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Environmental Protection
Agency

Office of Prevention, Pesticides
and Toxic Substances
Washington, DC 20460

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Annual Report 2000

Office of Pesticide Programs

www.epa.gov/pesticides






Protecting
Public Health
and the
Environment

Message from the Director

Fiscal Year (FY) 2000 was a year for impressive accomplishments in the Environmental Protection Agency's (EPA) Office of Pesticide Programs (OPP). My staff worked hard to address our pesticide regulatory responsibilities–from ensuring that new pesticide technology can enter the market and meet the tough requirements of the Food Quality Protection Act (FQPA), to reevaluating existing pesticides and managing uses to ensure that they also meet FQPA's tough standards. We continued to make our pesticide regulatory decisions in a transparent fashion by involving our many stakeholders. While our report more fully describes our overall accomplishments over the past year, I want to touch on a few highlights:

Major Regulatory/Programmatic Actions – Several significant actions were taken this past year to help reduce potential risks from pesticides. These included announcing the phase-out of the widely used insecticides Dursban and diazinon in schools and homes–thus assuring reductions in exposure for the nation's children; registering the pesticide product Harpin as a potential alternative to methyl bromide, which causes harm to the ozone layer; issuing a stop sale of the contaminated hospital disinfectant, medaphene; proposing new restrictions on labels of insect repellants used on children; and signing a Memorandum of Understanding between EPA and the Centers for Disease Control to provide a framework for coordinating joint efforts on public health pesticides and other issues.

Improving Science – The program continued to deal with cutting-edge and high-profile science issues, many of which will have a profound effect on not only the pesticide program but also throughout EPA. Some examples of policies that have been advanced over the past year include: cumulative risk assessment guidance, use of cholinesterase inhibition data in risk assessments, aggregate exposure assessment, and drinking water exposure assessment.

Safer Foods – All 39 of the organophosphate (OP) pesticides moved through the OP pilot process for tolerance reassessment, which began in 1998, and decisions were issued for 14 of them. More than 20 technical stakeholder briefings were held to heighten awareness and understanding of the risk assessments. Beyond the tremendous progress achieved in addressing the OPs, 121 tolerances were reassessed. We established 276 tolerances for reduced-risk conventional pesticides to be used on food and 4 tolerances for biopesticides. Solid progress continued with completion of Reregistration Eligibility Decisions (REDS) and interim REDS covering 19 chemicals, more than 500 product reregistration decisions, and several hundred product chemistry and acute toxicity reviews. The program also made significant progress in harmonizing pesticide regulatory programs with other countries to ensure safe imported foods.

Protection of Natural Resources and Wildlife – We worked with states and tribes to develop generic pesticide management plans to manage, at a local level, pesticides that have the potential to leach and contaminate water. We reduced and phased out uses of a number of pesticides that have been shown to contribute to water contamination. We also worked with the Fish and Wildlife Service to protect the endangered jaguar from pesticides, and we declined to register the pesticide chlorfenapyr (Pirate) for use on cotton due to adverse effects on bird reproduction.

Increased Protection for Pesticide Handlers and Agricultural Workers – Through our reregistration program, we implemented risk mitigation measures that will better protect pesticide handlers and workers. Additionally, we have began a national process to assess the effectiveness of the Worker Protection Standard to better protect the health of pesticide handlers and agricultural workers.

Reaching out to Stakeholders – We increased our efforts over the past year to further improve the quality and timeliness of our outreach materials. More than 130 pesticide announcements made during the past year were developed and placed on our Web site. Our public advisory committees held key meetings–the Committee to Advise on Reassessment and Transition and the Pesticide Program Dialogue Committee (and its workgroups: Inerts Disclosure Stakeholder Workgroup and Rodenticides Workgroup). These meetings and workgroups continue to provide meaningful opportunities for our stakeholders to interact with EPA on a wide variety of regulatory and policy issues.

I want particularly to thank the professional employees within the Office of Pesticide Programs for their dedication and hard work in making this past year successful. We thank our regional, state, and tribal partners, as well as the many other stakeholders who participated in our open decisionmaking processes. I hope you will take a few moments to review this year's report. We will look ahead to making even more progress as we fulfill our mission to protect human health and safeguard the natural environment.

Marcia E. Mulkey

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INTRODUCTION

EPA's overarching mission is to protect human health and to safeguard the environment–air, water and land–upon which life depends. An important component of this goal is the protection of human health and the environment from adverse risks that pesticides may pose.

EPA regulates the use of pesticides under the authority of two federal statutes — the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). Under FIFRA, pesticides intended for use in the U.S. must be registered (licensed) by EPA before they may be sold or distributed in commerce. EPA will register a pesticide if scientific data provided by the registrant show that, when used according to label directions, it will not cause unreasonable adverse effects on human health or the environment. Under FIFRA, EPA also has the authority to suspend or cancel the registration of a pesticide if subsequent information shows that continued use would pose unreasonable risks. The Agency is responsible under FFDCA for setting tolerances (maximum permissible residue levels) for any pesticide used on food or animal feed.

Our mission is challenging and complex. Pesticides are used not only in agriculture, but also in parks and in almost every home, business, hospital, and school in America. Moreover, pesticide regulations affect 20 major pesticide producers, 100 small producers, 2,500 pesticide formulators, 29,000 distributors, 40,000 commercial pest control firms, one million farms, several million professional users, and 90 million households.

EPA's Office of Pesticide Programs consists of more than 800 people in nine divisions:

Registration
Antimicrobials
Biopesticides and Pollution Prevention
Health Effects
Environmental Fate and Effects
Biological and Economic Analysis
Special Review and Reregistration
Information Resources and Services
Field and External Affairs

EPA professional expertise include among others:

Chemistry
Biology
Entomology
Toxicology
Agriculture
Economics
Public health
Law

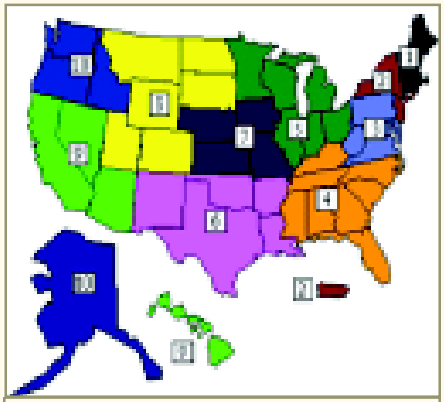
(See Appendix C for details on OPP's structure and for contact information)

Registering Pesticides and Establishing Tolerances

EPA's Office of Pesticide Programs (OPP) is responsible for registering pesticides and establishing tolerances if they are to be used on food. Pesticide registration is the process through which EPA examines the ingredients of a pesticide; the site or crop on which it is to be used; the amount, frequency and timing of its use; and storage and disposal practices. EPA evaluates the pesticide to ensure that it will not have any adverse effects on humans, the environment and non-target species. To determine whether a pesticide can be registered, applicants seeking pesticide registration are required to submit to EPA for review data on a wide range of health effects including cancer, reproductive effects, neurological effects, acute and chronic toxic effects. A pesticide cannot be legally used if it has not been registered by OPP.

In considering whether a tolerance may be established, EPA reviews a comprehensive battery of laboratory and field data on a pesticide to determine if residue limits will be protective of public health. Commodities that contain a

EPA Regional Offices



Region 1
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

Region 2
New Jersey, New York, Puerto Rico, and the U.S. Virgin Islands

Region 3
Delaware, Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia

Region 4
Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee

Region 5
Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin

Region 6
Arkansas, Louisiana, New Mexico, Oklahoma, and Texas

Region 7
Iowa, Kansas, Missouri, and Nebraska

Region 8
Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming

Region 9
Arizona, California, Hawaii, Nevada, and Pacific Islands and Tribal Nations subject to U.S. law

Region 10
Alaska, Idaho, Oregon, and Washington

detectable level of a pesticide for which no tolerance has been established and commodities containing pesticide residues over the established tolerance limit are considered to be adulterated under the FFDCA.

Reviewing Older Pesticides Against Current Standards

OPP is also reviewing older pesticides to ensure that they meet current health, safety, and environmental standards. The goal is to update labeling and use requirements and reduce risks associated with older pesticides — those first registered when the standards for government approval were less stringent than they are today. At the same time, EPA is reassessing more than 9,000 tolerances to ensure that they also meet current safety standards. In conducting these reassessments, EPA considers the potential risks pesticides may pose to children who may be more vulnerable.

Promoting Reduced-Risk Pesticides and Pest Management Alternatives

OPP has broadened its efforts to promote systems of pest management that better protect health and the environment, and enhance the quality of our lives. This approach recognizes that conventional pesticides are only one element in controlling pests and that, in some cases, nonchemical alternatives can be as effective as chemical pesticides while posing fewer health or environmental risks. We are also working with pesticide producers and the pesticide user community to promote and develop reduced-risk pesticides. More than half of the new pesticide registrations in recent years have involved biopesticides and other pesticides that pose less risk than conventional pesticides. Biopesticides include "microbial pesticides" (bacteria, viruses, or other microorganisms used to control pests), and "biochemical pesticides," such as pheromones (compounds that disrupt the mating behavior of insects). Based on specific criteria, some conventional chemicals may be classified as safer because of their lower toxicity or lower potential for exposure.

Field Programs Implementation and Communications

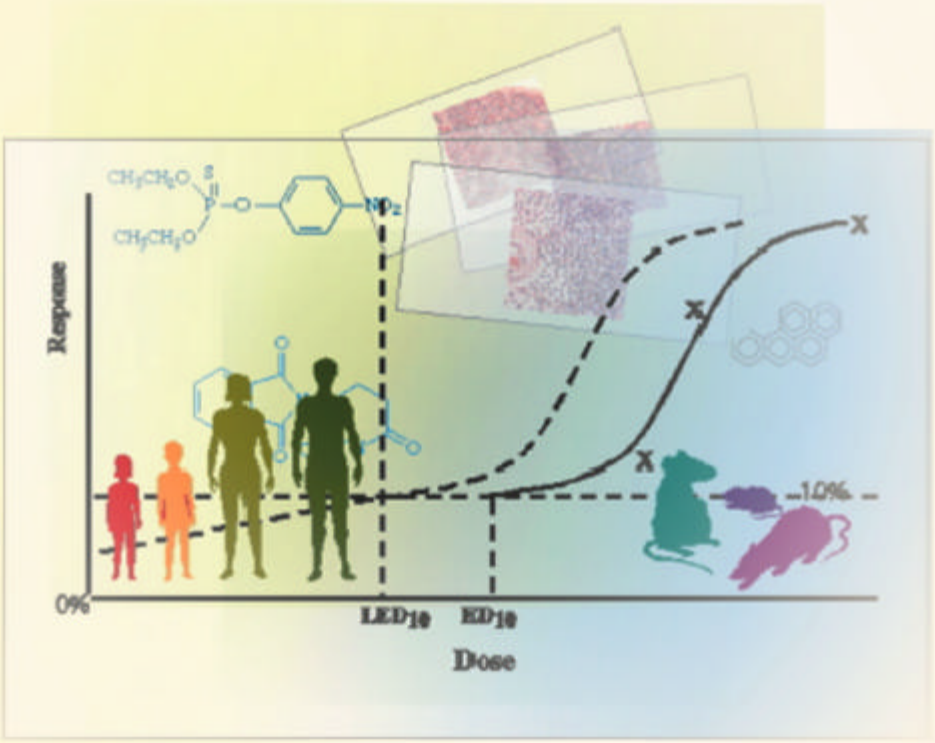
OPP works with pesticide officials in EPA's Office of Enforcement and Compliance Assurance, the Agency's 10 Regional offices across the country, and state and tribal pesticide regulatory agencies to implement pesticide programs, communicate with the public about pesticides issues, and support compliance and enforcement efforts.

Together, OPP and the regions manage four major pesticide field programs involving work with pesticide users and others to ensure that they carry out safe practices. These programs involve 1) implementing regulations for the protection of agricultural workers, 2) protecting endangered species, 3) protecting ground water, and 4) ensuring applicators who use the more hazardous pesticides are appropriately trained and certified. OPP also works with other government agencies, Federal advisory committees, grower groups, environmental and consumer groups, academia, industry, the international community, and many other stakeholders.

For more information on pesticide issues, visit our Internet Web site at **www.epa.gov/pesticides/** or write to us at: U.S. Environmental Protection Agency, Office of Pesticide Programs (7506C), 1200 Pennsylvania Avenue, N.W., Washington, DC 20460. You may also contact the National Pesticide Telecommunications Network (NPTN). Staffed by highly qualified and trained pesticide specialists, NPTN is our sponsored toll-free telephone service that provides a variety of pesticide information. Visit **ace.orst.edu/info/nptn** or telephone: 1-800-858-7378; fax: 1-541-737-0761.

1 ADVANCING SCIENCE:

Improved Pesticide Regulatory Decisions



The Year

In Review

Pear Harvest in Oregon (See organophosphate pesticide use reduction writeup on page 20) Photo Courtesy of Kathleen Knox

1 Advancing Science

The passage of the Food Quality Protection Act of 1996 (FQPA) ushered in new, complex questions that had not yet faced EPA: What factors need to be considered when conducting a cumulative risk assessment? What are the appropriate tools for conducting a probabilistic risk assessment? How can we refine our risk assessments to better reflect real world situations and also provide an adequate margin of safety for children? How do we determine if a pesticide will adversely affect the endocrine system?

In FY 2000, EPA worked diligently to advance our scientific knowledge to better understand these questions and more accurately assess the risks pesticides may pose to public health and the environment. We developed and employed new science policy guidance documents and advanced techniques for conducting human health and ecological risk assessments. In developing these documents and techniques, we maintained our commitment to collaborate with experts in the field. While actively engaging the public, we established a transparent process whereby ideas could be generated, refined, and implemented. We received and will continue to seek guidance from the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel (SAP) and input from our stakeholders through the Committee to Advise on Reassessment and Transition (CARAT)and its predecessor, the Tolerance Reassessment Advisory Committee (TRAC).

The Nine Science Policy Issues

1. Applying the FQPA Tenfold Safety Factor
2. Dietary Exposure Assessment - Whether and How to Use "Monte Carlo" Analyses
3. Exposure Assessment - Interpreting "No Residues Detected"
4. Dietary (Food) Exposure Estimates
5. Dietary (Drinking Water) Exposure Estimates
6. Assessing Residential Exposure
7. Aggregating Exposures from all Non-Occupational Sources
8. How to Conduct a Cumulative Risk Assessment for Organophosphate Insecticides or Other Pesticides with a Common Mechanism of Toxicity
9. Selection of Appropriate Toxicity Endpoints for Risk Assessments of Organophosphates

Science Policy Guidance Documents

With the assistance of TRAC, EPA identified nine science policy issue areas (see box) and several other related issues following passage of FQPA. Most of the policies were issued as drafts for public comment in 1998 and 1999. For a complete list of these science policies and other related issues, visit **www.epa.gov/trac/science/**. The following documents were published in FY 2000:

Revised Draft Documents:

- *Office of Pesticide Programs' Science Policy on the Use of Data on Cholinesterase Inhibition for Risk Assessments* (9/08/00)
- *A User's Guide to Available OPP Information on Assessing Dietary(Food) Exposure to Pesticides* (7/12/00)
- *Data for Refining Anticipated Residue Estimates Used in Acute Dietary Probabilistic Risk Assessments* (6/23/00) This paper was merged with two other documents: *Guidelines for the Conduct of Bridging Studies for Use in Probabilistic Risk Assessment, and Guidelines for the Conduct of Residue Decline Studies for Use in Probabilistic Risk Assessment*
- *Assigning Values to Nondetected/Nonquantified Pesticide Residues in Human Health Dietary Exposure Assessments* (3/31/00) This paper was

***Did You Know*: A part per trillion represents a teaspoon in 1.3 billion gallons of water.**

merged with the paper, *A Statistical Method for Incorporating Nondetected Pesticide Residues into Human Health Dietary Exposure Assessments*

- *Choosing a Percentile of Acute Dietary Exposure as a Threshold of Regulatory Concern (99.9th percentile)* (3/22/00)

- *Estimating the Drinking Water Component of a Dietary Exposure Assessment* (11/10/99)

- *Threshold of Regulation Policy–Deciding Whether a Pesticide with a Food Use Pattern Needs a Tolerance (10/27/99)*

- *The Role of Use Related Information in Pesticide Risk Assessment and Risk Management (9/27/00).*

Draft Documents:

- *Cumulative Risk Assessment Guidance* (6/30/00)

- *Guidance for Performing Aggregate and Exposure Risk Assessment* (11/10/99).

Advanced Techniques for Conducting Human Health and Ecological Risk Assessments

Ensuring that our decisions rest on sound science not only involves clear policies, but also requires continually advancing the basic tools upon which these policies depend. In FY 2000, OPP worked to expand its repertoire of science tools. We have adopted models that provide information on the potential presence of pesticides in drinking water, how pesticides can affect

fish and bird populations, and the risks posed by pesticide spray drift. We have new protocols for testing the efficacy of disinfectants against Hepatitis B Virus (HBV) that reduce the need for animal subjects. We also expanded and continued the development of our databases, such as our ecotoxicity database and environmental incident information system. These tools are described in greater detail below.

Models

New Approach for Estimating Pesticides in Drinking Water: OPP made its estimates of pesticides in drinking water more realistic by adopting a new approach that uses a small drinking water reservoir model rather than a small pond model. We also consider the percentage of the area around the reservoir used for growing crops.

More Precise Estimates for Measuring Pesticide Concentrations: We worked with the U.S. Geological Survey (USGS) to develop advanced models to estimate more precise pesticide concentrations at specific drinking water utility intakes. These models will allow OPP to tailor its risk management decisions to specific locations and help the program measure exposure to pesticides in drinking water across a large segment of the population.

