



Pennsylvania

PESTICIDE HIGHLIGHTS

For Private Pesticide Applicators

November 1999

First Fee Increase in Twenty-One Years Proposed for Private Applicators

The PA Department of Agriculture placed before the Pesticide Advisory Board a proposal to adjust fees charged for pesticide related licenses and product registrations. Many of the fees have remained unchanged since the Pennsylvania Pesticide Control Act was passed in 1973. The last fee adjustment was nearly ten years ago but the private pesticide certification has remained at ten dollars for a three-year license since 1978, according to John Tacelosky, Chief of the Division of Health and Safety at the Department.

Over the past several years, the Department has responded to requests to provide increased services to citizens of the Commonwealth in addition to increases in operating expenses. The Department must administer the pesticide program from three funding sources: fees from program licenses, pesticide product registrations, and EPA grants. No funding is received from tax dollars or the general fund. The monies received from these sources are

used to fund the operational costs of the following pesticide programs: **CHEMSWEEP:** Collecting and disposing of 861,000 pounds of pesticides. **Container Recycling:** Collecting 175,000 pesticide containers. **State Management Plans:** Monitoring and testing of 125 different ground water wells per year. **Penn State University's Pesticide Education Program:** Providing educational materials for pesticide users. **PA Pesticide Urban Initiative:** Providing educational information to the consumer on the safe use, storage, application, and disposal of pesticides, and informing them of the need to hire only licensed pesticide applicators. Further, the Initiative addresses the critical issue of the misuse of agricultural pesticides in urban dwellings and businesses. This type of misuse of agricultural pesticides has been documented in numerous other states impacting the availability and registration of some products.

(See Fees on page 6)

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A Successful Program to Get Even Better

The Plastic Pesticide Container Recycling Program sponsored by the Pennsylvania Department of Agriculture experienced great success in 1999. The total number of containers and total tons of plastic collected increased dramatically over previous years.

However, next year the Department will initiate a totally new approach to the recycling project. This past summer, the Department acquired 119 military surplus shelters for use as temporary on-site storage for plastic pesticide containers. These units were cleaned and are now being placed at pesticide dealers and distributors, commercial applicators, and other collection sites across the Commonwealth.

Plans for the upcoming year include the purchase of a flatbed truck, to transport our own granulator, and a pickup

truck support vehicle. The granulator truck will visit the locations where the on-site storage containers have been placed and granulate the collected pesticide containers on-site. You may deliver your **cleaned** triple rinsed or power rinsed pesticide containers to these storage locations at times convenient to both you and the facility manager. Local collections will not be scheduled as in previous years.

If the Plastic Pesticide Container Recycling Program is not currently available in your area, contact your chemical supplier and encourage them to participate.

For more information or to request a list of collection locations, contact Phil Pitzer at (717) 772-5206 or Don Gilbert at (717) 705-5858 or visit the web page at <http://www.pested.psu.edu/pdaprofr.html>

The PA Pesticide Urban Initiative—Implications for Private Applicators

All pesticide users in Pennsylvania must use pesticides in a manner consistent with their labeling. Selling or giving any restricted use pesticide product to a non-certified friend or neighbor is illegal. Uses in and around the home, on the lawn, or in the garden are permitted ONLY if these uses are specifically spelled out on the label.

The misuse of agricultural pesticides has been well documented. A prime example of misuse involves methyl

parathion, an organophosphate pesticide, which is labeled for outdoor agricultural use only. This pesticide has been applied illegally in urban structures for control of cockroaches and other vermin in several states. The primary motivating factor for this misuse was money and greed. The safety of those individuals whose homes were affected was NOT an issue. The violators paid a

substantial monetary fine, lost their license (if they even had one), and some were even imprisoned.

In another case, pesticidal chalk found its way into the urban setting. The chalk is imported illegally from Mainland China and usually contains one of the following

active ingredients: cypermethrin, deltamethrin, and/or resmethrin. The implications for the use of this “chalk” especially by children are quite evident.

