, removing all labels and plastic sleeves, and discarding caps. The processing (known as granulating) was performed by USAgRecycling of Pasadena, Texas. Containers were ground into small chips (granules), bagged, and later melted down to produce fence posts, pallets, and new pesticide containers.

Many agri-businesses and agricultural chemical suppliers (Table 2) participated in the recycling program by serving as collection sites and, in some cases, providing space for storage trailers. Their cooperation was vital to the program's success in 1998. We congratulate them on their responsible and cooperative attitude towards recycling. THANK YOU!

For more information on this program, contact the PDA at (717) 772-5210, your regional PDA office, or the Penn State Cooperative Extension office in your county.

Table 1. Number of Containers Collected by County (on site).

County	# Containers	County	# Containers
Adams	6,594	Lebanon	487
Berks	1,482	Lehigh	78
Blair	338	Lycoming	401
Centre	1,936	Mifflin	1,343
Columbia	407	Northampton	235
Cumberland	1,611	Northumberland	2,681
Dauphin	610	Perry	520
Franklin	3,986	Schuylkill	29
Huntingdon	69	Snyder	367
Juniata	506	Union	1,376
Lackawanna	20	York	1,540
Lancaster	2,842		
On-site collections (above total)			29,458
Additional off-site collections			3,352
Overall 1998 Total Collection			32,810

Written by: Roger Coup, Pennsylvania Department of Agriculture

Table 2. Cooperating Businesses in the 1998 Plastic Pesticide Container Recycling Program.

Adams County Nursery (Aspers)	G&G Distributors (Manheim)	Little Britain Agri Supply (Quarryville)
Ag. Com, Inc. (Gettysburg)	George Seiple & Son (Easton)	Martin's Ag Service (New Holland)
AG Resources, Inc. (Turbotville)	Gideon King (White Horse)	Martin's Feed & Fertilizer (Coburn)
Agway (Curryville, Leesport, Mill Hill Pleasant Gap, Winfield)	Helena Chemical (Arendtsvillle, Mifflinville, Shrewsbury, Warriors Mark)	Moyer & Son (Honey Brook, Reading)
Agronomy Center (Thompsontown)	Henninger's Mill (Berrysburg)	N.O. Bonsall & Sons (Millerstown)
Agronomy Inc. (Mercersburg)	Henry Hoover, Inc. (Ephrata)	PA Department of Agriculture (Harrisburg)
Andgrow/Agway (Carlisle, Culbertson, East Berlin, Newville)	Hostetter's Inc. (Hanover)	Reading Bone/Agway (Bangor, Coplay)
Annlick Farm Supply, Inc. (Port Royal)	Ivan Lauver & Sons (Mount Pleasant Mills)	Red Lion Grain Service (Red Lion)
Anthony's Mill (Strausstown)	Jim Patches (Lebanon)	Rohrbach's Farm Market (Catawissa)
Ben Landis (Strasburg)	Jarzinko's Mill & Hardware (Ringtown)	Service Feed & Supply (Delta)
Chester Horst (Zullinger/Shady Grove)	Kepner Farm Supply (Muncy)	Snyder's Mill (Greenbriar)
Codorus Fertilizer Service (Jefferson)	Kreamer Feed Store (Kreamer)	Union Mill (Belleville)
CV Coop. (Shippensburg)	LECSO, Inc. (Lancaster, Mechanicsburg, Moosic)	Upper Dauphin Grain Center (Elizabethville)
		West Perry Farm Service (Blain)

Pesticide Enforcement and Compliance

Private applicators proceeded through calendar year 1998 with few infractions of the Pennsylvania Pesticide Control Act. When necessary, official enforcement actions are taken by the Pennsylvania Department of Agriculture for violations of the Act. During this calendar year, two fines were assessed against private applicators and one against a chemical dealer.

A $100.00 civil penalty was assessed to one individual for attempting to purchase a restricted use pesticide with an expired private applicator permit. The dealer involved in the illegal sale was fined $400.00. In addition, a private applicator has been assessed a $200.00 penalty for causing unwanted pesticide residues on his neighbor's property. In this case, a herbicide tank mix was being applied to a corn field and some of the mix drifted onto shade trees, which eventually caused significant plant injury. Samples collected and tested by the Department confirmed that the herbicide mix had moved off the target application site.