Preliminary Model for Predicting Fish and Bird Kills: OPP developed a preliminary model that predicts the likelihood and magnitude of bird and fish kills as a result of pesticide use. A case study for one pesticide is being used to develop a more general probabilistic model that can be used for all pesticides.

Incorporating Spray Drift Considerations into Risk Assessments: In cooperation with EPA's Office of Research and Development and the Spray Drift Task Force, a consortium of registrants, OPP developed a preliminary model to predict pesticide spray drift and the associated risks under a wide range of agricultural applications and weather conditions. We expect to incorporate spray drift considerations in our risk assessments for agricultural pesticide sprays

Reservoir at Shipman Lake, Illinois

in FY 2001. Using this model will improve estimates of pesticide concentrations in the environment and result in better risk management decisions.

Hampshire Research Institute's Lifeline Software Model: OPP engaged in a significant amount of work this year in preparation for releasing the first phase of the Lifeline Software Model in December 2000. This model is the result of a cooperative agreement between OPP and the Hampshire Research Institute (HRI) that will support the development of an aggregate and cumulative risk modeling tool to be made available to the general public. The computer-based modeling tool will allow persons interested in risk assessment to better engage in a discussion of exposure and risks from pesticides in the environment. This effort is geared to more effectively protect public health and the environment through fostering the dissemination of reliable information on risk and by increasing the public's ability to analyze, understand, and make decisions about environmental problems.

Monitoring Efforts

Pilot Reservoir Monitoring Program: Working with USGS, OPP designed and implemented a pilot reservoir monitoring program that provides pesticide monitoring data from raw and finished water in 12 reservoirs throughout the United States. The results of this monitoring study will be made public in 2001.

National Survey of Drinking Water Sources: In FY 2000, OPP, USGS, and USDA formed an Inter-Governmental FQPA Drinking Water Steering Committee to oversee the development of a drinking water survey design protocol that would be used to collect surface water monitoring data on a national level. The Agricultural Crop Protection Association also sits on this

committee as an observer. OPP will use information from this survey to produce more predictive and higher-tiered water assessment models and more reliable and refined dietary risk assessments. The Steering Committee designated two scientific working groups to plan for the collection of drinking water monitoring data: the Monitoring/Modeling Workgroup (MMWG) and the Ancillary Data Workgroup (ADWG). These workgroups will meet on a regular basis in FY 2001 to plan a pilot drinking water monitoring program.

METHODS

New Multianalyte Methods: As a result of a collaborative effort with the pesticide industry, we developed 10 new multianalyte methods (MAM) to detect certain groups of acetolactate synthase (ALS) inhibitor herbicides in soil and water at limits of quantitation (LOQ) between 2.0 and 0.01 parts per billion. These new methods allow state authorities to test soil or water in the field and detect extremely low levels of these herbicides.

ALS inhibitor herbicides, such as the sulfonyl ureas, are used at low application rates, but some low-level residues may remain in the soil or water. Because extremely low levels may cause phytotoxic effects in non-target plants sometime after application, state authorities need these analytical methods to enable them to test soil and water in the field.

Protocols for Testing the Efficacy of Disinfectants Against HBV: OPP developed new guidance regarding an HBV testing alternative that reduces animal testing. As part of EPA's continuing commitment to advance scientific methodologies that will protect the public and also reduce animal testing, EPA endorsed an *in vitro* (test tube) duck assay as the appropriate and preferred alternative. The FIFRA SAP also has endorsed and supported this approach. The *in vitro* duck assay uses duck HBV as a surrogate for human HBV. This method maintains rigorous efficacy testing requirements to ensure public health protection.

New Methods of Estimating Ecological Risk: OPP developed preliminary methods that estimate the magnitude, probability, and certainty of ecological risk. These probabilistic methods have been peer reviewed by the SAP, and OPP has started using these new methods in its ecological risk assessments.

DATABASES AND INFORMATION SYSTEMS

Pesticides in Ground and Surface Water Database: OPP continued to develop this database, which compiles monitoring data on pesticides in ground and surface water across the United States provided by the states, other federal agencies, academia, and pesticide companies. These data will be used in developing risk assessments for water resources, and the database will be accessible to the public on OPP's Web site by end of 2001.

Health Effects Division Records Reference Center

June 1, 2000 -- OPP held the grand opening of the Health Effects Division (HED) Records Reference Center (RRC). This center houses all HED files, including toxicity reports on pesticides.

Although the HED files are not directly available to the general public, the new Records Management Team in charge of this center is an invaluable resource when responding to Freedom of Information Act (FOIA) requests in a timely fashion.

As of September 30, 2000, the RRC Series database contained over 8,700 records. The turnaround time for obtaining a hard copy of records is only four minutes. The RRC is a centralized, integrated system that is just one step in OPP's efforts to increase efficiency throughout the program.

Ecotoxicity Database: In FY 2000, OPP added 500 new ecotoxicity studies to the ecotoxicity database, including wildlife and plant toxicity information for over 630 active ingredients. The toxicity data are compiled from actual studies submitted by pesticide manufacturers, which are reviewed by EPA and judged for acceptability for use in OPP's ecological risk assessment process. The database also contains acceptable studies performed by EPA, USDA, and Fish and Wildlife Service laboratories.

Fate Database: The Fate Database contains studies that describe what happens to a pesticide in soil, water, and the air after it has been applied. Developed in FY 2000, this database contains fate and transport properties of 250 registered pesticides. The final version of this database will be completed in 2001.

Ecological Incident Information System: The Ecological Incident Information System was updated to include 850 incident reports. This database contains information on reports of adverse effects to non-target wildlife and plants from the use of pesticides. Information in this database is used in the Agency's ecological risk assessments.

The Pesticide Ground and Surface Water Incident Database: This electronic data base was created in 1999. In FY 2000, OPP entered the remaining incidents data it had in hard copy before this database was created. The system contains adverse effects data for specific pesticides involving ground and/or surface water incidents. These incidents are considered in OPP's drinking water assessments.

Office of Pesticide Programs Information Network: This year we made significant progress on the Office of Pesticide Programs Information Network (OPPIN). When completed, OPPIN will combine regulatory and scientific data, workflow tracking, and electronic document management into one integrated system. OPPIN will consolidate information currently stored on EPA mainframe systems, the OPP Local Area Network (LAN), stand-alone computers, and paper documents. OPPIN will: decrease OPP's data entry burden; increase analytical capabilities; track decision-making processes more effectively; prevent loss of, and improve access to, critical decision documents; and make OPP information readily available to those outside of the program.

Photo: EPA officials at opening of OPP's Records Reference Center.

Consulting with the Scientific Advisory Panel (SAP) in FY 2000

November 30, 1999:

- Testing on Human Subjects

December 8-9, 1999:

- Characterization and Non-target Organism Data Requirements for Protein Plant-pesticides
- Cumulative Risk Assessment Methodology Issues of Pesticide Substances That Have a Common Mechanism of Toxicity

February 29 - March 3, 2000:

- Food Allergenicity of Cry9C Endotoxin

April 5-7, 2000:

- Implementing Probabilistic Ecological Assessments
- Insect Repellent Product Performance Testing Guideline Evaluation

June 6-9, 2000:

- Mammalian Toxicity Assessment Guidelines for Protein Plant Pesticides

June 27-29, 2000:

- Atrazine Health Risk Assessment
- National Drinking Water Survey Design for Assessing Chronic Exposure

August 17-18, 2000:

- A Consultation on the EPA Health Effects Division's Proposed Classification of the Human Carcinogenic Potential of Malathion

September 26-29, 2000:

- Test Guidelines for Chronic Inhalation Toxicity and Carcinogenicity of Fibrous Particles
- End Point Selection and Determination of Relative Potency in Cumulative Hazard Assessment: A Pilot Study of Organophosphorus Pesticide Chemicals
- Residential Exposure Models
- Calendex Dietary Exposure Model
- Aggregate and Cumulative Assessments Using Lifeline™

> **Problems cannot be solved at the same level of awareness that created them.**
>
> **--Albert Einstein**

Einstein Making an Exit: Berlin Physikalisches Institut

2 REGISTERING PESTICIDE PRODUCTS

Jim Hollins is the Team Leader of the Document Processing Office where pesticide data are submitted.

2 Registering Pesticides

One important responsibility of the Office of Pesticide Programs (OPP) is to register, or license, new active ingredients (A.I.). In the last year we continued to not only exceed our annual registration goals, but we also placed a high priority on registering "safer" or "reduced-risk" pesticides.

In FY 2000, EPA registered 22 new pesticides, including 9 new biopesticides, 7 conventional reduced-risk pesticides, 2 antimicrobials, and 4 conventional pesticides. OPP also registered 427 new food uses and non-food uses for pesticides. Many of these pesticides are safer substitutes for more toxic conventional pesticides. Many have public health benefits and are of particular economic importance to growers.

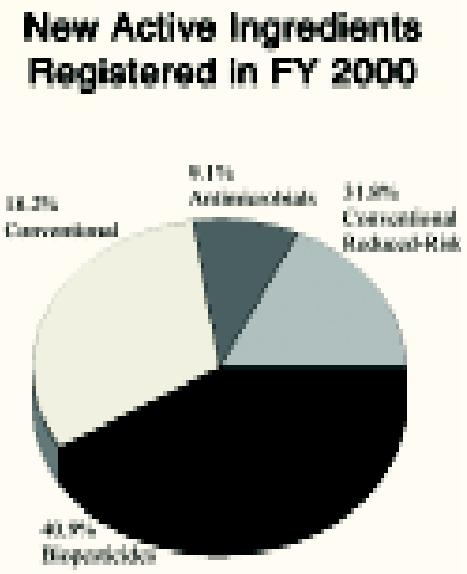
See Appendix A-1 for a list of pesticide active ingredients registered in FY 2000. Appendix A-2 lists FY 2000 new uses for both new active ingredients and previously registered active ingredients.

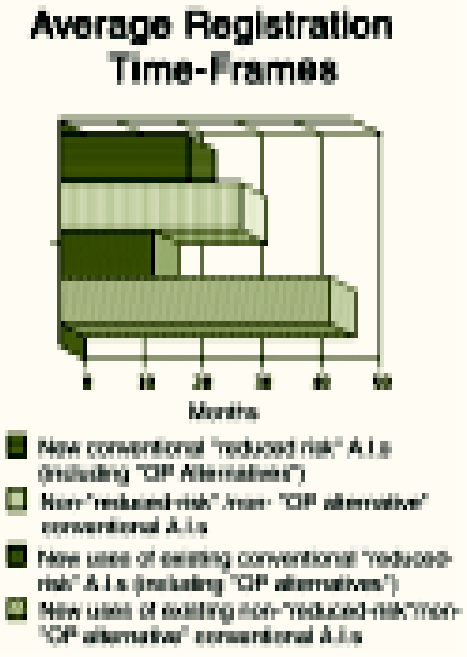
5 Organophosphate (OP) Alternatives Registered: With these 5, at the end of FY 2000, the total of pesticides registered as alternatives to the more toxic OP pesticides was 12. In registering a new active ingredient, EPA gives priority to and expedites review of alternatives to OPs. Since FQPA, the average registration timeframe for a new conventional reduced-risk active ingredient (including OP alternatives) has been 22 months, compared to 31 months for non-reduced-risk/non-OP alternative conventional chemicals. The average registration timeframe for new uses of conventional reduced-risk pesticides (including OP alternatives) is 16 months, compared to 46 months for non-reduced-risk/non-OP alternatives new uses. Appendix A-3 lists OP alternatives registered since the passage of FQPA.

16 Reduced-Risk Conventional Pesticides and Biopesticides Registered: We remained strongly committed to promoting the development and use of safer pesticides. Reduced-risk conventional pesticides and biopesticides accounted for 73 percent of all new registered active ingredients in FY 2000. EPA registered 211 new uses for reduced-risk conventional pesticides and 276 new tolerances for all reduced-risk conventional pesticides (which includes both newly registered and existing active ingredients). We also registered 120 new uses for biopesticides and four new tolerances for all biopesticides in FY 2000. Appendix A-4 depicts the increased registration of less risky pesticides over the past 16 years.

Registering Conventional Pesticides: New uses for conventional pesticides registered in FY 2000 totaled 88, and OPP established 172 new tolerances for all conventional pesticides.

Registering Antimicrobial Pesticides: OPP made significant progress in the regulation of antimicrobials this year. We registered two new antimicrobial pesticides and eight new uses for antimicrobial pesticides. FQPA requirements mandated that OPP streamline antimicrobial registration. This was accomplished, and with revisions to registration procedures, we have been able to significantly shorten the review time. All FQPA deadlines were met in shorter times than required, and non-



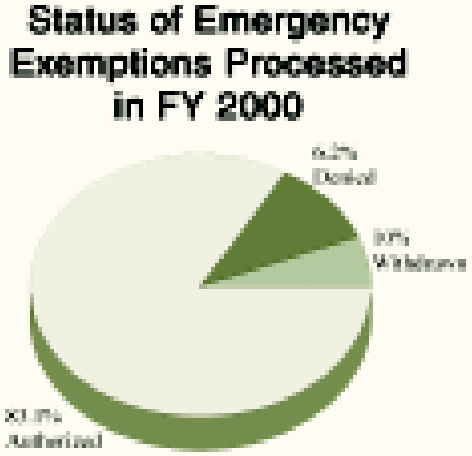


FQPA pending actions were reduced from a high of 388 on December 31, 1996, to 16 as of September 30, 2000.

901 New Minor Uses Registered: The Agency worked with USDA, registrants, and other stakeholders to register 901 new uses for minor use crops in FY 2000. FQPA also directed us to give special consideration to minor uses. We registered more than 100 new minor uses just for *Candida oleophila*, a biopesticide used on bulb vegetables, cucurbits (includes crops such as melons, cucumbers, squash, and pumpkins), legumes, root and tuber vegetables, flowers, and other ornamentals.

549 Emergency Exemption Requests Processed: In FY 2000, OPP received 549 requests for emergency exemptions, of which 458 were authorized, 34 were denied, and 59 were withdrawn by states. The average turnaround time for emergency exemption requests was a historic low of 44 days despite the additional work required by FQPA. OPP is currently processing requests faster than the regulatory goal of 50 days (in 1997 the average processing time was 81 days).

Did You Know: **The Cucurbitaceae family is a medium-sized plant family, comprising some 118 genera and 825 species widely distributed throughout warmer regions of the world.**



Approval of 95 Other Ingredients in Pesticide Products: During this year, OPP approved 95 "other ingredients" (also known as inert ingredients in pesticide products). All of these have been determined to be safer than many of the older ingredients of this type. The Agency also formed the Inert Disclosure Stakeholder Workgroup (IDSW) through the Pesticide Program Dialogue Committee (PPDC). The IDSW will advise EPA through the PPDC on ways to increase the availability of information about other ingredients in pesticide products to the public.

Use of Chlorfenapyr on Cotton Not Granted Due to Potential Harm to Birds: In March 2000, EPA completed its review of the pesticide chlorfenapyr for use on cotton. EPA made the determination that chlorfenapyr does not meet the requirements for registration under FIFRA. EPA made this determination after considerable scientific evaluation, external peer consultation, and significant evidence amassed by our experts that led to the determination that chlorfenapyr used on cotton would persist in the environment and have harmful reproductive effects on birds. The Agency concluded that the potential environmental risks posed by the proposed cotton use of chlorfenapyr significantly outweighed the substantial projected economic benefits from this use. American Cyanamid (the manufacturer) subsequently withdrew its registration application for the cotton use.

Recognizing that cotton production is vital to American agriculture, OPP worked with farmers to help ensure that they have effective, lower-risk alternatives to control devastating cotton pests, such as the beet armyworm. As a result, two alternatives were registered in FY 2000--spinosad (Tracer) and tebufenozide (Confirm).

"One of our greatest opportunities to reduce pesticide risks to public health and the environment is through our pesticide registration program."

--Marcia E. Mulkey, Director, Office of Pesticide Program

3 REGULATING PLANT-INCORPORATED PROTECTANTS DERIVED FROM BIOTECHNOLOGY

Regulating Plant-Incoporated Protectants

EPA's Office of Pesticide Programs (OPP) also regulates the manufacture, sale, and use of pesticides derived from biotechnology—plant-incorporated protectants (PIPs). OPP must register these types of pesticides and set food tolerances for residues of plant-incorporated protectants (or determine on a case-by-case basis to exempt them from the food tolerance requirement) before they can be marketed. The United States Department of Agriculture (USDA) also regulates the plants which produce these pesticides by requiring that the manufacturers of the plants obtain permits (or an exemption from the permit requirements) before the plants may move in commerce or be released into the environment. USDA also regulates crops genetically engineered to be tolerant of herbicides, but not the herbicide applied to the plant. FDA's regulatory responsibilities are to ensure that the food is safe to eat, to set standards for food labeling, and to take corrective action if contaminants are found in food.

OPP's biotechnology activities for FY 2000 focused on increasing transparency and public participation in decision-making and strengthening the scientific foundations of our regulatory programs. We did this through a series of public advisory committee meetings and workshops on scientific issues, as well as through publication of new data and analysis for public review and comment.

Updated Scientific Assessment of Expiring *Bacillus thuringiensis* (Bt) Registrations: One of the major efforts of FY 2000 was a comprehensive risk and benefit assessment for expiring Bt PIPs. The reassessment covered all data submitted to EPA for the initial registration of these products and all data and information that have become available since the initial registration. OPP submitted a preliminary reassessment document to the public for comment and to the FIFRA Scientific Advisory Panel (SAP) in October.