Remember: THE LABEL IS THE LAW!

The idea of being a good neighbor should consist of informing others about the safe use, transportation, storage, and disposal of pesticides.

Written by: Tom Oyler, Jr., PA Pesticide Urban Initiative Program Director, Penn State Pesticide Education Program, Web Site: <http://urbanpested.cas.psu.edu/>

Williamsport DEP Reports Pesticide Dumping

The Department of Environmental Protection’s Williamsport office reported the discovery of thirteen containers totaling twenty gallons of agricultural pesticides in state forestlands. The containers had been carefully placed on a board along a state forest access road. The Department of Agriculture was subsequently notified and action has been taken to include the pesticides in the CHEMSWEEP Disposal Program.

The big question is WHY? Why would someone risk a

fine for unlawful dumping of hazardous materials? Why risk polluting the environment? Why risk tarnishing the reputation of the agricultural community? A telephone call to the nearest Department of Agriculture Regional Office could have gotten the pesticides removed responsibly at no cost. For more information see the CHEMSWEEP article on page 3 or contact your PDA regional office or county extension agent.

Worker Protection Standard (WPS) Enforcement Issues

The Pennsylvania Department of Agriculture has now initiated a different approach to WPS enforcement. Over the last three years, the Department has been active in compliance assistance activities. This meant that inspections were conducted at farms, nurseries, and greenhouses to inform the growers of the ways in which they needed to adjust or change their operations to comply with WPS and make conditions safer for their workers. Thousands of “How To Comply” manuals were purchased by the Department and distributed to various growers. The goal of WPS is to provide a safer and healthier work place for farm workers, in turn providing a more productive work force for the farms of the nation.

During past compliance assistance inspections, some of the more commonly encountered problems were:

- ❖ Improper or incomplete emergency information at the Central Location.
- ❖ Not posting all required pesticide application information at the Central Location.
- ❖ Failing to post pesticide applications for 30 days following the restricted-entry interval.
- ❖ Failure to provide an adequate amount of eye wash water at decontamination sites.

- ❖ Failure to provide a clean area for storage of Personal Protective Equipment (PPE).
- ❖ Posting of treated sites did not always occur.

The Department of Agriculture will now begin “monitoring inspections” to determine compliance with federal WPS requirements as part of our EPA grant funding agreement. The monitoring inspections will be conducted not only during WPS complaint investigations, but also could occur during routine private applicator record inspections and agricultural use observations on farms, nurseries, and greenhouses.

As a result appropriate enforcement action could be taken for all violations of the WPS identified by the Department during inspections or investigations. Enforcement actions will range from compliance letters to civil and/or criminal penalties. However, the Department will continue to answer questions and provide guidance to growers on WPS.

For more information on the Worker Protection Standard, contact Phil Pitzer at (717) 772-5206 or write to 2301 N. Cameron St., Harrisburg, PA 17110-9408. A fact sheet on WPS is available on the web at <http://www.pested.psu.edu/fact12.html>

How To Calibrate Your Boom Sprayer

Boom sprayers should be calibrated before use, so the amount of spray is neither more nor less than needed.

Calibration-Jar Method (for large sprayers)

1. Measure a course on the same type of surface (sod, plowed) as that to be sprayed, according to nozzle spacing as follows:

Nozzle Spacing (in.)	12	16	20	24	28	32	36	40
Course Length (ft.)	340	255	204	170	146	127	113	102

2. Time the seconds it takes the sprayer to cover the measured distance at the desired speed. Average at least two runs.
3. With the sprayer standing still, operate at selected pressure and pump speed. Catch the water from at least three nozzles for the time measured in step 2.
4. Determine the average output per nozzle in fluid ounces. The ounces per nozzle equal the gallons per acre applied for one nozzle per spacing. If two (or three) nozzles per spacing are used, multiply the average nozzle output by two (or three) to get the gallons applied per acre. For example, assume your boom sprayer has one nozzle every 20 inches along the boom. It requires 35 seconds to drive the 204-foot course. You determined that the average nozzle output is 20 fluid ounces in 35 seconds. The application rate is 20 gallons per acre.