Another type of official enforcement action taken during this period were warning letters. Two warnings were sent to private applicators for causing low level drift incidents. One warning was issued to a grower for using an insecticide too close to waterfowl nesting areas (this pesticide has specific use directions in areas where waterfowl feed and nest). Another warning was sent to an individual for not keeping complete records of restricted use pesticide applications.

Written by: Joseph Uram, Pesticide Enforcement Specialist, Pennsylvania Department of Agriculture

Toxicity: What it is and Where to Find Additional Information

All pesticides must be toxic, or poisonous, to be effective against the pests they are intended to control. Because pesticides are toxic, they are also potentially hazardous to humans and animals. It is important for those who use pesticides or regularly come in contact with them to know the relative toxicity and the potential health effects of the products they use.

What is the Difference Between Toxicity and Risk?

Toxicity is a measure of the capacity of a pesticide to cause injury; it is a property of the chemical itself. The toxicity of a particular pesticide is determined by subjecting test animals (usually rats, mice, rabbits, and dogs) to different dosages of the active ingredient and to each of its formulated products. Hazard, or risk, on the other hand, is the potential for injury, or the degree of danger involved in using a pesticide under a given set of conditions. Hazard depends on the toxicity of he pesticide and the amount of exposure. An applicator has little or no control over the toxicity of a specific formulated product, but can minimize or eliminate exposure, thus reducing risk, by careful handling of the pesticide and by using personal protective clothing and equipment.

Any chemical can be poisonous or toxic if absorbed in excessive amounts. Pesticide injuries involving humans and animals occur when the chemical is absorbed by the body in excessive amounts. Pesticides can also cause skin or eye damage (topical effects) and can induce allergic responses.

Acute Toxicity and Acute Effects

The acute toxicity of a pesticide refers to the ability of the chemical to cause injury to a person or animal from a single exposure, generally of short duration. Acute toxicity is determined by at least three methods: (1) dermal toxicity is determined by exposing the skin to the chemical; (2) inhalation toxicity is determined by permitting test animals to breathe vapors of the chemical; and (3) oral toxicity is determined by feeding the chemical to test animals. The harmful effects that occur from a single exposure by any route of entry (dermal, inhalation, oral) are termed acute effects. In addition, the effect of the chemical as an irritant to the eyes and skin is examined under laboratory conditions.

Chronic Toxicity and Chronic Effects

Chronic toxicity is determined by subjecting test animals to long term exposure to a pesticide. The harmful effects that occur from small doses repeated over a period of time, usually years, are termed chronic effects. Some of the chronic effects found in test animals exposed to certain pesticides include birth defects (teratogenesis); toxicity to a fetus (fetotoxic effects); production of tumors (oncogenesis), either benign (noncancerous) or malignant (cancerous/carcinogenesis); genetic changes (mutagenesis); blood disorders (hemotoxic effects); nerve disorders (neurotoxic effects); and reproductive effects. Some pesticides are required to include chronic toxicity warning statements on the label. The chronic toxicity of a pesticide is more difficult to determine through laboratory analysis than the acute toxicity.

A major goal of EXTOXNET has been to develop unbiased information in a form understandable by the non-expert, and to make that information fully searchable and selectively retrievable.

Finding Information about Toxicity

The Extension Toxicology Network (EXTOXNET) contains a vast amount of information about toxicity, developed by toxicologists and chemists within the Extension Service from the following land-grant universities: University of California-Davis, Oregon State University, Michigan State University, Cornell University, and the University of Idaho.

The EXTOXNET InfoBase is accessible via the World Wide Web at http://ace.orst.edu/info/extoxnet/. A major goal of EXTOXNET has been to develop unbiased information in a form understandable by the non-expert, and to make that information fully searchable and selectively retrievable. Other goals are to stimulate dialog on toxicology issues; develop and make available information relevant to extension toxicology; and facilitate the exchange of toxicology-related information in electronic form.

EXTOXNET provides a variety of information about pesticides including: frequently asked questions, pesticide information profiles, toxicology information briefs, toxicology issues of concern, toxicology newsletters and fact sheets, news about toxicology issues, resources for toxicology information, and technical information.