Although the reassessment will guide the comprehensive reconsideration of all aspects of the registration of Bt products, in FY 2000, it has prompted EPA to make several interim changes. EPA strengthened insect resistance management requirements for these registrations. One Bt corn product scheduled to expire was voluntarily canceled, and three additional products are being phased out by the registrant.

In addition to consideration of recommendations made by the SAP and the public, the final reassessment--due in FY2001--will be guided by the findings of the 1999 National Academy of Sciences (NAS) report on Genetically Modified Pest-Protected Plants. The assessment covers all data submitted to EPA for the initial registration of these products and everything available since the registration. Several prominent aspects of the Bt Reassessment are discussed below.

Understanding Bt Corn's Potential Effects on the Monarch Butterfly: In June 1999, a published study raised questions regarding the potential risks to Monarch butterflies from pollen of certain strains of genetically modified corn. Potential effects on non-target pests including several insects were part of

Two Divisions in OPP regulate products of modern biotechnology:

- The Registration Division regulates the herbicides used on **herbicide tolerant crops** such as Round Up Ready Soybeans®.
- The Biopesticides and Pollution Prevention Division regulates products of **biotechnology that directly produce pesticidal substances**–microbial pesticides such as Bt engineered to produce an additional insecticidal compound; the Bt plant-incorporated protectant–the plants produce the protein toxic to insects; and biochemical pesticides manufactured using engineered bacteria.

Using a pin inoculator, a technician can simultaneously test 32 separate *Bacillus thuringiensis* isolates.

EPA's evaluation prior to registration. EPA estimated that non-target moths and butterflies would not be exposed to a significant amount of Bt corn pollen. To help identify actual risks to Monarch butterflies, EPA issued a data call-in (DCI) notice to the registrants of Bt corn products in December of 1999. The DCI focused on information in several areas relating to potential Bt corn impacts on non-target lepidopterans, especially Monarchs and the endangered Karner Blue butterfly.

In November 1999 and February 2000, OPP staff participated in USDA meetings to review the preliminary results of these field studies and identify future needs for Monarch research. Two additional workshops are planned for Fall 2001 to discuss the results of the 2000 season's field trials. Authors of these Monarch studies will try to expedite the publications of their scientific papers so they can share their results with the public more rapidly. The final risk assessment for Bt, due in FY 2001, will reflect the field trial results, as well as OPP's analysis of the data.

Insect Resistance and Refuge Requirements: In FY 2000, the insect resistance management plans for Bt potatoes were modified to make the refuge requirements mandatory rather than voluntary, and the Bt cotton refuge requirements were strengthened. A new type of refuge option called an embedded refuge was also included. EPA also mandated a consistent set of required refuge strategies for all Bt corn products and strengthened existing resistance monitoring plans. OPP worked collaboratively with industry, grower groups, environmental organizations, and USDA to make these changes.

Did You Know:

The first generation of biotech crops was approved by EPA, FDA, and USDA in the mid 1990s. By 1999, transgenic varieties accounted for 33 percent of corn acreage, 50 percent of soybean acreage, and 55 percent of cotton acreage in the U.S.

StarLink Corn: In the fall of 2000, EPA and USDA learned that some corn products in grocery stores contained traces of StarLink corn, a strain of genetically modified corn approved for use in animal feed but not cleared for human consumption due to unresolved allergenicity questions. These findings resulted in the voluntary cancellation of StarLink's registration by Aventis CropScience, the manufacturer. In addition, EPA has worked closely with USDA and FDA to remove all possible StarLink corn from the food supply and ensure that no more StarLink is used in food products. In FY 2001, EPA will continue to follow the StarLink issue closely. Next steps by the government relating to StarLink include:

- EPA, FDA, and CDC conducting a follow-up investigation of the health incidents reported,
- EPA evaluating new data on processing effects on StarLink residues,
- EPA evaluating analytical methods to measure StarLink residues,
- FDA further monitoring of the food supply to determine if StarLink residues are present, and
- Continued review of scientific data by the FIFRA SAP.

Agricultural engineer examines a sample of grain collected from this combine's grain flow sensor

Responding to Stakeholders: OPP produced a detailed scientific response to a Greenpeace petition that focused on insect-resistance management and ecological effects. To support the response, we revised, updated, and produced technical fact sheets for each registered Bt plant-pesticide. In addition, we produced reports for meetings with the FIFRA SAP on ecological effects and data requirements for protein PIPs. Following OPP's response, on July 21, 2000, Greenpeace withdrew its lawsuit related to the petition. The petition response and other documents can be found on our biotechnology Web site at www.epa.gov/pesticides/biopesticides.

Promoting Dialogue and Peer Review on Biotechnology Issues: OPP staff gave presentations at workshops, symposia, and public meetings on biotechnology. In addition, the Agency held three public meetings of the SAP on specific biotechnology issues in FY 2000:

- December 8-9, 1999—Data Requirements for Currently Registered PIPs,
- February 4, 2000—Food Allergenicity of Cry9C Endotoxin and Non-Digestible Proteins, and
- May 17, 2000—Mammalian Toxicity Assessment Guidelines for PIPs.

EPA also took part in an administration-wide biotechnology review led jointly by the Council on Environmental Quality (CEQ) and the Office of Science and Technology Policy (OSTP). The review focused on regulation of ecological impacts of biotechnology products including relevant PIPs. A report was developed using a case study approach to be issued in FY 2001. The Agency also coordinated with the NC 205, a combination of USDA and independent scientists studying the European corn borer. NC 205 provided the Agency with research and suggestions regarding insect-resistance management programs for the Bt crops.

International Biotechnology Meetings

International meetings held on biotechnology in FY 2000 included:

√ the Codex Ad Hoc Task Force on Standards for Foods Derived from Biotechnology;

√ OECD meetings implementing the biodiversity protocol, and intergovernmental meetings or conferences in South Africa, Brazil, and Europe; and

√ many international guests from New Zealand, Australia, Europe, Africa, Asia, and Central and South America received briefings on our regulation of biotechnology products.

4 REREGISTERING PESTICIDES AND REASSESSING TOLERANCES

4 Reregistering Pesticides and Reassessing Tolerances

This fiscal year, through the pesticide reregistration program, EPA made significant progress in completing risk assessments and risk management decisions for many of the organophosphates (OPs) and for several other pesticides, our highest priority for reregistration and tolerance reassessment. The Agency initiated actions to significantly reduce use and exposure to two OP pesticides used widely in and around the home: chlorpyrifos and diazinon. Our agreements with the manufacturers to phase out and cancel indoor and outdoor residential uses and other uses of concern during the next few years will significantly mitigate risks to children, families, workers, wildlife, and the environment. EPA reviewed the safety of 19 pesticide active ingredients found in approximately 2,000 pesticide products on the market and completed 121 tolerance reassessment decisions.

The Agency issued Reregistration Eligibility Decision (RED) Documents for 6 of these 9 pesticides, Interim REDs (IREDs) for 7 pesticides, and Tolerance REDS (TREDs) for the remaining 6 pesticides. Of these 19 pesticides, all uses of 1 pesticide--ethyl parathion--are being cancelled; some uses of 6 pesticides are being cancelled: terrazole, vinclozolin, fenthion, oxamyl, phorate, propetamphos; and other types of risk mitigation measures are being taken for all except mevinphos and fenitrothion. Appendix B-1 contains summaries of our decisions for these 19 pesticides. Some examples of other risk-reduction measures include: prohibiting certain application methods, increasing entry intervals, requiring protective clothing, and restricting use near bodies of water.

Fourteen of the 19 pesticides for which reviews were completed are OPs. Appendix B-2 presents the review status of the OP pesticides. OP status information and the available risk assessment and risk management documents are also on EPA's web page (**www.epa.gov/pesticides/op/**).

In conducting reviews of the OPs, EPA piloted a process to enhance transparency and public participation. The process was devised in consultation with the Tolerance Reassessment Advisory Committee (TRAC), an advisory group with a wide variety of stakeholders, co-chaired by the Deputy Administrator of EPA and the USDA Deputy Secretary. Using this process, we have presented for comment and refined our risk assessments for OPs based on sound scientific data and information from our stakeholders. The Agency is committed to following a similar process to conduct reassessments mandated by FQPA for the remaining OPs and other food-use pesticides and for all pesticides undergoing pesticide reregistration. EPA took action to increase opportunities for public involvement in the development of future REDs by publishing a proposed process for public participation in risk assessment and risk management for all chemicals in reregistration. This final process will be in place for chemicals to be reviewed after 2001. An interim process was applied to non-OP chemicals reviewed in 2000 and will be used in 2001 (see Appendix B-3).

Reregistration Decisions Completed in FY 2000

6 REDs:
Diclofop-Methyl
Ethyl Parathion*
Temephos*
Terrazole (Etridiazole)
Triallate
Vinclozolin

7 IREDs:
Bensulide*
Fenthion*
Oxamyl**
Phorate*
Profenofos*
Propetamphos*
Tribufos*

6 TREDs:
Cadusafos*
Chlorethoxyfos*
Coumaphos*
Fenitrothion*
Mevinphos*
Phostebupirim*

* Organophosphate (OP)
** Carbamate

5 ENSURING TRANSITION TO ALTERNATIVE PEST MANAGEMENT TOOLS

5 Ensuring Transition to Alternative Pest Management Tools

This year, EPA worked closely with USDA, the agricultural community, and other pesticide users to ensure that our pesticide regulatory decisions —primarily our aggregate risk assessments for the OPs — were realistic and based on sound science. The Agency increased opportunities for public involvement in the risk assessment and risk management processes for all chemicals in reregistration. We re-affirmed our commitment to registering safer OP alternatives and supported the development of other innovative pest management tools. The Committee to Advise on Reassessment and Transition (CARAT) was created as a follow-on to TRAC. At its first meeting in June 2000, CARAT members reviewed current efforts to assess pest management issues and considered ways the committee's advice could advance USDA and EPA efforts.

We also worked together to ensure that growers are able to make the transition to safer, cost-effective alternative pest management tools and approaches. For many crops, lower risk pesticides already exist. The Agency also supported innovative pest management through the Pesticide Environmental Stewardship Program (PESP), a voluntary partnership between EPA and pesticide users. The goal of PESP is to reduce pesticide risks encountered in both agricultural and non-agricultural settings. The voluntary program includes more than 130 partnerships (see page 22). PESP members come from a range of different organizations: commercial and residential pest control, agriculture, landscape and turf, utilities/rights of way companies, networking/technology transfer companies, and government.

Many of the FY 2000 submissions included encouraging results, enabling growers to transition to safer, cost-effective alternative pest management tools and approaches, for example:

- **Del Monte Foods,** along with the Yakima Valley Pear IPM Project, has been able to reduce OP use by 45 percent. Its canned products showed no detectible residues.

- **The Winter Pear Control Committee** in Oregon has been able to reduce synthetic pesticide use by 74 percent during the last 5 years and also reduce OP use by 66 percent.

- **Apples in Michigan**. In test trials last year, OP use was cut in half on an experimental plot of 900 acres of apples in Michigan. In FY 2001, the trial plot area will be expanded to 2,900 acres and many of the orchard blocks are on track to be OP-free.

- **Pears in Yakima, Washington**. More than 2,000 acres, were enrolled in this project. OP and carbamate use were reduced 30 to 50 percent in trial areas.

PESP Goes Beyond Agriculture

The New York City Board of Education, one of our PESP Partners, reduced pesticides use in its schools by 33 percent last year. This school year (September 2000), they began using only boric acid and baits. The Board avoids any and all use of pesticide products in classrooms and other areas where students might be exposed to potentially harmful levels of pesticides.

Photo on previous page: Pineapple in Hawaii grown with biodegradable plastic mulch.

Did You Know:

Paris green, also called Schweinfurt green, was used in 1867 to control an outbreak of the Colorado Potato Beetle. This extremely poisonous, bright green powder was once used extensively as a pigment (e.g., in wallpaper). Chemically it is a copper acetoarsenite that may be prepared from arsenic trioxide and copper acetate.

Other exciting projects include:

- **Campbell Soup Supply Company** is using disease forecasting for tomatoes, celery, and peppers. By using this process called TOM-CAST, Campbell has been able to reduce sprays by 50 percent.
- **Glades Crop Care, Inc.,** in Florida has found that its pepper growers can spend 63 percent less money on pest management by making fewer applications of pesticides, applying chemicals that are much less environmentally disruptive, and using a more biointensive pest management program. In addition, these growers used 43 percent fewer pesticides on their pepper crops.
- **Pineapple Growers Association of Hawaii** is using an innovative injection sprayer that releases herbicides only where they are needed. The association is also testing a "living mulch" grass cover crop that is stunted in height and out-competes other weeds.
- **The Mint Industry Research Council** promotes the use of predatory mites to control spider mites and the use of clean rootstock that will prevent the introduction of diseased material into new fields at the time they are being established.

Many PESP projects are made possible through EPA grants. For example, EPA provides grants to the American Farmland Trust's Center for Agriculture in the Environment, and the USDA Sustainable Agriculture Research and Education Program (SARE). American Farmland Trust, Center for Agriculture in the Environment projects are pesticide risk/use reduction activities targeted to major commodity groups and intended to complement the FQPA. Most of the projects are unique public-private partnerships with multiple funding sources, including private foundations (.e.g, Pew Charitable Trusts) and environmental groups (e.g., the World Wildlife Fund).

The SARE program is a regionally administered education and demonstration program designed to promote environmentally friendly (and sustainable) farming practices that include: increased biodiversity, clean water, use of advanced IPM, cover crops and rotations, and soil tilth. EPA contributes grant funds to the SARE program through an IAG with USDA, and provides technical and administrative support to the program. For more information on PESP and its members, visit our Web site at **http://www.pesp.org** The 2000 Pesticide Environmental Stewardship Program Members are:

PESP Partners (Organizations that use pesticides or represent pesticide users are eligible to become PESP Partners.)

All Service Pest Management, Inc.
Almond Board of California
American Electric Power Service Corporation
American Mosquito Control Association
American Nursery and Landscape Association
American Peanut Council
American Pest Management, Inc.
Arizona Public Service
Artichoke Research Association
California Citrus Research Board
California Cling Peach Growers Advisory Board
California Floral Council
California Fresh Carrot Advisory Board
California Lettuce Research Board
California Melon Research Advisory Board
California Pear Advisory Board
California Pear Growers
California Pistachio Commission
California Prune Board
California Tomato Commission
Carolina Power & Light
Central Maine Power Company
Central Virginia Electric Cooperative
Chevy Chase Village
Chicago Parks District, Department of Conservatories
City of Davis, CA
City/County of San Francisco (CA) Department of Agriculture
Conectiv (DE)
Cranberry Institute (MA)
Duke Power Company (NC)
Ecolutions, Inc. (CA)
Eden Advanced Pest Technologies (WA)
Edison Electric Institute (DC)
Environ "Pest Elimination" Inc. (TN)
Fischer Environmental Services Inc (LA)
Florida Fruit & Vegetable Association (FL)
Florida Pest Control Association (FL)
Florida Turfgrass Association (FL)
Georgia Peach Council (GA)
Golf Course Superintendents Association of America (KS)
Griggs County, ND 319 Water Quality Project (ND)
Hawaii Agriculture Research Center
Hawaii Banana Industry Association
Hawaiian Electric Company
Hood River Grower-Shipper Association
Kansas Corn Growers Association
Kansas Grain Sorghum Producers Association
Lodi-Woodbridge Winegrape Commission
Low Input Viticulture and Enology of Oregon
Massachusetts IPM Council
Massey Services, Inc.

PESP Supporters (Organizations that have an interest in pesticide issues are eligible to become PESP Supporters.)

Agricultural Conservation Innovation Center
American Association of Pesticide Safety Educators
Aqumix, Inc.
Association of Applied Insect Ecologists
Auburn University - Department of Entomology & Plant Pathology
Audubon International
Bay Area Stormwater Management Agencies Association
Bio-Integral Resource Center
Campbell Soup Company
Claymont Center for Continuous Education
Del Monte
Farm*A*Syst / Home*A*Syst
Gempler's Inc.
General Mills, Inc.
Gerber Products Company
Glades Crop Care, Inc.
Institute for Agriculture and Trade Policy
IPM Institute of North America, Inc.
Maryland Department of Agriculture
Miami Tribe of Oklahoma
National Council of Farmer Cooperatives
Northeast Research, Extension & Academic Program Committee for IPM
Rainforest Alliance - ECO O.K. Program
United States Golf Association
University of Florida Cooperative Extension Service
University of Wisconsin Center for Integrated Agricultural Systems

6 RESPONDING TO PESTICIDE SAFETY AND PUBLIC HEALTH CONCERNS

6 Responding to Pesticide Safety and Public Health Concerns

Pesticides contribute to an ample food supply, are vital for controlling disease-causing vectors (pests, such as mosquitoes, which spread disease), and keep our homes and gardens free from deleterious pests. EPA is dedicated to ensuring that pesticides can be used without posing unreasonable risks to public health and the environment. Our dedication does not end once a pesticide has been registered. In FY 2000, EPA responded to several pesticide safety and public health concerns:

- **Chlorpyrifos:** We made an agreement with registrants to phase out and eliminate chlorpyrifos termiticide and residential indoor and lawn uses. The agreement also will significantly lower allowable residues on certain crops, including fruits and vegetables regularly eaten by children, thereby reducing or eliminating the most important sources of exposure.

- **Allercare:** To avert additional possible harmful effects to consumers, at our urging, S.C. Johnson and Son, Inc., issued an immediate voluntary recall after more than 400 people reported experiencing medical problems after using one of two products: AllerCare™ Dust Mite Powder or AllerCare™ Dust Mite Allergen Spray for Carpet and Upholstery.