Tank-Volume Method (for small sprayers)

1. Measure a course 660 feet long in the same type of field as that which is to be sprayed.
2. Fill sprayer tank completely full or to some known depth. Be sure sprayer is level. A sight gauge or felt-tip pen marks on the tank can indicate water level.
3. Start the tractor and pump to achieve operating speed and pressure before beginning the course.
4. Start spraying exactly at the beginning of the course, and stop spraying exactly at the end of the course.
5. Find the amount used by carefully measuring the number of gallons required to refill the tank to the same level as used in step 2. Again, be sure sprayer is level.
6. Calculate rate applied, using the following formula:

Gallons/Acre (applied) = (Gallons used x 66) ÷ (Boom width in feet)

For example, if 5 gallons were used in the calibration run with a 22-foot boom, the applied rate is 15 (5 gals. x 66 ÷ 22 ft.) gallons per acre.

Adjusting Rates

The application rate can be increased by slowing the tractor speed, increasing the pressure, or using larger nozzles. Adjust the stroke on ground driven pumps. Repeat calibration runs until the desired rate of application is achieved.

Band Spraying

If band spraying is used, calibration is as described above. The rates of application, as well as figures given in tables by nozzle manufacturers, are for broadcast spraying and must be adjusted for band spraying, to the particular band width and row spacing used. Calculate the number of gallons applied per treated acre in the band by using the following formula:

Gallons/Treated acre = Gallons/Field acre x (Row spacing in inches ÷ Band width in inches)

For example, assume application is 5 gallons per field acre in 12-inch bands on 36-inch rows. The rate per treated acre is 15 gallons (5 x 36/12). In other words, the spray is concentrated on one third of the field area.

Adding the Chemical

To determine the number of treated acres per tank, divide the tank capacity (gallons) by the application rate (gallons per acre). Multiply the number of treated acres per tankful by the recommended pesticide rate to find the amount of chemical to add to the tank.

For example, if your sprayer has a 150-gallon tank and it applies 15 gallons per acre, each tankful will cover 10 acres (150 ÷ 15). If two pounds of chemical per acre are recommended, you should add 20 pounds (10 acres x 2 pounds per acre) to the tank.

Condensed from Donald R. Daum's "How to Calibrate Your Boom Sprayer" brochure, Penn State University

CHEMSWEEP Update

The 1999 CHEMSWEEP collections are underway as this newsletter is being printed. Fifteen counties, in six of the seven Pennsylvania Department of Agriculture regions, were selected to participate in the 1999 collections. This continuing project begins the second round of collections of this type throughout Pennsylvania. During the past several years, CHEMSWEEP has been expanded to include commercial applicators, pesticide dealers, and homeowners. In addition, several household pesticide collection events have been planned, as these collections are appearing as an ever-increasing share of the total pesticide products received each year.

Response to this program has been encouraging, both from the agricultural and private sectors. The collections

for 1999 should be completed by mid-November and preparations for the 2000 program will begin soon afterward. Counties for the year 2000 collections should be selected by mid-December, with inventories due by the end of February. The year 2000 collections may be done as early as May or June. Looking ahead, the Food Quality Protection Act may cause the removal of some pesticide products from the marketplace, and the CHEMSWEEP program will provide a proper disposal option for these materials.

If you have questions or comments about the CHEMSWEEP Program, please call your Department of Agriculture Regional Office or call Phil Pitzer at (717) 772-5206 or John Pari at (717) 772-5210

Farm Gate Food Sampling

For several years, the Environmental Protection Agency (EPA) has requested states that function under a federal pesticide enforcement grant to sample food items at the farm where they are produced. This sampling process, referred to as "Farm Gate" sampling, is intended to determine if illegal pesticide residues exist on locally grown agricultural commodities at the time of sale or distribution.