Information taken from the Penn State Agrichemical Fact Sheet #7, *Toxicity and Potential Health Effects of Pesticides*, and from the EXTOXNET web site.

Happy Holiday Season

What Does the Food Quality Protection Act Mean For You?

The Food Quality Protection Act of 1996 (FQPA) has been in place for over two years now. In that time, the Environmental Protection Agency (EPA) has been working very hard to implement this law. They have the enormous task of reviewing over 9,700 existing tolerances (maximum legally permissible levels of pesticide residue allowed in or on raw agricultural produce and processed foods) by the year 2006. The EPA will give priority to the pesticides that pose the greatest risk to public health: organophosphates, carbamates, and probable human carcinogens (B-1 and B-2 pesticides).

Is this law going to affect you and if so, how can you provide input into the process?

> The new risk management process may decrease the number of pesticide choices available to treat pests, which, in turn, may affect your ability to control some pests.

The New Risk Management Process

The FQPA changes the EPA's risk assessment process. The new process may decrease the number of pesticide choices available to treat pests, which in turn may affect your ability to control some pests. In the past, the EPA examined each pesticide separately, one crop or one use at a time. However, the new risk management process is more stringent and more complex and has three distinct aspects. First, the EPA will consider the aggregate human exposure to pesticides through all possible sources. Aggregate exposure includes any pesticide exposure through the diet as well as exposure through non-dietary sources, such as drinking water; home, garden, and recreational use; and pet care.

Examining *groups* of pesticides based on a common mechanism of toxicity or common mode of action is a second aspect of EPA's new risk management process. This means that pesticides that act in a similar way in the human body will be considered together as a group. For example, the risk assessment will not just consider Pesticide #1, but will consider Pesticide #1, Pesticide #2, and Pesticide #3 together since they have a common mode of action. The last aspect of the risk management process concerns a safety factor for infants and children. As was done previously, EPA continues using the 100X safety factor to ensure that any detectable pesticide residue is safe for adults. Now, the FQPA requires the EPA to add an additional 10X safety factor to ensure a safe risk level for infants and children. However, this additional 10X safety factor can be reduced or removed if available data indicates that this factor is not necessary to protect infants and children.

The Risk Cup

The EPA uses a "risk cup" concept to help explain how tolerances will be reassessed. Suppose you have a cup, which can only hold a finite amount of material. Under the FQPA, the risk cup will contain the aggregate exposures of all the pesticides with a common mode of action. Under the old process of setting tolerances, risk cups were not used since each pesticide and its dietary exposure were considered independently. To address the special sensitivity of infants and children, the size of the risk cup will be reduced tenfold. In other words, the size of the risk cup will become one-tenth the size used for adults, unless the EPA has data indicating that it can be reduced or removed. Under this scenario, the risk cup becomes crowded and may even overflow.

When the Risk Cup Overflows

The risk cup overflows when there are too many different pesticide residues to fit in the cup. When this happens, the exposures or risks must be reduced to an acceptable level. This can be done in two ways. One is to remove some, or all, of the pesticide compounds entirely from the market. The second way to reduce the risk to an acceptable level is to restrict or delete one or more uses of at least one specific pesticide in the *group* of pesticides being considered. For example, most if not all of the organophosphates will have to fit into the same risk cup since these compounds have a similar mode of action, and many agree that the organophosphate risk cup will be overflowing. Some organophosphate compounds may be eliminated, while for other organophosphate compounds certain uses may be discontinued. For these reasons, your pest control choices may be reduced, and the new law may affect your ability to control some pests.

What Can You Do?

Although the FQPA will change the way we manage pests, you can still become a part of the process. First, you need information on how the FQPA could affect you. Many information sources are available from pesticide education programs, pesticide impact assessment programs, and IPM programs at land-grant universities; state and federal government agencies; and chemical manufacturers, trade associations, and commodity groups. Second, you need to provide as much information as you can to the people who make decisions and those who will influence them. Here are some examples: complete national and state Agricultural Statistics Service surveys and university surveys; cooperate with or take an active role in trade associations and commodity groups; and contact your state and federal legislative representatives.