- **Pull 'N Spray Containers:** We worked in cooperation with the Scotts Company and Monsanto Corporation to alert consumers to return two pesticide products in Pull 'N Spray containers for full refunds — Roundup® Ready-to-Use Weed & Grass Killer and Ortho® Ready-to-Use Home Defense™ Indoor & Outdoor Insect Killer. The Pull 'N Spray pump mechanism had the potential to malfunction and expose the user to the pesticide contents.

- **PUR Water Purifier Failure:** In cooperation with Procter & Gamble, EPA worked to remove from the marketplace all PUR water purifiers with carbon filters. It was determined that the carbon filter actually removed the purifying chemical from the water before it was fully successful in treating the water. Procter & Gamble recalled all such products and placed signs identifying the deficiency in retail outlets where the units were sold. They also published ads in camping magazines to advertise the recall. The company then submitted data to the Agency demonstrating that the product still works effectively without the carbon filter, so the Agency allowed remaining stocks to stay in the channels of trade.

- **Pesticides and Public Health:** In FY 2000, OPP's Public Health Official (PHO) coordinated with the Centers for Disease Control and Prevention (CDC) and USDA on public health issues relating to pesticides used to control mosquitoes carrying the West Nile Virus. In May 2000, OPP developed a series of fact sheets relating to pesticides used to control mosquitoes carrying the West Nile Virus:

    - "Pesticides and Mosquito Control"
    - "Larvicides for Mosquito Control"

Use of Chlorpyrifos Retained for Mosquito Control to Protect Public Health

Despite great strides in vector control over the past 50 years, mosquito-borne diseases continue to pose significant threats to the public in the United States. Current challenges posed by the West Nile virus, for example, illustrate the importance of having effective mosquito control tools available. State and local health departments which have a critical, front-line role in protecting the public from mosquito-borne diseases, carry out prevention, education, and eradication efforts. They can rely on many EPA-registered insecticides that they can employ without posing unreasonable risk to human health or the environment.

Within the arsenal of pesticide products still available for public health uses are OP insecticides such as chlorpyrifos. OPs affect the functioning of the nervous system and are in the priority group of pesticides being reviewed under FQPA. Chlorpyrifos is commonly found in many home and garden bug sprays. It has been used to combat termites and is also used on some agricultural crops.

EPA released its revised risk assessment of chlorpyrifos and announced an agreement with registrants to eliminate and phase out certain uses of the pesticide. Chlorpyrifos use will be virtually eliminated in and around homes and in nonresidential settings. Under the agreement, ultra low volume applications of chlorpyrifos for mosquito control will be allowed to continue. Chlorpyrifos use by professional applicators for fire ant control will also be allowed to continue. These applications provide an important public health benefit without posing risks of concern.

- "Synthetic Pyrethroids for Mosquito Control"
- "Naled for Mosquito Control"
- "Malathion for Mosquito Control"

EPA's mosquito-related fact sheets are available online at www.epa.gov/pesticides/factsheets/skeeters.htm. Our website also links to CDC's website which provides information on West Nile Virus: http://www.cdc.gov/ncidod/dvbid/westnile/index.htm

In FY 2000, OPP's PHO also chaired EPA's Public Health Steering Committee, which includes members from each OPP Division. This Committee worked with CDC to develop a list of public health pests; an EPA/CDC Memorandum of Understanding (MOU) that provides a framework for interagency coordination; and standard operating procedures for the EPA and CDC consultative process.

Other pesticide issues EPA and CDC worked together on in FY 2000 include: insect repellent labeling and efficacy testing protocols, and identifying ways to further enhance coordination activities, including staff exchanges and Week in Residence (WIRE) programs.

During 2000, infected or dead birds, such as crows, often provided the first indication that the West Nile Virus was present in the area. Mosquitoes, which are largely bird feeding species, transmit the virus to people and animals.

EPA and CDC officials sign a Memorandum of Understanding to coordinate programs to control pests of public health concern. From left to right: Dr. James M. Hughes, Director of The National Center for Infectious Disease; Marcia E. Mulkey, Director of EPA's Pesticide Programs; and Dr. Richard J. Jackson, Director for the National Center for Environmental Health.

Did You Know: **Use of Methyl Parathion on many fruit and vegetable crops became unlawful as of January 1, 2000 as a result of 1999 voluntary cancellation.**

"Treated Articles" and Public Health Claims: In recent years, the marketplace has experienced a proliferation of products (e.g., sponges and cutting boards) that are treated with pesticides ("treated articles") that bear implied or explicit public health claims. Product labels for many treated articles contain claims of antibacterial properties for protection against bacteria, fungi, and viruses, or make specific claims against pathogenic organisms that may cause food poisoning, infectious diseases, or respiratory problems. EPA's treated articles policy (Federal Register Notice, 4/17/98) clarified the current enforcement policy that "no implied or explicit public health claims of any kind may be made..." for treated articles. Further, EPA's policy states that "the claims concerning the presence of a pesticide in the treated article are limited to the protection of the treated article only."

To minimize both consumer and industry confusion over what constitutes a correct and acceptable product claim, EPA clarified its current policy and offered guidance with respect to the scope of the treated-article exemption in Pesticide Registration (PR) Notice 2000-1. Subsequently, EPA issued PR Notice 2000-10, which indicated that the Agency will begin to rely on the guidance in PR Notice 2000-1 as of April 30, 2001.

Making Sure Hospital Disinfectants Work: OPP's Microbiology Laboratory is testing hospital disinfectants and tuberculocides. In the past year the new lab at the Environmental Science Center at Ft. Meade, Maryland, has been evaluating selected product performance claims (Pseudomonas, Staphylococcus, and Mycobacterium) for hospital disinfectants and tuberculocides to ensure that they perform as intended.

The team tested product formulations including towelette, spray, and ready-to-use formulations. Results of the tests are then shared with OPP's Antimicrobial Division and the Office of Enforcement and Compliance Assurance for appropriate followup. We have also expanded the testing program by including four state laboratories (Ohio, Michigan, North Carolina, and Mississippi) in the project.

Workshops on antimicrobial testing at the Environmental Science Center in November 1999 and August 2000 brought scientists together from the state laboratories and the Food & Drug Administration to learn more about the technical aspects of product testing.

7 SUPPORTING FIELD PROGRAMS

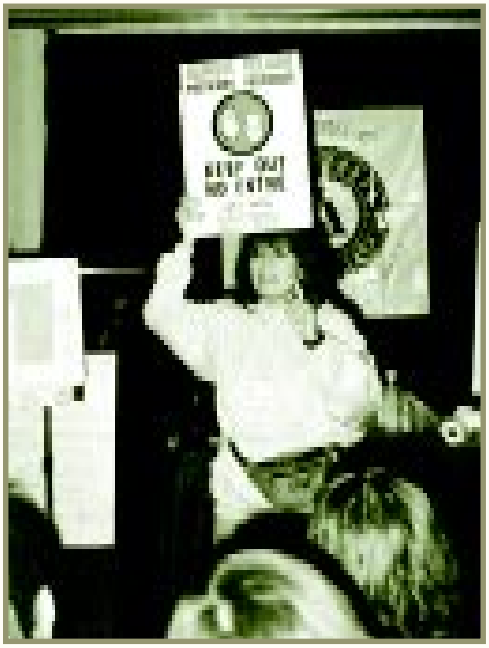
Tribal Pesticide Program Council members and EPA staff meet at the Yakima Nation in Washington State - September 2000.

7 Supporting Field Programs

Through increased coordination and a strong commitment to continued collaborative relationships among EPA regional offices, state pesticide regulatory agencies, tribes, public interest groups, private organizations, and other stakeholders, OPP has been successful at implementing its regulatory programs in the field.

Increasing Protection for Pesticide Handlers and Field Workers

Reassessing Pesticide Applicator Certification and Training: Comprised of OPP, USDA, state pesticide agencies, tribes, and pesticide safety educators, the Certification and Training Assessment Group (CTAG) is reassessing the adequacy of current programs for training and certifying applicators of restricted use pesticides. These higher-risk pesticides may be applied only by or under the direct supervision of specially trained and certified applicators. States, territories, and tribes conduct these programs according to national standards set by OPP. In January 1999, CTAG published recommendations for changes to guide the program's future. In FY 2000, OPP implemented certain recommendations, which include conducting national test validation workshops, initiating public and private projects to develop training materials, and sharing training materials through website postings. Pesticide applicator certification and training information can be found at **www.epa.gov/oppfead1/safety/applicators/applicators.html.**



Farmworkers participate in training led by Angela Campos, an AFOP AmeriCorps member who received the All-AmeriCorp Leadership Award for 2000.

Worker Protection Assessment Group: In June 2000, OPP hosted the first meeting of the Worker Protection Assessment Group, which includes over 100 stakeholders representing state departments of agriculture, worker advocacy groups, county extension services, grower groups, and federal agencies, to discuss issues and needs for improving worker protection regulations. The goal of this group is to assess the current worker protection program, generate a consortium of interests that can effect change in the program, provide a means to foster the partnerships essential to make the program work, and provide a continuing forum to focus on and resolve worker protection issues. Broad themes emerged from the meeting that will serve as the focal point for the assessment, such as inspection, training, children's health, and communication and information exchange. The worker protection assessment group will help the Agency develop a strategic plan for improving the national worker protection program.

National Program to Train Farmworkers and Their Families about Pesticide Safety: Through a cooperative agreement with the Association of Farmworker Opportunity Programs (AFOP), EPA funded a national program to train farmworkers and their families about pesticide safety. Joining forces with AmeriCorps, AFOP expanded its small pesticide safety education program into a highly successful partnership between AFOP, AmeriCorps, EPA, and 37 community-based organizations across the country.

Farmworkers participate in training led by Victoria Gonzales, an AFOP AmeriCorps member.

Courage am I

Courage am I.
Outstanding art is in my community.
Read our path-
In our community we share.
Now I will change the world.
Amazing is our community.

Reflecting in my thoughts
Unity is our community.
In our community we educate.
Zipping our minds.

When I make these choices
I am a hero
I am Corina Ruiz
I am part of the Young Farm
Workers' Academy.

-C. Ruiz, 10

In the sixth year of this program, AFOP AmeriCorps members have trained more than 150,000 farmworkers, farmworker children, farmers, and community members in 22 states: AZ, AR, CA, CO, FL, GA, HI, IN, LA, MA, ME, MD, MT, NJ, NY, NC, OH, PA, TX, UT, VA, and WA. As part of this effort, farmworkers, their families, and farmers learn ways to protect themselves and others from adverse effects of pesticides and to comply with the Worker Protection Standard. Many of the AFOP AmeriCorps members come from farmworker families and will go on to utilize their educational awards toward a career in public health, community service, or the environment.

Educational Mentoring Program for Children of Farm Workers: In FY 2000, EPA provided funds for the development of the Young Farm Workers' Academy (YFA). Implemented by Equity Research Corporation, the University of Texas at Brownsville, and the Texas Southmost College, this pilot mentoring program provided 55 elementary, middle, and high school children of migrant workers with an increased awareness of organic gardening, pesticide safety, health and well-being, and opportunities for a college education. Fifty trained mentors (university students, parents, and community leaders) developed and established bonds with the children. They were also able to increase the children's awareness of pesticide safety and parents' participation in their children's education.

On September 21, 2000, 10 YFA students participated in EPA's 2000 Hispanic Heritage Month Celebration in Washington, D.C. EPA's theme was "Children: Our Hope for the Future." The YFA students shared with OPP their experiences working on the farm and what they have learned in the program. The students–Kimberley Benitez, Guadalupe Gaona, Anna Karem Garza, Rosita Reyes, Corina Torrina Ruiz, Leo Mariscal, Rodrigo Reyes, Cindy Alonso, Daisy Alonso, and Gloria Castillo–were accompanied by their chaperones--Aaron Brenner; YFA staff members; Ofelia Gaona, the Runn Elementary Principal; and Dr. Manzillas from the University of Texas at Brownsville.

YFA students share their farming experiences with OPP.

Increasing the Quality of Groundwater Resources

Finalizing the Groundwater Pesticide Management Plans (PMPs): In 1996, OPP published a proposed rule that represents a new regulatory approach to the management of certain pesticides that would otherwise be considered for cancellation due to their toxicity and their widespread occurrence and persistence in the environment. Under the proposed rule, use would be allowed to continue in states and on tribal lands if the state or tribe develops chemical-specific management plans for them. These plans must specify the variability in local hydrogeology, vulnerability, and use patterns. This rule was developed with state and tribal input. As of FY 2000, 24 states and one tribe have voluntarily completed "generic" management plans that have received regional concurrence.

Protection of Wildlife and Endangered Species

New Information Management System: An industry task force (the FIFRA Endangered Species Task Force, or FESTF), in partnership with OPP, this year developed an Internet-based information management system to facilitate risk assessments for endangered and threatened species. Test runs and pilots of the system are expected to occur through next summer. When the system is operational at OPP, anticipated in 2002, it will provide both FESTF-member registrants and OPP risk assessors with a consistent, standardized method for analyzing pesticide-use information and species-location data. The system includes a list of species in the areas of interest, a list of EPA-approved mitigation measures applicable to the particular situation, and a large database of information from subject-area experts, allowing registrants and EPA either to identify existing mitigation measures or to propose new ones. Information on OPP's Endangered Species Protection Program is available at **www.epa.gov/espp/**.

New Jaguar Information Sheet: OPP worked with the Fish and Wildlife Service (FWS) to determine and implement mitigation measures to protect the jaguar in six counties in Arizona and one in New Mexico — the jaguar's current range in the U.S. As an obligation to conserve threatened and endangered species under Section 7 of the Endangered Species Act, OPP developed a draft fact sheet on the endangered jaguar. The information sheet is under review by FWS. (See box for list of available information sheets on endangered species.)

Improving the Process for Protecting Endangered Species: In FY 2000, OPP began discussions with the FWS and the National Marine Fisheries Service on ways to more quickly and efficiently protect threatened and endangered species.

Endangered Species Information Sheets

Amber Darter
Arizona Cliffrose
Attwater's Prairie Chicken
Autumn Buttercup
Bald Eagle
Blackside Dace
Blue Ridge Goldenrod
Boulder Darter
Brady Pincushion Cactus
Bunched Arrowhead
California Least Tern
Chapman's Rhododendron
Clay Phacelia
Colorado Squawfish
Conasauga Logperch
Desert Tortoise
Houston Toad
Flat-Spired Three-toothed Snail
Florida Torreya
Fresno Kangaroo Rat
Giant Garter Snake
Humpback Chub
Interior Least Tern
Iowa Pleistocene Snail
Kirtland's Warbler
Kuenzler Hedgehog Cactus
Maguire Primrose
Mesa Verde Cactus
Miccosukee Gooseberry
Minnesota Trout Lily
Mississippi Sandhill Crane
Navajo Sedge
Okaloosa Darter
Painted Snake
Coiled Forest Snail
Peebles Navajo Cactus
Persistent Trillium
Piping Plover
Pondberry
Prairie Bush-Clover
Sacramento Mountains Thistle
Siler Pincushion Cactus
Snail Darter
Spotfin Chub
Tennessee Purple Coneflower
Toad-Flax Cress
Uinta Basin Hookless Cactus
Utah Prairie Dog
Whooping Crane
Wood Stork
Woundfin/Virgin River Chub
Wyoming Toad

Tribal Initiatives and Programs

The Tribal Pesticide Program Council (TPPC): The TPPC, formed through a cooperative agreement with OPP and the Native Ecology Initiative, held two meetings this year which were attended by approximately 35 tribes and tribal organizations. The Council formed four working groups: Tribal Strategy; Development of a Resource Guide for Tribes; Tribal Legal Authority under FIFRA — particularly Section 18; and Subsistence, which includes the concerns of native fishermen, hunters, gatherers, traditional medicine people, and cultural and crafts people, such as basketweavers. The Council will be working closely with EPA to advance work and resolve issues in these and other areas of interest to tribes.

The Tribal Medicine Project: In FY 2000 OPP launched the tribal medicine project as part of the OPP health care provider outreach initiative. The project will provide health care providers with training on how to identify, treat, and prevent acute pesticide poisoning. The project also focuses on pesticide-related health conditions tailored to the unique types of exposures and health care infrastructures in tribal communities.

Tribal Groundwater Workshops are carried out by a grantee to assist tribes on technical, legal, and policy issues associated with developing groundwater management plans. In just over 2 years, more than 120 tribes have attended the workshops and over 15 tribes are developing groundwater management plans.

“Working together on these issues [pesticide and toxic issues in Indian Country] – as teachers, parents, citizens, and governments – we set an example of respect for each other and for all parts of our Earth family.”

– Susan Wayland, Acting Assistant Administrator for OPPTS

Tribal Pesticide Program Council (TPPC) Logo

Did You Know: **Ospreys are one of the birds that made a dramatic comeback due, in part, to the banning of DDT. Nationwide, Ospreys increased from fewer than 8,000 pairs in 1981 to 14,246 pairs in 1994.**

Five-Year Strategic Plan for Tribal Programs: In FY 2000, OPP's tribal team began work with EPA's Office of Pollution Prevention and Toxics to develop a strategic plan that will set goals for the two offices' tribal programs for the next 5 years. The strategic plan, to be adopted in FY 2001, will reflect extensive input not only from EPA stakeholders but also from individual tribal members and tribal environmental groups. As the tribes' needs change, the strategic plan will be revised.