Food safety has always been an important issue for the EPA. With the adoption of the Food Quality Protection Act (FQPA), new emphasis will be placed on food safety for the year 2000. The Farm Gate sampling program is designed to link residue samples with follow-up use inspections to determine pesticide use compliance to assure the safety of our food supply.

In addition, EPA has embarked on a new program—The Children's Initiative. The Farm Gate guidance merges both food safety and the Children's Initiative by providing suggestions to focus on foods common in the diets of children. These real world Farm Gate samples will provide

information to EPA in developing data for FQPA pesticide product reviews.

The PA Department of Agriculture has tentatively agreed to conduct a limited number of Farm Gate samples during the year 2000, supplementing the samples collected by the Bureau of Food Safety. The purpose of the sampling program is to determine at what levels legal and safe pesticide residues exist on the food commodities. EPA has established tolerances for various pesticides in certain food commodities. If excessive residues or residues of pesticides not labeled for that crop are detected on the commodity, an investigation will determine if the pesticide products were used according to label directions.

Cooperation with this program will help substantiate the safety of our food supply and maintain consumer confidence. Regulatory enforcement action could be taken against violators who cause excessive or illegal pesticide residues on food commodities. These actions would include request for compliance letters, civil or criminal penalties, and pesticide license suspension or revocation.

Pesticide-Related Web Sites of Interest

Specific Pesticide Information:

- ❖ EXTTOXNET: <http://ace.orst.edu/info/exttoxnet/>
- ❖ NPTN: <http://ace.orst.edu/info/nptn/>
- ❖ NAIN: <http://ace.orst.edu/info/nain/>
- ❖ MSDS: <http://hazard.com/msds/index.html>

Office of Pesticide Programs, EPA:

- ❖ Home Page: <http://www.epa.gov/pesticides/>
- ❖ Safety Programs: <http://www.epa.gov/pesticides/safety/>
- ❖ FQPA: <http://www.epa.gov/oppfead1/fqpa/>
- ❖ Food Safety: <http://www.epa.gov/pesticides/food/>

PA Growers Can Provide Input for National Pesticide Initiative

Pennsylvania fruit growers who produce apples, peaches, tart cherries, and grapes as well as farmers producing soybeans and potatoes may be asked to participate in a survey tracking how agricultural chemicals are used. The PA Agricultural Statistics Service, in cooperation with Penn State, is conducting the survey. The data collected will support the USDA's Pesticide Impact Assessment Program (PIAP).

Bill Hoffman, a senior extension associate at Penn State's PIAP, said, "The survey is intended to build a database of information for the USDA and the EPA on how agricultural chemicals are used, as well as the quantities used for certain crops. Without good data, the EPA may assume that farmers use more pesticides than they actually do."

Hoffman continued, "When agencies consider whether to eliminate the use of agricultural chemicals or change permissible residue levels on crops, they seek information on usage patterns, economic benefits, chemical and non-chemical alternatives, and other factors. The data also will help Penn State produce relevant fact sheets and educational materials for growers interested in topics such as seed usage, tillage practices, and integrated pest management."

Approximately 900 growers across the state will take part in the survey. They will be asked about which

chemicals they use, application rates, how many acres are treated, integrated pest management practices, and grower characteristics. Typically, the interview lasts about two hours. Producers should prepare by having their agricultural chemical use records on hand so the interview goes quickly and smoothly. All information from individual growers will remain confidential.

"Farmers have a direct stake in responding to the survey," Hoffman says. "For instance, the pesticide methyl parathion has been eliminated for use by fruit growers and the pesticide azinphos methyl has faced usage restrictions." This year's survey will focus on usage data for captan, mancozeb, and other fungicides, since fruit and potato growers are particularly dependent on these agricultural compounds. Accurate and realistic pesticide usage information may help to preserve the continued use of these chemicals.