Written by: Sharon Gripp, Publications Specialist, and Bill Hoffman, Senior Extension Associate, Pesticide Education Program

Word To the Wise: Urban Initiative

During the past three years major pesticide misuse problems have surfaced in the United States particularly the use of farm labeled outdoor pesticides being used indoors for pest control work.

The Environmental Protection Agency (EPA) has spent nearly 100 million dollars to clean up and decontaminate thousands of homes and businesses from Mississippi to Ohio. The pesticide misused the most in these cases was Methyl Parathion, which is a highly toxic pesticide used widely in the cotton industry but is also used on fruits, vegetables, and row crops. With an LD50 value of 6, Methyl Parathion has a skull and crossbones on its label.

Most recently, Robert E. Kelly, Jr., operator of Kelly Spraying Service in Memphis, was convicted by a jury in U.S. District Court in Memphis on October 5, 1998, on 20 counts of violating the Federal Insecticide, Fungicide and Rodenticide Act. Kelly illegally applied the pesticide Methyl Parathion to homes in the Memphis area. The current cost of testing individuals, homes, and business for Methyl Parathion poisoning and the cost of relocating families in this case has exceeded $2 million. When sentenced, Kelly faces a maximum potential prison term of over 10 years. The EPA's Criminal Investigation Division, the FBI, and the Tennessee Department of Agriculture investigated the case.

Nationally, six deaths have been linked to illegal applications of Methyl Parathion, and hundreds of others have become ill from the applications made in their homes. Six thousand people were evacuated from their homes because of high residue levels inside their homes. These levels after a year of application were, in some cases, 60 times the levels found in a recently sprayed field. Methyl Parathion does not break down very well indoors.

The EPA has arrested twenty-three people and several have been convicted. They are now serving time in federal prisons for making these applications. The PA Department of Agriculture (PDA) is actively looking for any indications that this problem might exist in this state.

Applicators must be very careful to apply products only where labeling permits. Application of an outdoor product inside a barn, residence, or daycare could cause long-term health and residue problems. If anyone attempts to purchase these agricultural chemical products from you, quickly report it to the PDA. Pesticides are valuable tools to agriculture. EPA could cancel the product registration if misuse continues.

Promotions Move Two Inspectors to Harrisburg

Phil Pitzer and Dave Scott recently received promotions that will move them into the Pennsylvania Department of Agriculture's headquarters in Harrisburg. Both are from the Department's Region VI office in Summerdale.

Phil replaced David Bingaman, as the Specialist for Environmental and Safety Programs. Phil's experience in the fruit industry will serve him well as he deals with the Worker Protection Standard, endangered species, groundwater, CHEMSWEEP, container recycling, and Agromedicine in Harrisburg. He has been involved with these programs while serving as an Agronomic Products Inspector for the past five years.

Dave's new position as the Pesticide Certification and Education Specialist will replace John Tacelosky, who is now the Chief of the Division of Health and Safety. Dave has been with the Department for twenty years, with the last nine as an Agronomic Products Inspector. Dave's new duties include development and maintenance of pesticide certification exams; review of study materials; development of update training materials; and issuance of pesticide certifications, and business and dealer licenses.

Both Phil and Dave are looking forward to their new responsibilities and to serve the agriculture and pesticide industries of the Commonwealth.

Secretary Hayes Announces 1999 CHEMSWEEP Program

On October 30, 1998, State Agriculture Secretary Samuel E. Hayes, Jr. announced the counties eligible for next year's CHEMSWEEP, a disposal program that helps farm managers, agribusinesses, and homeowners discard of unwanted pesticides. Hayes made the announcement at Strite's Orchard, where the 1998 program recently ended.

Hayes announced that **Armstrong**, **Berks**, **Blair**, **Bradford**, **Cambria**, **Chester**, **Crawford**, **Erie**, **Indiana**, **Juniata**, **Luzerne**, **Montgomery**, **Perry**, **Susquehanna**, and **York** counties have been selected for collections in late Summer or early Fall 1999. Farm managers, Christmas tree growers, mushroom producers, nurserymen, and other commercial enterprises are eligible to participate.