Tribal Newsletter: In FY 2000, the OPP tribal team worked with the Office of Pollution Prevention and Toxics staff to publish several issues of the Office of Pesticides, Prevention, and Toxic Substances (OPPTS) newsletter, *OPPTS Tribal News*. The newsletter is intended to serve as a news exchange between the Agency and tribes. It features tribal success stories, summaries of the two EPA offices' activities with tribes, information on conferences, meetings and grants, resources available to tribes, and a popular kid's page. For a look at all of the issues, point your browser to **www.epa.gov/opptintr/tribal.**

8 BUILDING PARTNERSHIPS FOR THE ENVIRONMENT

8 Partnerships for the Environment

By continuing to build on existing partnerships and forging new alliances, OPP and its regional counterparts are better able to implement EPA's mission of protecting public health and the environment from the risks pesticides may pose. In FY 2000, through unique partnerships, OPP worked to promote safer means of pest control and was able to develop and apply better, more consistent policies to decisionmaking. The various stakeholders include other government agencies, states, and the international community, as well as a host of others.

Supporting Regional Initiatives

Pesticide Urban Initiative: OPP continued to provide funding in support of EPA regional and state projects to prevent the misuse of pesticides in urban residential settings. The strategy is a direct response to increased Agency concerns about a series of highly dangerous incidents where a toxic agricultural pesticide, methyl parathion, was illegally used indoors in residential settings to control cockroaches. In addition to providing increased regulatory and enforcement presence in targeted urban communities, as well as training and compliance assistance to states, EPA regions have developed an array of outreach materials and programs. Partnerships have been formed with USDA cooperative extension services, state agencies, universities, and other groups.

Joining Forces with Other Federal Agencies and States

Pesticides and the Health Care Community: OPP partnered with the public health community to develop and publish in the *Federal Register* a draft implementation plan for public comment that identifies strategies for educating health care providers on how to recognize, diagnose, and manage pesticide-related conditions. The plan and implementation progress will be showcased at a national forum for health care providers scheduled for early 2001 in Washington, D.C. For more information, see the *P[illegible]*

Strategies for Health Care Providers report, created by OPP in collaboration with the U.S. Department of Health and Human Services, USDA, the Department of Labor, and the National Environmental Education Training Foundation. To obtain more information, visit **www.epa.gov/pesticides/safety.**

Quality Management Plan Workgroup: States and tribal agencies are required to develop Quality Management Plans to ensure that environmental data collected are of known, documented quality. States also are required to develop Quality Assurance Project Plans, detailing the procedures for data gathering and analyses. In June 1999, OPP collaborated with state pesticide lead agencies, state pesticide laboratories, EPA regions, and EPA's Office of Enforcement and Compliance Monitoring to develop *Guidance for Quality Management Plan Development*. The workgroup also began developing similar guidance for states and tribes to develop Quality Assurance Project Plans to be finalized by the end of calendar year 2000.

Working with State Labs: OPP's laboratories support state FIFRA laboratories through training workshops, the check-sample program, and provision of analytical methods and reference standards.

- Two week-long training workshops were held during the year. The first, *High Performance Liquid Chromatography/Mass Spectrometry: Fundamentals and Practical Application to Pesticide Residue Analysis*, was hosted by California Department of Food and Agriculture Laboratory. The second, *Analysis of Herbicides Found in Groundwater,* was hosted by the Ohio Department of Agriculture. These workshops included a combination of classroom instruction and "hands-on" lab work, a format particularly popular with state lab personnel.

- Check sample exercises provide an opportunity for state laboratories to assess their performance in analyzing standard samples for pesticides and to help identify areas where additional training or better analytical methods may be needed. Participation has been excellent, with 35 state labs participating in November 1999 and 48 in March 2000.

- State laboratories are OPP's primary customers for analytical methods for pesticide residues. In June 2000, to facilitate methods requests, we posted an index of available environmental chemistry methods on the Internet, along with an e-mail request form. In the first 4 months, we received 88 requests for 173 methods. In comparison, during the same period for the prior fiscal year, we processed 48 requests for 62 methods. Similar indices for product chemistry and food residue methods are planned for the coming year.

State FIFRA Issues Research and Evaluation Group (SFIREG)

SFIREG was established through a cooperative agreement in 1978 by OPP and the Association of American Pesticide Control Officials (AAPCO) to exchange information between OPP and state regulatory officials. The following meetings were held in FY 2000:

December 6-7, 1999 - SFIREG Group Meeting

February 7-8, 2000 - SFIREG Water Quality and Pesticide Disposal Working Committee

March 6-8, 2000 - AAPCO Spring Meeting

April 17-18, 2000 - SFIREG Pesticide Operations and Management Working Committee

June 26-27, 2000 - SFIREG Group Meeting

August 7-8, 2000 - AAPCO Summer Meeting

- In its first full year of operation, the new Repository of Pesticide Analytical Standards at the Environmental Science Center showed real improvements in service to state labs. In FY 2000, nearly 3,000 standards were distributed to state labs, significantly exceeding initial projections of 3,000 in the first 5 years.

Developing Stakeholder Partnerships

Wisconsin Potato Project: This year OPP partnered with the grower community, environmental and consumer interest groups, and the University of Wisconsin Potato IPM Research and Extension Team to enhance ecosystem health and grower profitability. This was achieved through pesticide risk/use reductions and promotion of IPM. This collaboration has been successful at lowering growers' use of toxic pesticides, and EPA is in the process of expanding the project to include more growers.

Consumer Labeling Initiative (CLI): In March 2000 at the Philadelphia Flower Show, OPP and industry partners launched a nationwide public education campaign to encourage consumers to read the information on household product labels. The "Read the Label First!" campaign is part of CLI, a voluntary partnership to improve labels and help the public purchase, use, and dispose of products more safely and responsibly. The campaign coincides with new, easier-to-read labels on many home pesticide and cleaning products now on store shelves. For more information on CLI, visit **http://www.epa.gov/oppt/labeling/.**

Inert Disclosure Stakeholder Workgroup: Early this year, OPP established the Inert Disclosure Stakeholder Workgroup to advise the Agency through the Pesticide Program Dialogue Committee (PPDC) on ways to make information on inert ingredients more available to the public while working within the mandates of FIFRA and related Confidential Business Information (CBI) concerns. The group has been examining the current Agency processes and policies for disseminating inert ingredient information to the public, including informational needs for a variety of stakeholders, as well as business reasons for limiting the disclosure of inert ingredient information. In FY 2001, the workgroup is expected to make recommendations on how to increase the availability of inert ingredient information to the public.

Spray Drift Team: OPP's Spray Drift Team worked with industry, academia, applicators, USDA, states, tribes, and EPA regions to develop guidance for new labeling language for off-target pesticide drift control. As a result, the Team developed a draft PR Notice, "Spray and Dust Drift Label Statements for Pesticide Products," and a supporting draft *Federal Register* Notice, both expected to be published in FY 2001. The purpose of the PR Notice is to provide registrants and applicators with improved and more consistent product label statements for controlling pesticide drift from spray and dust applications. In FY 2000, team members consulted stakeholders and met with state representatives to discuss their needs for effectively enforcing off-target drift and held a question-and-answer session with aerial applicators. The team has developed a draft guidance document for performing screening-level spray drift-related risk and exposure assessments using the AgDRIFT model.

Birdcast Web Site: OPP supported the development of the new Birdcast Web Site (launched March 2000), which provides the public with near real -time forecasts of bird migration in the Mid-Atlantic region. Birdcast integrates weather radar, audio monitoring, and ground observations of birds to track migration. One major goal is to enable people to make better-informed decisions about when to apply pesticides and conduct other activities that might affect migrating birds. The coalition of partners who developed Birdcast includes the Academy of Natural Sciences, National Audubon Society, Clemson University Radar Ornithology Lab, Cornell Lab of Ornithology, Geomarine, and EPA's Environmental Monitoring for Public Access and Community Tracking Program (EMPACT). Visit the Web site at **www.birdcast.org/.**

International Activities

North American Free Trade Agreement (NAFTA) Technical Working Group (TWG): Under the NAFTA TWG on Pesticides, OPP's cooperation with Canada and Mexico produced significant accomplishments in FY 2000. For example, the TWG:

- Completed the North American Crop Field Trial Zone Maps for Canada and the U.S. to support registration of pesticides in all three NAFTA countries and development of data in support of minor crops.

- Identified, through the USDA and State-Funded Interregional Research (IR-4) Project, 10 pesticide/crop combinations in Canada and the U.S., and one combination between Mexico and the U.S. for development of field trial data to support minor-use registrations.

- Finalized a Geographic Information System that registrants can use to select field dissipation study sites that will satisfy requirements of both Canadian and American regulators.

- Agreed on assessment procedures for occupational and residential exposures that have facilitated routine work sharing and common outcomes.

- Developed a NAFTA document entitled, *Status of Harmonization of Pesticide Registration Between Canada and the United States - Environmental Fate.* This document outlines the areas of substantial agreement between Canada and the United States for environmental fate data requirements and test protocols.

- Developed a NAFTA document entitled, "Harmonization of Regulation of Pesticide Seed Treatment in Canada and the United States," which outlines how pesticide products used for seed treatment are currently regulated in both Canadian and the United States. Seed treatment products are primarily intended to provide protection against soil fungi and insect damage. The document also explains the degree of harmonization between the two countries' pesticide registration data requirements and test protocols related to pesticide seed treatment (**www.epa.gov/oppfead1/international/naftatwg/**).

Organization for Economic Cooperation and Development (OECD) Working Group on Pesticides: In FY 2000, OPP worked closely with OECD to develop and implement pesticide program activities of common interest. OPP worked with OECD on many pesticide issues:

- Developed data requirements. Common data requirements are an important building block of harmonizing regulatory reviews between countries. The data requirements for agricultural pesticides are largely harmonized. The work group developed proposals for similar core data requirements for biological pesticides, pheromones, and microbials.

- Developed harmonized guidelines applicable to industrial chemicals and pesticides through the OECD Test Guidelines Program.

- Agreed with the European Commission (EC), and Germany to conduct a parallel review of an application to register the new corn herbicide, foramsulfuron (Equip®,Tribute™). The parallel review is a pilot project to identify the similarities and differences between EPA's and the EC's data requirements, data evaluations, and overall regulatory processes. The successful completion of this parallel review project will lay the ground work for further cooperation on pesticide regulation between the U.S. and Europe.

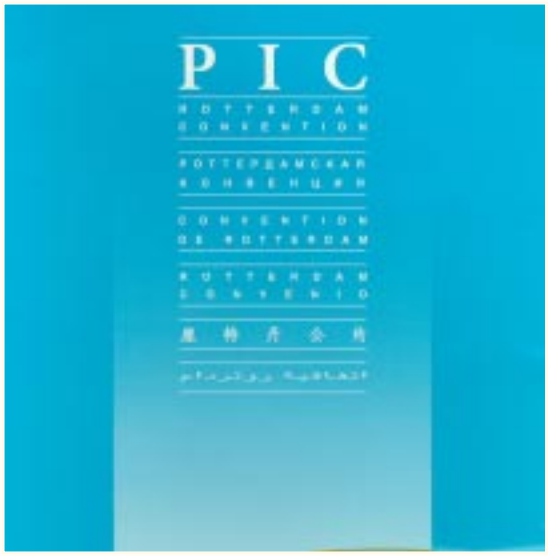
- Continued to develop information that would assist national Governments in measuring the success of risk reduction programs. As a beginning, OECD has developed prototypes of aquatic risk indicators, which are designed to measure trends in pesticide risk over time. In 2001, member countries will test the risk indicators in pilot projects to determine their applicability for national use.

- Attended several OECD meetings and workshops throughout the year: the OECD Environmental Exposure to Wood Preservatives Workshop; the Biennial Science and Technology Meeting; the OECD Human Exposure to Wood Preservatives Workshop in Ottawa, Canada; and the OECD/FAO/UNEP Obsolete Pesticides Workshop.

Persistent Organic Pollutants: OPP Provided pesticide program expertise to and participated in the U.S. delegation to intergovernmental negotiations for a global treaty on persistent organic pollutants. The fourth intergovernmental negotiating session occurred in March 2000 in Bonn, Germany and the fifth, and last, was held in December 2000 in South Africa.

Did You Know:

The OECD Working Group is the only established international forum for OECD member countries to meet regularly to discuss pesticide regulatory issues of common interest.



Prior Informed Consent: In FY 2000, EPA continued work on the issue of Prior Informed Consent (PIC). PIC began when, in September 1998, the U.S. signed the Convention on the PIC Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (The Rotterdam Convention).

This agreement governs trade in pesticides and other hazardous chemicals that have been banned or severely restricted based on health or environmental risk concerns, or which pose special risks in developing countries. The agreement has been transmitted to the U.S. Senate for its formal advice and consent.

In FY 2000, the signatory countries established an Interim PIC Procedure, which will be in effect until the agreement is ratified. During this interim period, four pesticides have been approved for inclusion on the PIC list: toxaphene, binapacryl, ethylene dichloride, and ethylene oxide. Also in FY2000, an Interim Chemical Review Committee (ICRC) was established, and OPP currently provides the U.S. representative. The ICRC has been developing streamlined operational procedures and improvements in the Decision Guidance Documents, which summarize the PIC-listed chemicals and their health and/or environmental concerns. The ICRC is also working on a simplified Incident Report Form to help countries report pesticide poisoning incidents and to implement that portion of the agreement.

United Nations Environment Programme Activities: In FY 2000, working through the Intergovernmental Forum on Chemical Safety, EPA and the United Nations Environment Programme (UNEP) formed a partnership to conduct a pilot projec
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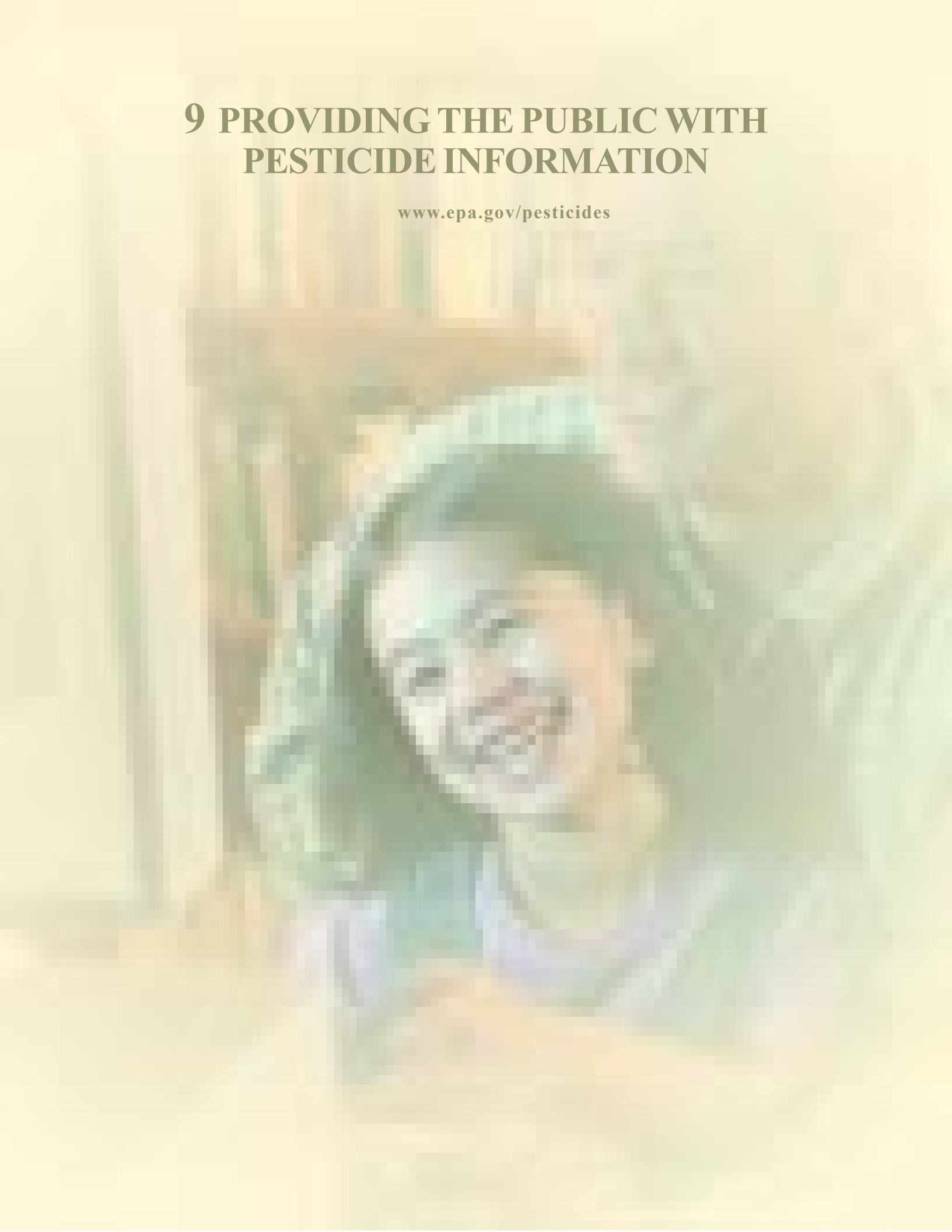
providing g

9 PROVIDING THE PUBLIC WITH PESTICIDE INFORMATION

www.epa.gov/pesticides



EPA knows that when people have ready access to accurate pesticide information they can better understand pesticide risks and take actions to reduce their exposure. All Americans have a right to know about the pesticides in their environment, as well as those used to grow the food they eat.

Sending OPP Updates to Our Electronic Listserv (an electronic mailing list): In late 1998, OPP established an electronic listserv for people who want to stay abreast of pesticide issues and decisions. By the end of FY 2000, more than 1,680 people added their names to the listserv. In FY 2000, OPP distributed over 147 *Pesticide Program Updates* to the listserv to provide information on OPP's actions and policies.