Information on usage patterns often influence manufacturers' decisions to submit a product for re-registration and approval with the EPA. Usage data are crucial in the approval process.

Condensed from John Wall's electronic news release, "Statistical Survey Will Allow PA Growers to Provide Input for National Pesticide Initiative," Penn State University

Methyl Parathion and Azinphos Methyl Risk Management Decisions

Methyl Parathion

Action: EPA has accepted voluntary cancellation for many of the most significant food crop uses of methyl parathion, one of the most toxic and most widely used organophosphate pesticides. Methyl parathion has been found to pose unacceptable dietary risks to children based on the Food Quality Protection Act (FQPA) safety standard as the pesticide is currently registered. Removing these crop uses considerably reduces risks to children through food, as well as risks to workers and the environment. These canceled uses represent 90% of the dietary risk to children.

Canceled and Maintained Uses: *Canceled Children's*

Food Uses: All fruit (apples, peaches, pears, grapes, nectarines, cherries, and plums), carrots, succulent peas, succulent beans, and tomatoes. **Other**

Canceled Food

Uses: Artichokes, broccoli, Brussels sprouts, cauliflower, celery, collards, kale, kohlrabi, lettuce, mustard greens, rutabagas, spinach, and turnips.

Canceled Non-

Food Uses:

Ornamentals, grasses grown for seed, mosquito use, and nursery stock.

Uses Remaining: Alfalfa, almonds, barley, cabbage, corn, cotton, dried beans, dried peas, grass, hops, lentils, oats, onions, pecans, rape seed (canola), rice, rye, soybeans, sugar beets, sunflower, sweet potato, walnuts, wheat, and white potatoes.

Additional Protection for Workers: To increase worker protection for the year 2000 growing season, the registrant has increased reentry intervals from two days to four-to-five days. To increase the safety of uses that will continue the registrant has agreed to require enclosed cabs and cockpits as well as closed mixing and loading systems for the year 2001 growing season.

Ecological Protection: Methyl parathion also poses a high risk to birds and aquatic invertebrates. It is very highly toxic to honey bees. Canceling the orchard uses is expected to significantly reduce risks to honey bees and birds.

Can Farmers Sell Treated Crops? Yes. To ensure transition for growers and avoid any disruption to commerce, FQPA includes a "safe harbor" provision that allows legally treated commodities to remain in domestic and international trade.

Timing for Canceled Uses: Existing stocks of methyl parathion products with canceled crop uses may be applied until December 31, 1999. The use cancellations will become effective early next year. Technical registrants of methyl parathion will amend their labels to allow reformulation only to those uses being maintained. Registrants may repack or re-label their products to reflect only the maintained uses. Application of methyl parathion for the canceled uses will be prohibited for the year 2000 growing season.

Azinphos Methyl

Action: EPA has accepted voluntary measures to reduce both dietary and worker risks from azinphos methyl, an organophosphate insecticide used on a wide variety of

fruits and vegetables.

As it is currently registered, azinphos methyl poses an unacceptable dietary risk to children ages one to six years based on the safety standard of the Food Quality Protection Act (FQPA). It also poses risks of concern to agricultural workers.

Summary of Risk Reduction

Measures: *Reduce Use on Pome Fruit:*

(Apples, Pears, Quinces, and Crabapples) Establish a maximum seasonal use rate and increase the time between application and harvest. Lower the tolerance for pome fruit from 2.0 ppm to 1.5 ppm now and to 1.0 ppm in 2001.

Cancel Ornamental, Christmas Tree, Forest Tree, and Shade Tree Use: These cancellations will reduce exposure to affected ecosystems. **Reduce Worker Exposure:**

Increase the length of time that workers must wait before entering a treated field or orchard. All application with hand-held equipment is prohibited. Closed mixing and loading systems and enclosed cabs are required, as is additional worker exposure testing.