Applications for participation in the program will be mailed to most farm managers and agribusinesses in the participating counties in early November, and also will be available from Penn State County Extension Offices and the Pennsylvania Department of Agriculture.

The Department will also schedule and operate household collection sites in several of the counties selected. The household collection program started in 1997 and within the last two years over 21,000 pounds of household products were collected (Table 1). Household collection drop-off sites will be operated by Department personnel during late Summer or early Fall of 1999.

Before CHEMSWEEP, which began as a pilot project in six counties in 1991, farm managers and agribusinesses had no cost-effective way to properly dispose of unwanted, cancelled, suspended, or unusable pesticides. Since storage of these products was the only safe and legal option prior to disposal, growers have stored these waste pesticides, often for many years. Products that were altered in formulation due to age and storage conditions and are no

(See **CHEMSWEEP** on page 6)

How to Access the Internet and its Resources

Everyone has heard the terms: the Internet, the Web, and the Information Superhighway. You have probably even seen web site addresses in magazines, and on television. Your kids, nieces, and nephews are even getting access to the Internet at school. However, like many adults, you may not even know how to turn on a computer, or if you do have a computer, you may not have used or have access to the Internet. We want to help you take that first step to becoming computer literate and learning how to check out the web.

Many places have computers with Internet access that you can use. Try the following places: public libraries, a local college or university usually have public computer labs, malls, and other computer-oriented outlets. Next, you have to find someone to show you what to do. If you have kids in school, they probably know what to do. Make them a deal, if they get you on the Internet, you will take them to lunch or do something special for them. If that does not work, ask your spouse, a brother or sister, or even your nieces or nephews to go with you the first time. If you still cannot find someone to show you how to get started, some places have people working who are available to help you.

Once you are connected to the Internet, try some of these web site addresses or links:

- ✓ **PSU Pesticide Education Program** at: http://www.pested.psu.edu/
- ✓ **Pennsylvania Department of Agriculture** at: http://www.state.pa.us/PA_Exec/Agriculture/index.htm
- ✓ **Bureau of Plant Industry**, Pa. Dept. of Ag. at: http://www.state.pa.us/PA_Exec/Agriculture/plant_industry.htm
- ✓ **National Pesticide Telecommunications Network** at: http://ace.orst.edu/info/nptn/
- ✓ **Virginia Tech's Pesticide Site Locator** at: http://www.vtpp.ext.vt.edu:8080/catlist.html

You should find out that using a computer is not that scary and once you know how to access the Internet, you can find more information than you ever thought possible.

(**CHEMSWEEP**, continued from page 5)
longer effective for pest control constitute a major portion of the pesticides collected in CHEMSWEEP.

An independent contractor, hired by the Department of Agriculture, collects, handles, and transports all waste pesticides out of the state, primarily for incineration in EPA approved facilities. Through the first seven years of the program, over 834,000 pounds of waste pesticides were collected from nearly 3,000 participants (Table 2). The collection program is funded through the annual pesticide product registration fees, paid by chemical manufacturers. There is no cost to participants or taxpayers.

For a copy of CHEMSWEEP application forms please contact your Penn State county extension office or regional office of the Pennsylvania Department of Agriculture.

Written by: John Pari, Geologist, Pennsylvania Department of Agriculture

Table 1. Household Waste Pesticide Collections

	# of Sites	Weight
1997	8	7,304
1998	11	14,316
TOTALS	**19**	**21,620**

Table 2. CHEMSWEEP Collection Summary

	Participating Counties	Number of Participants	Total Weight Collected (lbs)
1993	6	179	29,700
1994	7	380	60,133
1995	9	345	82,084
Spring 1996	10	575	211,362
Fall 1996	11	405	88,931
1997	13	421	174,048
1998	11+9*	657	188,110
TOTALS	**67+9***	**2,962**	**834,368**

* Nine counties had a second round of collections

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Pesticide Education Program
College of Agricultural Sciences
The Pennsylvania State University
University Park, PA 16802-4506
Phone (814) 863-0263

PA Department of Agriculture
Bureau of Plant Industry
2301 N. Cameron Street
Harrisburg, PA 17110-9408
Phone (717) 787-4843

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