Disseminating Pesticide Information Publications: During the past year, we developed and disseminated more than 17 publications, including 9 fact sheets, 4 brochures, 2 reports, 1 poster, and 1 bookmarker for kids.

Fact Sheets

December 1999	*Spray Drift of Pesticides*
March 2000	*Proposed Public Participation Process for Tolerance Reassessment and Reregistration*
May 2000	*Pesticides and Mosquito Control*
May 2000	*Larvicides for Mosquito Control*
May 2000	*Synthetic Pyrethroids for Mosquito Control*
May 2000	*Naled for Mosquito Control*
May 2000	*Malathion for Mosquito Control*

Sample Letter Received in Response to OPP Updates:

- "Please know that we, at Onalaska ISD, appreciate very much the reports and updates that your office is sending to us. They have been very helpful as we continue to organize and perfect our Integrated Pest Management."

Sample Letters Received in Response to EPA/Registrants Agreement to Eliminate Major Uses of Chlorpyrifos:

- "Please pass the word around your office that there are a lot of people celebrating your efforts on Dursban. I am sure that it was extremely difficult and not without a lot of opposition from significant stakeholders."

- "I support the EPA effort to reduce risk, but give more science information and education and please, put relative risks into perspective rather than this stuff. You have to get the politics out of it. This makes no sense considering I drove 13 miles in a haze of diesel soot and smog to get to work this morning."

Timeline of OPP Announcements and Related Pesticide Events

October 1999

- EPA Publishes Science Policy Paper on Threshold of Regulation.
- EPA Publishes Cancellation Order for Methyl Parathion Products.
- EPA Seeks Public Comment on Preliminary Risk Assessment for Chlorpyrifos.
- Risk Management Public Participation Period Begins for Fenthion.
- EPA Launches Website for Endocrine Disruptor Program.
- Missouri Lab Cited for Selling Ineffective Hospital and Tuberculocidal Products.
- Complaint Against Dupont for not Alerting EPA of Possible Adverse Effects of a Pesticide.
- EPA-USDA Tolerance Reassessment Advisory Committee Meeting Oct. 20-21.
- Stakeholder Meeting on Labeling of Rodent Control Products Seeks Public Input on their ecological Risks.
- Risk Management Public Participation Period Begins for Naled & Temephos.
- Public Docket Opens for Chlorpyrifos Methyl.
- EPA Distributes Pesticides and Mosquito Control Fact Sheet.
- EPA Awards Cooperative Agreement to Native Ecology Initiative to organize Tribal Pesticide Program Council

November 1999

- EPA Pesticide Environmental Stewardship Awards Announced.
- Science Advisory Board/Scientific Advisory Panel Discuss Human Testing.
- EPA Extends Comment Period For Its Proposed Rule Concerning Antimicrobial Procedures.
- EPA Extends Propargite Tolerance Revocation Stay Until December 18 (1999).
- EPA Publishes Fact Sheet on Keeping Water Clean from Pesticides.
- Public Dockets Open for Dicrotophos and Trichlorfon.
- EPA Publishes Science Policy Paper on Aggregate Exposure Assessments for Public Comment.
- EPA Science Policy Paper on Drinking Water Exposure Assessment.
- EPA Issues Supplemental Notice on Pesticide Containers.
- USDA Holds Meeting on Pesticide Grants.
- Californians for Pesticide Reform and CA Public Interest Research Group Release Report on "Toxic on Tap."
- Texas Firm Sentenced for FIFRA Violations.

Did You Know: **In 1999 an estimated 79,000 children were involved in common household pesticide related poisonings (up from 73,260 in 1998).**

March 2000 - EPA Acting Assistant Administrator for Pesticides, Susan H. Wayland, Launches *Read The Label* Campaign at Philadelphia Flower Show

June 2000	*Reregistration Eligibility Decisions Projected for FY 2000–FY 2001*
November 2000	*Supplemental Notice on Pesticide Containers*

Publications

December 1999	*Streamlining Registration of Antimicrobial Pesticides*
November 1999	*Pesticides Industry Sales and Usage (1996 and 1997) Market Estimates*

Brochures

February 2000	*Read the Label First! Protect Your Household*
March 2000	*Read the Label First! Protect Your Kids*
March 2000	*Read the Label First! Protect Your Garden*
March 2000	*Read the Label First! Protect Your Pets*

Poster

March 2000	*Roaches ....*

Bookmark

March 2000	*Learn About Chemicals Around Your House*

Timeline of OPP Announcements and Related Pesticide Events

December 1999

- EPA Issues Stop Sale On Hospital Disinfectant Product Medaphene Plus.
- Allergenicity Assessment of Cry9C Bt Corn Plant-Pesticide Made Available.
- EPA Enhances Web Site containing Reregistration Documents.
- EPA Responds to EWG Report on Section 18s.
- Consumer Labeling Initiative Phase II Report Released.
- EPA Announces "Class Determination" on Safety & Efficacy under Section 6(a)(2).
- EPA Releases Revised Risk Assessment for Dimethoate; Requests Risk Management Comments.
- EPA Extends Comment Period on Supplemental Notice on Pesticide Containers by 60 Days.
- EPA Holds Technical Briefing for Dimethoate.
- EPA Releases Revised Risk Assessment for Oxydemeton Methyl and Methidathion; Risk Management Comments Requested.
- EPA Publishes Notice of Proposed Use Deletions for Azinphos Methyl.
- Scientific Advisory Panel Discusses Plant Pesticides and Cumulative Risk Assessment.
- Risk Management Public Participation Period Begins for Propetamphos.
- Pesticide Spill Reported on Washington Beltway I-95.

January 2000

- EPA Suspended Registration of Certain Methoxychlor Pesticide Products.
- Bt Corn Insect Resistance Management Announced for 2000 Growing Season.
- Allercare(tm) Products Recalled Due to Asthma and Respiratory Problems.
- EPA Releases Preliminary Risk Assessments/Opens Public Dockets for Mevinphos and Phosalone.
- EPA Proposes to End Special Review of Telone.
- EPA Issues Data Call-In for Bt Corn Plant Pesticides.
- EPA Releases Fact Sheet on Spray Drift of Pesticides.
- EPA Extends Comment Period on Aggregate Risk Policy Document.

Responding to Written and Electronic Inquiries: OPP places great importance on listening and responding in a timely fashion to comments and inquiries from the public on various pesticide issues. In FY 2000, OPP responded to more than 15,000 inquiries from the public and their representatives in Congress. These inquiries came in the form of e-mails, postcards, letters, and phone calls.

Providing More Avenues to Pesticide Information: In FY 2000, we redesigned the OPP home page, **www.epa.gov/pesticides**, to make it easier to use, providing a list of current activities and offering one-click links to information. In addition, the following new OPP web sites were launched:

- Antimicrobial Pesticides: **www.epa.gov/oppad001**
- Integrated Pest Management in Schools: **www.epa.gov/pesticides/ipm**
- Learn about Chemicals Around Your House: **www.epa.gov/opptintr/kids/hometour**
- Index of Environmental Chemistry Methods: **www.epa.gov/oppbead1/methods**
- Freedom of Information Act: **www.epa.gov/pesticides/foia**

Learn about Chemicals Around Your House
Web site: www.epa.gov/oppintr/kids/hometour

Information Networks: To answer questions the public may have about pesticides, OPP provided a grant to Oregon State University in Corvallis, Oregon, to operate two toll-free telephone services: the National Pesticide

Timeline of OPP Announcements and Related Pesticide Events

February 2000

- EPA Requests Comments on Metolachlor's Inclusion in the Ground Water Pesticide Management Plan Rule.
- EPA and Household Product Industry Hold Press Conference to Launch "Read the Label First" Campaign.
- EPA Extends Comment Period on Supplemental Notice on Pesticide Containers to March 20th.
- EPA Releases Revised Risk Assessments for Acephate and Methamidiphos.
- EPA Issues Advisory onWorker Fatality Risk from Skin Exposure to 2,4-DCP.
- President Clinton Sends Letter to the Congress on the Rotterdam Convention re: Prior Informed Consent.
- EPA Holds Technical Briefing for OP Pesticide Phosmet.
- EPA Releases Treated Articles Policy for Antimicrobial Pesticides.
- EPA Announces Voluntary Cancellation of Sulfotepp.
- EPA Releases Pesticide Programs Biennial Report.
- EPA Holds Technical Briefings For Organophosphates Acephate, Disulfoton, and Methamidophos.
- SAP Reports on Ecological Requirements for Plant-Pesticides.
- Woman Admits Testing Pesticides on Unknowing Subjects.
- Hawaiian Illegally Ordered Worker to Use Pesticide.

March 2000

- With EPA Support, New Birdcast Website is Launched (www.birdcast.org).
- New Brochures Encouraging Pesticide Users to "Read the Label *First*!' Released.
- EPA Releases Revised Risk Assessment for Pirimiphos Methyl.
- EPA Issues Chemical Advisory and Notice of Potential Risk Regarding 2,4-Dichlorphenol.
- EPA Releases Draft Indoor Residential Insecticide Product Labeling Guidance (PR Notice) for Public Comment.
- EPA Solicits Comments on List of Pests of Significant Public Health Importance.
- EPA Releases Revised Risk Assessments for Phostebupirim and Tetrachlorvinphos.
- EPA Publishes Revised Policy on the Statistical Standard for Regulating Short-Term Pesticide Exposure.
- EPA Releases Revised Risk Assessment for Phosmet.
- EPA Holds First Public Meeting of Newly-Established Inerts Disclosure Stakeholder Workgroup; Public Docket Established.
- EPA Releases Proposed Revised Public Participation Process for Pesticide Reregistration Decisions.
- Use of Chlorfenapyr (Pirate) on Cotton Not Granted Due to Adverse Effects on Bird Reproduction.
- Revised Risk Assessment for Disulfoton Released.
- EPA's Office of Research and Development Releases Pesticides Research Accomplishments Report.
- EPA Releases Revised Risk Assessments for Ethyl Parathion and Fenitrothion.
- USDA Releases Pesticide Data Program Annual Summary for 1998
- EPA Participates in Home and Garden Public Safety Campaign at the Philadelphia Flower Show.

Telecommunications Network (NPTN) and the National Antimicrobial Information Network (NAIN).

National Pesticide Telecommunications Network: 1-800-858-7378, Web site: **ace.orst.edu/info/nptn.** NPTN provides objective, science-based information on a wide variety of pesticide-related subjects to the public. In FY 2000, NPTN answered more than 23,900 requests from the public, including 9,400 health-related calls, 6,500 calls for information about pesticide use, and 2,000 calls regarding regulations. The NPTN Web site received over 257,000 hits this year.

This year EPA also launched a public outreach campaign to promote NPTN's services in urban and rural communities across the country. The campaign included broadcasting radio public service announcements, publishing NPTN promotional articles in various newsletters and magazines, and transit advertising (e.g., truck-side ads).

Timeline of OPP Announcements and Related Pesticide Events

April 2000

- EPA Begins First Parallel Review of New Corn Herbicide, Formasulfuron, with Germany and European Commission.
- Joint EPA, CDC, USGS, and USDA West Nile Virus Media Event Held.
- EPA Begins Campaign on "Make Every Day Earth Day" Around Home.
- EPA Publishes Notice Deleting Uses of Azinphos-Methyl from Pesticide Label.
- EPA Denies Greenpeace Petition on Bt Plant-Pesticide.
- EPA Revises First Aid Instructions For Pesticide Labels.
- EPA Launches New Household Chemical Web Site for Children (www.epa.gov/oppt/kids/hometour).
- EPA Issues 1998-1999 Report on Streamlining Registration of Antimicrobial Pesticides.
- EPA Releases Status Report on Pesticides under Special Review.
- EPA Proposes to Revoke Meat, Milk, Poultry, and Egg Tolerances for Which No Residues are Expected.
- EPA and Canada Hold Pesticide Trade Barriers Summit Meeting.
- EPA Registers New Biochemical Pesticide "Harpin" as an Alternative to Ozone Depleting Methyl Bromide Use.
- 1999 Decision to Cancel Products and Delete Uses of Methyl Parathion and Azinphos Methyl Take Effect
- EPA Publishes Revised Science Policy Paper on Non-Detected & Non-Quantified Pesticide Residues.
- GAO Releases Report on "Pesticides: Improvements Needed to Protect Farmworkers and Their Children from Pesticides."
- NCAP Releases Report: "Unthinkable Risks: How Children Are Exposed and Harmed When Pesticides Are Used at School."

May 2000

- EPA Announces Manufacturer's Recall of Two Pesticide Products Sold In Faulty Pull 'N Spray Containers.
- Guidance Issued by EPA on the Exemption of Minimum Risk Pesticides Under FIFRA Section 25(B).
- EPA-Sponsored National Pesticide Telecommunications Network 1999 Annual Report Distributed.
- EPA Holds and Attends Public Meetings in the U.S. and Canada to Discuss NAFTA Pesticide Technical Working Group Activities.
- EPA Opens Public Docket for Diazinon Preliminary Risk Assessment.
- EPA Issues Guidance (PR Notice) on Mandatory & Advisory Labeling Statements on Product Labels.
- EPA Distributes Fact Sheets Dealing with Pesticides and Mosquito Control.
- EPA Seeks Public Comment on Preliminary Risk Assessment for Malathion.
- EPA Holds Workshop on National Assessment of the Worker Protection Program.
- EPA and USDA Seek Nominations for Newly Formed Advisory Committee on Food Quality Protection Act called CARAT.
- EPA Proposes Draft Guidance on Voluntary Resistance Management Labeling for Agricultural Pesticides.

National Antimicrobial Information Network: 1-800-447-6349
Web site: **ace.orst.edu/info/nain.** NAIN is a toll-free telephone and Internet service that provides a wide variety of information about antimicrobial pesticides. Operated through a cooperative effort between Oregon State University and EPA, NAIN maintains information on toxicology, health effects, and safety of antimicrobial pesticides. It also maintains lists of antimicrobial products registered by EPA, including sterilants, disinfectants, tuberculocides, and products effective against Hepatitis B Virus (HBV) and HIV. NAIN provides information on EPA regulation and registration of antimicrobial pesticides and helps callers interpret product labels and permitted uses. The NAIN Web site, which receives about 84,000 hits annually, contains regulatory and policy documents to help keep the public up to date about antimicrobial activities.

NAIN answered over 1,731 inquiries during FY 2000. Approximately 33 percent were from the general public, 30 percent from the medical community, 25 percent from the regulated community and industry, 6 percent from the government, and 6 percent from other parties.

Timeline of OPP Announcements and Related Pesticide Events

May 2000 cont.

- EPA Holds Technical Briefing for OP Pesticide Chlorpyrifos.
- EPA Seeks Public Comment on Registration Review Process.
- EPA Extends Comment Period on Revised Public Participation Process for Pesticide Reregistration Decisions.
- EPA Invites Public to Hear Inerts Disclosure Stakeholder Workgroup Teleconference.
- EPA Releases Revised Risk Assessments for Coumaphos, Trichlorfon, and Chlorpyrifos Methyl; Comment Period Opens for Risk Management.

June 2000

- Dow AgroSciences Wins Presidential Green Chemistry Award for Termite Colony Elimination System Based on EPA Reduced-Risk Pesticide Technology.
- EPA Releases Revised Science Policy Guidance on Refining Anticipated Residue Estimates for Use in Acute Dietary Probabilistic Risk Assessment.
- EPA Releases Cumulative Risk Assessment Guidance for Public Comment.
- CARAT Meets for the First Time.
- EPA Announces Final Azinphos-Methyl Risk Reduction Measures.
- Pesticide Reregistration Performance Measures and Goals Detailed in EPA Annual Federal Register Notice.
- EPA Proposes New Disposal Instructions for Residential Pesticide Product Labels.
- Revised Risk Assessment for Dicrotophos Released by EPA.
- EPA Makes Available on the Web an Index of Environmental Chemistry Methods (www.epa.gov/oppbead1/methods/).
- EPA Acts to Eliminate Major Uses of the Pesticide Dursban (chlorpyrifos).
- FIFRA Scientific Advisory Panel Reviews Guidelines for Mammalian Toxicity Assessments for Protein Plant-Pesticides.
- SAB and SAP Release Draft Report on Human Testing for Public Comment.
- EPA Releases Revised Risk Assessment for Atrazine; SAP to Review Potential Risks.
- EPA Proposes to Revoke Methyl Parathion Tolerances.

Communicating OPP Policies and Regulations: A significant tool available to the Office of Pesticide Programs in the regulation of pesticides is the issuance of rules and regulations, which are published in the *Federal Register*. Because of FIFRA's focus on individual pesticide review and licensing, OPP places less reliance on rulemakings than many other EPA offices. PR Notices are a simple and efficient means of communicating our interpretations, not only to the specific applicants or licensees of pesticide products which are immediately before us, but also to others who in future licensing actions will encounter these interpretations. This greater openness and announcement of our approaches in individual licensing contexts also enhances public awareness of how we interpret our regulations in an effort to protect human health and the environment, assuring enhanced public participation and greater governmental accountability. OPP still relies on regulations to help establish the framework for its regulatory program.

In FY 2000, OPP published 1 advance notice of proposed rulemaking on Registration Review (4/28/00). There was progress on developing a number of rules, including the Section 18 Tolerance Rule and the Tolerance Fee Rule.