Can Farmers Sell Treated Crops? Yes. To ensure transition for growers and avoid any disruption to commerce, FQPA includes a "safe harbor" provision that allows legally treated commodities to remain in domestic and international trade.

Timing for Mitigation Measures: The risk mitigation measures for azinphos methyl will be in place for the 2000 growing season.

Condensed from EPA's "Methyl Parathion Risk Management Decision" and "Azinphos Methyl Risk Management Decision" Fact Sheets

Is it Safe to Eat Fruits and Vegetables?

Yes. The food supply is safe—these actions just makes it safer. Parents should continue to feed their children a balanced & nutritious diet rich in fruits & vegetables. EPA's actions focus on reducing risks for the next growing season. The FQPA is designed to ensure that the food supply has an extra margin of safety.



Happy Holiday Season



Biotech Corner

A new feature section of this newsletter is called Biotech Corner. In this first feature article, genetically engineered plants are defined and an excerpt from an article discusses one of the issues surrounding genetically engineered plants.

QUESTION: What are transgenic plants, bioengineered plants, biotechnology plants, genetically engineered crops, or genetically modified organisms (GMO)?

ANSWER: These are genetically engineered plants containing genes for pest or pesticide resistance, or nutritional, flavor, or storage enhancement that have been introduced by techniques of recombinant deoxyribonucleic acid (rDNA).

ADM Warns Suppliers to Segregate Genetically Engineered Crops from Conventional Crops

As consumer opposition to genetically modified foods continues to grow around the world, Archer Daniels Midland (ADM) this week warned its suppliers to start segregating genetically engineered crops from conventional varieties.

“As a key link in the food supply system, we must produce products that our customers will purchase. Some of our customers are requesting and making their purchases based upon the genetic origin of the crops used to manufacture their products,” ADM said in an August

1999 statement. ADM is encouraging its suppliers to segregate non-genetically enhanced crops to preserve their identity.

ADM said it is experiencing a change in consumer demand and wants to give farmers a timely warning. ADM is offering a premium of 18 cents per bushel for DuPont STS non-GMO soybeans. At this time, ADM is accepting both GMO and non-GMO soybeans, but wants people to understand that they need to be segregated.

Currently, genetically engineered corn is co-mingled with conventional hybrids at most the grain elevators across the country. Most the U.S. soybean harvest also is co-mingled, with genetically engineered soybeans and conventional varieties mixed together.

This growing season, about one-third of the U.S. corn acreage is planted in Bt corn, which is genetically engineered to kill insect pests by expressing a *Bacillus thuringiensis* toxin. More than one-half of the soybean acreage is estimated to be planted with Roundup Ready soybeans, which are genetically engineered to resist Monsanto's Roundup herbicide.

Written by: Kathleen Hart, *Pesticide & Toxic Chemical News*, September 2, 1999, pages 15, 16.

For additional articles and links about biotechnology, please visit our biotechnology web page at <http://www.pested.psu.edu/biotfr.html>

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Agromedicine Program: A joint program with Penn State University's College of Medicine and the University Medical Center at Hershey to provide information and training to doctors, first responders (EMTs), public health workers, and school nurses on recognition and proper response to pesticide exposures. **Enforcement:** Investigating pesticide complaints and conducting over 1,000 inspections per year.

For the Department to continue to provide the industry and citizens of the Commonwealth with this level of service, the fees must be adjusted to meet projected

deficits in the next few years. The Department is suggesting increasing the fee for a private applicator to thirty dollars (\$30) for a three-year permit. The proposed fee adjustments along with the justifications for the increases were presented to the Pesticide Advisory Board for review. This issue will be discussed in detail at the December 21, 1999 meeting of the Board.

If you would like to comment on the proposed fee increase, e-mail us at bpi@agric.state.pa.us or write to us in care of the Bureau of Plant Industry, Division of Health and Safety, 2301 North Cameron St., Harrisburg, PA 17110-9408.

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