OPP issued 16 PR Notices (7 of which are drafts). Among the more prominent PR Notices OPP issued in FY 2000 were those on Worker Risk Mitigation for Organophosphate Pesticides (final) and a listing of pests of public health significance (draft). A listing of PR Notices published in the FR or issued follows:

Timeline of OPP Announcements and Related Pesticide Events

July 2000

- EPA Releases Revised Risk Assessment for Phosalone.
- EPA Publishes Supplemental Notice on Tolerance Fee Rule Proposal.
- EPA Holds Teleconference for Public to Hear Discussion of Inert Ingredient Disclosure Stakeholder Workgroup.
- EPA Holds Technical Briefing to Discuss Draft Guidance for Cumulative Risk Assessment issued in June.
- EPA Publishes Guide to Risk Assessment Information Sources.
- EPA Releases Risk Assessments for Non-Organophosphates: Oxamyl, Terrazole, and Triallate.
- EPA Releases Revised Risk Assessment for Mevinphos.
- First Three OP Pesticides Complete EPA Public Participation Process.
- National Academy of Sciences Releases Report, "Predicting the Future of Pesticides in U.S. Agriculture."

August 2000

- EPA and CDC Sign MOU to Coordinate Programs to Control Pests of Public Health Concern.
- EPA and Canada Release Guidance on Pesticide Treated Seed Policies and Requirements.
- EPA and USDA Release CD-ROM Containing New Food Commodity Intake Data-base.
- EPA Releases Propargite Risk Assessment.
- EPA SAP Meets to Review Proposed Cancer Classification of Malathion.

September 2000

- EPA Holds Second Tribal Pesticide Program Council Meeting
- EPA Announces Chlorpyrifos Registrant Voluntary Cancellations
- EPA Releases Revised Guidance on Use of Cholinesterase Inhibition Data in Risk Assessments.
- EPA Holds Public Meeting to Discuss Mechanisms for Chemical-Specific Quantity Limits.
- EPA Announces Industry-Wide Task Force to Jointly Develop Indoor Residential Exposure Data for Synthetic Pyrethroids, Pyrethrum and Synergists.
- EPA Reopens Comment Period on July Tolerance Fee Proposed Rule.
- GAO Releases Report, "West Nile Virus Outbreak: Lessons for Public Health Preparedness."

Final Pesticide Registration (PR) Notices

(www.epa.gov/PR_Notices/)

PR Notice 2000-1	Applicability of the Treated Articles Exemption to Antimicrobial Pesticides (3/6/00)
PR Notice 2000-2	EPA Forms FIFRA Endangered Species Task Force (4/17/00)
PR Notice 2000-3	First Aid Statements on Pesticide Product Labels (4/11/00)
PR Notice 2000-4	Instructions for Transmitting Information to the Office of Pesticide Programs (4/25/00)
PR Notice 2000-5	Guidance for Mandatory and Advisory Labeling Statements (5/10/00)
PR Notice 2000-6	Minimum Risk Pesticides Exempted under FIFRA Section 25(b); Clarification of Issues (5/7/00)
PR Notice 2000-7	Non-Dietary Exposure Task Force (8/4/00)
PR Notice 2000-8	Reportability of Attorneys' Opinions and Conclusions Under 40 CFR Part 159 and FIFRA Section 6(a)(2) (9/15/00)
PR Notice 2000-9	Worker Risk Mitigation for Organophosphate Pesticides and Response to Public Comments on the Draft Pesticide Registration Notice on Worker Risk Mitigation for Organophosphate Pesticides (9/29/00)

Draft PR Notices Issued

- Guidance for Pesticide Registrants on Disposal Instructions on Residential/Household Use Pesticide Product Labels (6/14/00)
- Indoor Residential Insecticide Product Label Statements (3/29/00)
- List of Pests of Public Health Significance (3/29/00)
- Insect repellents–protocols and labeling requirements (12/15/99)
- Insect repellents–children's claims
- Resistance Management Categories (NAFTA) 5/10/00)
- Disposal (6/00)

"Protecting public health, especially the health of children, works best when citizens have good information on pesticides to use in their communities and homes.

This helps consumers to make informed choices in purchasing pesticide products and using them safely."

--Stephen Johnson, OPPTS Deputy Assistant Administrator

10 APPENDICES

Appendix A-1. FY 2000 New Active Ingredients Registered

Antimicrobials

Conventional Pesticide

Amine Oxide, 11/5/99

Silver Sodium Hydrogen Zirconium Phosphate (5/22/00)

Fungicides

Biopesticide

Bacillus subtilis var. amyloliquefaciens strain FZB24 (1/20/00)*

Harpin Proteins (4/19/00)

Trichoderma harzianum strain T-39 (5/25/00)

Bacillus subtilis strain QST 713 (6/20/00)

Reynoutria sachalinensis bioprotectant (9/29/00)

Conventional Pesticide

Acibenzolar-s-methyl (8/18/00)

Conventional Reduced-Risk Pesticide

Prohexadione Calcium (5/4/00)*

*Pesticide also registered for use as a Plant-Growth Regulator

Herbicides

Conventional Pesticide

Diclosulam (3/8/00)

Clodinafop-propargyl (6/22/00)

Conventional Reduced-Risk Pesticide/OP Alternative

Flucarbazone Sodium (9/29/00)

Appendix A-1 CONTINUED

Insecticides

Biopesticide

(z,z)-11, 13-Hexadecadienal (naval orangeworm pheromone) (1/24/00)

Cydia pomonella granulosis virus (7/18/00)

Conventional Pesticide

Phosphine Gas (12/29/99)

Indoxacarb (9/29/00

Conventional Reduced-Risk Pesticide/ OP Alternative

Methoxyfenozide (7/5/00)

Buprofezin (8/31/00)

Fenpyroximate (9/29/00)

Pheromones

Biopesticide

Verbenone (12/3/99)

Plant-Growth Regulators

Biopesticide

Bacillus subtilis var. amyloliquefaciens strain FZB24 , 1/20/00

Conventional/Reduced-Risk Pesticide

PT807 (Ecolyst) (1/12/00)

Prohexadione Calcium (5/4/00)

Repellents

Biopesticide

p-Menthane-3, 8-diol (3/31/00)

Appendix A-2. FY 2000 New Uses for New Active Ingredients and Previously Registered Active Ingredients

In FY 2000, OPP registered the following 427 New Uses (Food and Non-Food):

- **406 New Food Uses:**

  --Antimicrobial (1)

  --Biopesticide (109)

  --Conventional (87)

  --Conventional Reduced-Risk (209)

- **21 Total Number New Non Food Uses:**

  --Antimicrobial (7)

  --Biopesticide (11)

  --Conventional (1)

  --Conventional Reduced-Risk (2)

- **452 Tolerances Established for New Uses**

- **92 Major Crops Associated with New Uses**

- **901 Minor Crops Associated with New Uses**

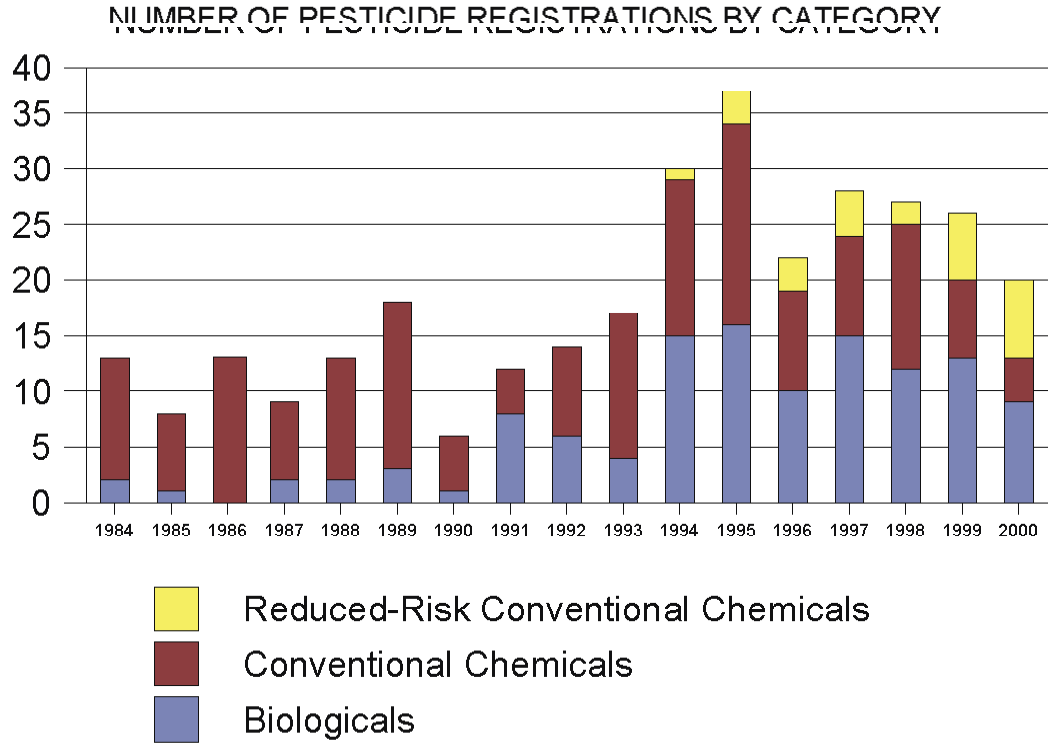
Appendix A-3. OP Alternatives Registered Since Passage of FQPA

In FY 2000, OPP registered the following Organonphosphates Alternatives:

Chemical	Use
Bifenazate	Ornamentals
Buprofezin	Head Lettuce and cucurbits
Diflubenzuron	Below ground termite control (bait station)
Fenpyroximate	Ornamentals
Fipronil	Termite Control
Hexaflumuron	Above ground termite control (bait station)
Indoxacarb	Apple, Cotton, Fruiting Vegetables, Head and Stem Brassica, Lettuce, Pear, Sweet Corn
Methoxyfenozide	Cotton, Pome Fruit
Pymetrozine	Ornamentals, Tobacco, and Tuberous and Corn Vegetables, Cucurbits, Fruiting Vegetables
Pyriproxyfen	Citrus, Cotton, Fruiting Vegetables, Pome Fruit, Tree Nuts, Walnuts
Spinosad	Almonds, Apples, Barley, Beans, Buckwheat, Cilantro, Citrus, Cole Crops, Cotton, Cucurbits, Field Corn, Fruiting Vegetables, Leafy Vegetables, Legumes, Millet, Oats, Peas, Pistachio, Popcorn, Rye, Sorghum, Soybeans, Stone Fruit, Sweet Corn, Tropical Fruit, Tuberous, and Corn Vegetables, Turnip Greens, Watercress, Wheat
Tebufenozide	Berries, Brassica, Canola, Cotton, Cranberries, Fruiting Vegetables, Leafy Brassica, Leafy Greens, Leaf Petioles, Pecan, Peppermint, Pome Fruit, Spearmint, Sugarcane, Tree Nuts, Turnips

APPENDICES

Appendix A-4. Types of Pesticdes Registered Since 1984



Appendix B-1. Summaries of FY 2000 Reregistration and Tolerance Reassessment Decisions

BENSULIDE IRED

Uses: OP herbicide, used on carrots, fruiting vegetables, leafy vegetables (mostly head lettuce), dry bulb vegetables (onions), cucurbits (mostly melons), and cole crops (cauliflower, cabbage, broccolini and broccoflower). May be used outdoors by homeowners on lawns and ornamentals, by professional lawn care operators, and commercially on turf (primarily golf course greens and tees), ornamentals, and for greenhouse and outdoor uses in nurseries.

Risks/Areas of Concern:

- Homeowners who apply bensulide, and children entering treated turf areas if label directions are not followed properly.
- Workers who mix, load, and/or apply bensulide to agricultural sites, golf courses, and home lawns.
- Chronic risk for birds, mammals, and some aquatic species.

Mitigation:

- For mixers and/or loaders require use of respirators; for commercial applicators, require additional personal protective equipment or use of closed systems.
- Chemigation allowed only in California and Arizona where acreage treated is low.
- Prohibit all handheld application methods for turf except for spot treatment.
- Prohibit treatment of large turf areas like parks and recreation areas, except golf courses.
- Require respirators and gloves for all remaining mixer/loader turf uses.
- Add label language directing homeowners to water in the herbicide immediately after application, for safety reasons.
- Restrict golf course fairway use to a single grass type (bentgrass) in certain states.
- Restrict the number of fairway applications on golf courses to one.
- Limit the fairway application to the fall (minimizing exposure to birds during breeding season).

CADUSAFOS TRED

Uses: OP insecticide/nematicide used to control pests that attack banana plants in Mexico, Guatemala, Honduras, Costa Rica, and Ecuador. There are no domestic uses and a single import tolerance for residues on bananas.

Risk/Areas of Concern: None
Mitigation: None

CHLORETHOXYFOS TRED

Uses: OP insecticide used on field, seed, sweet, and pop corn

Risk/Area of Concern: Possible worker risks

Mitigation: Minor label changes to increase worker protection, including reducing personal protective clothing requirements in some circumstances, adding emergency personal protective equipment requirements, and adding a double notification statement.

COUMAPHOS TRED/ ADDENDUM TO 1996 RED

Current Uses: OP insecticide/acaricide used on livestock (beef and dairy cattle, horses, sheep, goats, swine) and swine bedding

Risk/Area of Concern: Occupational risk to dust applicators who use mechanical dusters and shaker cans, and to mixers/loaders of liquids for dip vat use.

Mitigation:

- Dip vat use restricted to USDA-APHIS staff enrolled in the USDA-APHIS cholinesterase monitoring program
- Mechanical duster use prohibited
- Dust/mist respirator and chemical-resistant apron required on all dust product labels
- Use of dust by shaker can limited to 25 head per day per applicator and 1,000 sq. ft. of swine bedding per day per applicator
- Formulation of coumaphos products restricted for use on beef cattle, dairy cattle, horses, swine and swine bedding
- Disposal of treated coumaphos dip vat solution restricted to shallow, concrete-lined evaporation ponds
- Current use restriction on liquid formulations, limiting the use of hand-held sprayers to 100 head per day per applicator at the maximum application rate, needs to be maintained and moved to a more prominent place on the labels.

DICLOFOP-METHYL RED

Uses: Herbicide used on wheat, barley, golf courses (turf)

Risk/Area of Concern: Cancer risks to mixers, loaders, and applicators

Risk Mitigation:

Engineering controls:

- closed mixing/loading systems
- enclosed equipment for applicators

ETHYL PARATHION RED

Uses: OP insecticide/miticide used on alfalfa, barley, corn, cotton, canola, sorghum, soybean, sunflower, and wheat crops.

Risks/Areas of Concern:

- Worker and ecological (terrestrial and aquatic animals) risks
- Potential drinking water risk based on modeling (unrefined)

Mitigation: Immediate cancellation; Sale of existing stocks until 12/31/00; Use until 10/03

FENITROTHION TRED

Uses: OP insecticide used in containerized ant and roach baits domestically and in Australia on stored wheat (U.S. tolerance for wheat gluten)

Risk/Area of Concern: No risks of concern from import tolerances or limited dosmetic use.

Mitigation: No mitigation

FENTHION IRED

Uses: OP insecticide used on cattle and swine, mosquito (adulticide) for Florida only; 24C ornamental fish ponds - Florida, Arkansas, and Missouri

Risks/Areas of Concern:

- Dietary risk is high (both acute and chronic)
- Residential risk from mosquitocide use is acceptable at typical (but not high) rates
- Worker risk is of concern
- Ecological risk is high for birds

Mitigation:

- Canceled cattle and swine use
- Remaining mitigation will be finalized after a stakeholder meeting is held in Florida
- Possible mitigation measures include identification of sensitive bird habitats where spraying is restricted
- Allow the highest use rate only for public health uses
- Require buffer zones to protect aquatic organisms
- Closed systems for mixer/loader

MEVINPHOS TRED

Current Uses: OP insecticide/acaricide

- Not registered for use in the United States.
- There are import tolerances for broccoli, cabbage, cauliflower, celery, cucumbers, grapes, lettuce, melons, peas, peppers, spinach, summer squash, strawberries, tomatoes, and watermelon.

Risk/Area of Concern: All U.S. uses of OP mevinphos were voluntarily canceled in 1994 following concerns raised by the Agency regarding worker risk issues.

Mitigation: No mitigation is nessary at this time.

OXAMYL IRED

Uses: Carbamate Insecticide: Terrestrial food and feed crop uses.

Food uses include apple, banana, cantaloupe, carrot, celery, citrus, cotton, cucumber, dry onions, eggplant, garlic, ginger, honeydew, mint, peanut, pears, pepper, pineapples, plantain, pumpkin, soybean, squash, summer squash, sweet potato, tomato, white potato, watermelon, winter squash, watermelon, and yam. May also be used on tobacco.

Risks/Areas of Concern:

- Aggregate acute risk from food and water for children 1-6 years old.
- Mixer/loader and applicator risk for all uses at current rate for agricultural sites.
- Risk to workers reentering fields for citrus tree crops.
- Acute and chronic risks to birds and small mammals and acute risks to aquatic freshwater fish and invertebrates.
- Risk to honeybees (based on incident data).

Risk Mitigation:

- Reduce use rates and number of applications for most uses.
- Cancel seed piece dip for yams.
- Cancel soybean use.
- Require incorporation of soil applications by water or mechanical means.
- Require use of chemical resistant aprons.
- Increase restricted entry interval (REI) from 48 hours to 4 days for citrus tree crops during hand harvesting.

PHORATE IRED

Uses: OP insecticide:

- **Food uses**: potatoes, corn (fresh, sweet, field), peanuts, cotton, sugarcane, wheat (spring/winter), soybeans, beans, sorghum, and sugar beets.
- **Nonfood uses**: lilies, daffodils, and radishes grown for seed.

Risk/Area of Concern:

- Acute/chronic aggregate (food and drinking water) risk to all populations
- Occupational risks to mixers/loaders/applicators
- Acute risk to birds

Mitigation:

- Cancellation of use on peanuts at pegging.

- Restriction of use as a sidedress application to cotton to CA and AZ only.
- Limitation to one application per season.
- Requirement for soil incorporation.
- Reduction of use rates following submission and review of efficacy information.
- Vegetative buffer strips/setbacks.
- Restriction on application and cleaning of equipment within 50 feet of drinking water wells.
- Phase-in of the use of closed loading systems by 2002 phase-out open bag use.
- Requirement for enclosed cabs or equivalent.
- Provision of agricultural practices information to identify possible post-application exposures.
- Cancellation of use on wheat.
- Prohibition of aerial application.

PHOSTEBUPIRIM TRED

Current Use: OP corn insecticide

Risk/Area of Concern: There are risks to workers from dermal and inhalation exposure to phostebupirim.

Mitigation:

- Dust/must respirator required for loaders of the 2.1% granular clay-based formulation (no such requirement for the cellulose-based formulation).
- A Restricted Entry Interval (REI) of 48 hours, or 72 hours where there is less than 25 inches of rainfall per year, in cases where re-entry activities may disturb the soil surface.
- Require double notification so that workers are advised about application both orally and by posting warning signs at entrances to treated areas during the REI.

PROFENOFOS IRED

Uses: OP cotton insecticide

Risks/Areas of Concern:

- Mixers/loaders and applicators for aerial applications.
- Workers reentering fields.
- Acute risk to fish.

Risk Mitigation:

- Require closed mixing/loading systems and enclosed tractor cabs and cockpits.
- Reduce maximum application rate, except for control of lepidopteran pests.
- Limit number of applications at 1.0 lb ai/A for lepidopteran to twice per year.
- Reduce the seasonal maximum rate from 6 to 5 pounds active ingredient per acre per season.
- Inform certified crop advisors of need to provide proper level of protective clothing and equipment for workers reentering treated fields.
- Require a 300 foot buffer zone around water bodies for aerial applications.
- Require a 100 foot buffer zone around water bodies for ground applications.

PROPETAMPHOS IRED

Uses: OP insecticide used for indoor pest control only to primarily control fleas, cockroaches, ants, spiders, and termites. Sites include homes, schools, hospitals, offices, and food service establishments.

Risks/Areas of Concern:

- Risks to mixer/loader/applicators
- Dietary (food) risk when food is not covered
- Risks to children for all residential uses
- Risks from broadcast, spot, and termiticide treatments

Mitigation:

- Cancel all residential use.
- Prohibit use in structures which children and the elderly occupy, such as schools, day-cares, hospitals, and nursing homes, except for areas of food handling.
- Cancel all broadcast, spot, and termiticide treatments.
- Restrict use to crack and crevice applications only.
- For use in food service establishments, all food must be removed or covered prior to application.
- Reduce the maximum rate of dilution to 0.5% solution.
- Mixer/loader/applicators to wear single layer clothing and gloves.
- Only protected handlers may be in the area during applications.
- Limit sale and distribution of active ingredient to 25,000 pounds.

TEMEPHOS RED

Uses: OP insecticide used only as a mosquito larvicide

Risk/Area of Concern: Risk to workers (handlers); risk to non-target species

Mitigation: Choice of additional PPE or closed systems for workers; remove use of some hand equipment; label language restricting use of high rates, limiting use sites and establishing intervals between applications to reduce risk to non-target organisms

ETRIDIAZOLE (TERRAZOLE®) RED

Uses: Fungicide used on golf courses, cotton (in-furrow), ornamentals, seed treatment (barley, beans, corn, cotton, peanuts, peas, sorghum, soybeans, safflower, wheat), tobacco

Risk/Area of Concern:

- Drinking water cancer risks

- Occupational handlers for golf courses, ornamentals, seed treatment
- Greenhouse workers (post-application)

Mitigation:

- Use of OV respirator (except when applying in-furrow to cotton)
- **Golf course use:** Fairway use removed from labels while registrant provides water data and repeats mouse cancer study
- Reduced rates, frequency and max. amount applied per season
- Remove high-risk application methods (e.g. push spreader, belly grinder, power dust blower, and hand dispersal)
- Dropped granular and dry flowable formulations
- **Greenhouse use:** Use of ventilation during indoor use
- Reduced application rates
- **Seed treatment use:** Closed systems

TRIALLATE RED

Uses: Pre-emergence herbicide regionally registered in CO, ID, KS, MN, MT, NE, NV, ND, OR, SD, UT, WA, and WY for use on barley, lentils, peas (dried and succulent), triticale, wheat, and canary grass (seed only). A tolerance has recently been established for triallate use on sugar beets.

Risks/Areas of Concern: Handlers occupational cancer risks to handlers.

Mitigation:

- Dust mist filtering respirator for loaders of granular products.
- Enclosed cockpits for aerial applicators and enclosed trucks for flaggers.

TRIBUFOS IRED

Use: OP cotton defoliant

Risk/Area of Concern:

- Risks to workers supporting aerial application
- Risk to workers reentering a treated field

Risk Mitigation:

- Reduced the maximum application rate
- Increase the restricted entry interval
- Closed loading systems for mixers and loaders supporting aerial applications
- Enclosed cockpits for aerial applicators

VINCLOZOLIN RED

Current Uses: Fungicide used on:
raspberries, snap beans, dry bulb onions, chicory grown for Belgian endive, canola, lettuce, kiwi, ornamentals, turf
Import tolerances for cucumbers, peppers and wine

Risks/Areas of Concern:

- Carcinogenic risk from vinclozolin and its metabolite in drinking water, iprodione-derived 3,5-DCA
- Risk to children playing on treated sod/turf
- Risk to airblast applicators
- Postapplication risk concerns on lettuce, kiwi, ornamentals and turf

Mitigation:

- Phase out of all domestic food uses of vinclozolin except canola.
- Cancellation of the use on ornamental plants.
- Turf use restricted to golf courses and industrial sites.
- Revocation of import tolerances for cucumbers and peppers.
- Enclosed cabs for airblast applicators.
- Increased restricted entry intervals for lettuce, kiwi, and turf.
- Ground water and surface water advisory language required on vinclozolin labels.
- Drinking water monitoring program for vinclozolin and iprodione.

Appendix B-2. Status of Organophosphates in the Pilot Process
December 2000

(For updates, see www.epa.gov/pesticides/op/status.htm)

Phase 1 Registrant 30-days review	All OPs have completed Phase 1		
Phase 2 - EPA responds to registrant's comments re: errors in preliminary risk assessments	All OPs have completed Phase 2		
Phase 3 - EPA releases preliminary risk assessments for public comment	All OPs have completed Phase 3		
Phase 4 - EPA responds to public comment, develops revised risk assessments, holds public Technical Briefing	Dichlorvos (DDVP)		
Phase 5 - EPA releases revised risk assessments; 60-day public participation period begins for risk management	Malathion Diazinon		
Phase 6 - EPA develops risk management proposal	Acephate Azinphos methyl Chlorpyrifos Chlorpyrifos methyl Dicrotophos Dimethoate Disulfoton	Ethion Ethoprop Fenamiphos Methamidiphos Methidathion Methyl Parathion Naled	Oxydemeton methyl Phosalone Phosmet Pirimiphos methyl Tetrachlorvinphos Terbufos Trichlorfon
IRED EPA completes an Interim Reregistration Eligibility Decision, or **TRED** EPA completes tolerance reassessment risk management **RED** PA completes a Reregistration Eligibility Decision for the OP.	Bensulide Fenthion Cadusafos Chlorethoxyfos Temephos	Phorate Profenofos ✓✓ Coumaphos Fenitrothion	Propetamphos Tribufos ✓* Mevinphos Phostebupirim
Cancellations	Chlorfenvinphos Chlorthiophos Dialifor Dioxathion	✓Ethyl Parathion ✓Fonofos Isazophos ✓Isofenphos	Monocrotophos ✓Phosphamidon ✓Sulfotepp ✓Sulprofos

✓ Also RED ✓✓ RED Addendum * Also canceled

Appendix B-3 EPA/USDA Interim Public Participation Process for Non-organophosphate Pesticides Scheduled for Tolerance Reassessment and Reregistration Development Work in 2000 and 2001.

Stakeholder participation increased substantially this past year as a result of the pilot process established for organophosphate pesticide tolerance reassessment. The organophosphates will continue to follow this pilot public participation process. EPA and USDA are currently implementing a revised "interim" public participation process for all non-organophosphate pesticides scheduled for tolerance reassessment and reregistration in 2000 and 2001. This revised process was necessary in order to meet reregistration and tolerance reassessment commitments and mandates. Meanwhile, a proposal by EPA and USDA was issued in the Federal Register in Spring 2000 and a final public participation process will be finalized to be applied to pesticide tolerance reassessment and reregistration after 2001.

The interim process greatly improves transparency and stakeholder access over past practices. It parallels the current six-phase organophosphate pilot public participation process in principle, and extends the pilot's significant benefits because it adheres to two goals: (1) transparency by releasing risk assessment and risk management documents to the public docket and EPA's Internet website, and (2) increased stakeholder consultations by offering significant opportunities for stakeholder input, especially through meetings and conference calls. The interim process will allow EPA to meet its reregistration and tolerance reassessment commitments in 2000 and 2001.

The Interim Process:

Phase 1 — Registrant error correction (30 days)
(Exactly the same as the current OP Pilot Public Participation Process)

- EPA sends the risk assessments and related documents to the registrant for a 30-day period for the identification of errors and Confidential Business Information (CBI).
- EPA sends the risk assessments and related documents to USDA (and other federal government agencies as appropriate).
- USDA may elect to communicate with stakeholders, but will not release any part of the risk assessment documents for this purpose (they have not been cleared for CBI at this point).

Phase 2 — EPA addresses registrant's error comments (up to 30 days) (Very similar to the current OP Pilot Public Participation Process)

- EPA revises the risk assessments based on the errors identified by the registrant (if warranted).
- EPA develops the related risk assessment support documents (e.g. an Overview summarizing the assessments, EPA's formal response to the registrant's comments, etc.)
- EPA sends the completed Overview to USDA for use in stakeholder communications.
- USDA may elect to hold conference calls with stakeholders (using the Overview), and EPA will attend these calls as appropriate.

Phase 3 — Public Participation
(Consolidates the public participation events of the current OP Pilot Public Participation Process in order to meet reregistration goals in 2000 and 2001.)

- EPA releases the risk assessments and related documents to public docket via a Federal Register Notice of Availability and posts the documents on EPA's Web site. While there is no formal public comment period, the Agency will accept comments. Comments submitted within the first 30 days are most likely to be considered before issuance of the RED. All comments will also be considered s part of the comment process on the RED (see below).
- EPA sends the risk assessment documents to USDA as a courtesy.
- USDA may elect to hold conference calls during Phase 3, and EPA will attend, as appropriate.
- EPA may hold a public meeting to describe the risk assessments (Technical Briefing and/or stakeholder meeting).
- EPA develops the risk management document Reregistration Eligibility Decision (RED).
- EPA will hold a closure conference call with interested stakeholders to describe the findings of the RED.

Phase 4 — EPA issues risk management

- EPA releases the RED to the public docket for a 60-day public comment period via a Federal Register Notice of Availability and posts the RED on EPA's Web site.

Appendix C: OPP Divisions

Office of the Director
703-305-7090
Responsible for overall management of the Office Of Pesticide Programs

Antimicrobials Division
703-308-6411
Responsible for all regulatory activities associated with antimicrobial pesticides, including product registrations, amendments, and reregistrations.

Biological and Economic Analysis Division
703-308-8200
Responsible for assessing pesticide use and benefits; and operating analytical chemistry and antimicrobial testing laboratories.

Biopesticides and Pollution Prevention Division
703-308-8712
Responsible for risk/benefit assessment and risk management functions for microbial pesticides; biochemical pesticides; plant-pesticides and tolerance reassessment for biopesticides and Pesticide Environmental Stewardship Program.

Environmental Fate and Effects Division
703-305-7695
Responsible for evaluating and validating data submitted on pesticide properties environmental fate and effects on non-target organisms, as well as characterizing risks to such non-target organisms.

Field and External Affairs Division
703-305-7102
Responsible for program policies and regulations; legislation and Congressional interaction; regional, State and tribal coordination and assistance; international and field programs; and communication outreach activities.

Health Effects Divison
703-305-7351
Responsible for reviewing and validating data on properties and effects of pesticides, as well as characterizing and assessing exposure and risks to humans and domestic animals.

Information Resources and Services Division
703-305-5440
Responsible for information support; FOIA and Public Docket Management; records computer support; FIFRA section 6(a)(2) issues; pesticide incident monitoring; and National Pesticide Telecommunications Network.

Registration Division
703-305-5447
Responsible for product registrations, amendments, tolerances, experimental use permits, and emergency exemptions for all pesticides not assigned to BPPD or AD.

Special Review and Reregistration Division
703-308-8000
Responsible for Reregistration Eligibility Decisions (REDS), product reregistration, tolerance reassessment; and Special Reviews. Managing individual and cumulative reviews of the organophosphate (OP) pesticides.

Appendix D: Glossary

Active Ingredient: In any pesticide product, the component which kills, or otherwise controls, target pests. Pesticides are regulated primarily on the basis of their active ingredients.

Acute Toxicity: The capacity of a substance to cause a poisonous effect (such as skin or eye irritation or damage to an organ) or death as a result of a single or short-term exposure.

Aggregate Risk Assessment: Assessing the risk of exposure to a pesticide from all possible sources: for example, examining the risks to a person who may be exposed to the same chemical in a swimming pool and by drinking water from the tap.

Antimicrobial Pesticide: Antimicrobial pesticides, such as disinfectants & sanitizers, are pesticides that are intended to disinfect, sanitize, reduce, or mitigate growth or development of microbiological organisms; or protect inanimate objects (for example floors and walls), industrial processes or systems, surfaces, water, or other chemical substances from contamination, fouling, or deterioration caused by bacteria, viruses, fungi, protozoa, algae, or slime.

Biopesticides: Biopesticides (also known as biological pesticides) are certain types of pesticides derived from such natural materials as animals, plants, bacteria, and certain minerals. For example, canola oil and baking soda have pesticidal applications and are considered biopesticides.

Cancellation: The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) section 6(b) authorizes cancellation of registration if, when used according to widespread and commonly-recognized practice, the pesticide generally causes unreasonable adverse effects on the environment, or if its labeling or other material required to be submitted does not comply with FIFRA provisions.

Cholinesterase: An enzyme that helps regulate nerve impulses. Cholinesterase inhibition is associated with a variety of acute symptoms such as nausea, vomiting, blurred vision, stomach cramps, rapid heart rate, and can lead to death in severe cases.

Chronic Toxicity: The capacity of a substance to cause harmful health effects after long-term exposure.

Cumulative Risk Assessment: Assessing the risk of exposure to all pesticides that have a common mode of toxicity: for example, examining the combined effect of all pesticides that act by disrupting the nervous system.

Ecotoxicity: The capacity of a substance to cause adverse effects to the environment.

Endangered Species: Animals, birds, fish, plants, or other living organisms threatened with extinction by manmade or natural changes in their environment. Requirements for declaring a species endangered are contained in the Endangered Species Act.

Environmental Fate: The course a chemical takes in the environment after it has been released or applied (e.g., whether or not it binds to the soil, finds its way into ground water, or breaks down in the sunlight).

Experimental Use Permit: Pesticide manufacturers are required to obtain experimental use permits for testing new pesticides or new uses of pesticides whenever they conduct experimental field studies to support registration of the pesticide on ten acres or more of land or one acre or more of water.

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA): FIFRA is the law which requires EPA to register pesticides for use in the United States and prescribes labeling and other regulatory requirements to prevent unreasonable adverse effects on health or the environment.

Federal Food, Drug, and Cosmetic Act (FFDCA): FFDCA is the law which requires EPA to establishe tolerances for pesticide residues in food.

Food Quality Protection Act (FQPA): Passed in 1996, this act amends FIFRA and FFDCA 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 registrations will remain up to date in the future.

Herbicide: A pesticide that is designed to kill weeds and other unwanted plants.

Inert Ingredient: A component of a pesticide such as a solvent or carrier that is not active against target pests (now referred to as "Other Ingredients").

Interim Reregistration Eligibility Document: Issued for pesticides that require both a reregistration eligibility decision and a cumulative assessment. IREDs do not become final until EPA completes a cumulative risk assessment and risk management decision encompassing all related pesticides.

Insecticide: A pesticide that is designed to kill insect pests.

Microbial Pesticide: A microorganism that is used to control a pest. Microorganisms are living organisms

so small that individually they usually can be seen only through a microscope.

Minor Use: Using a pesticide on a crop with less than 300,000 acres of total U.S. production is classified as a minor use. Minor uses of pesticides are also defined as uses for which pesticide product sales are low enough to make it difficult for a manufacturer (or "registrant") to justify the costs of developing and maintaining EPA registrations. For this reason, the Agency particularly emphasized working with stakeholders.

Pest: An insect, rodent, nematode, fungus, weed, or other form of terrestrial or aquatic plant or animal life or virus, bacteria, or microorganism considered to be an annoyance and which may be injurious to health or the environment.

Pesticide: Substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Also, any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Reentry Interval (REI): The period of time immediately following the application of a pesticide to an area during which unprotected workers should not enter the area.

Registrant: Any manufacturer or formulator who obtains registration for a pesticide active ingredient or product.

Registration: Any pesticide used in the U.S. is required to be be registered with the EPA. EPA will register a pesticide only if a review of data show that it meets the safety standards.

Registration Standards: Published documents which include summary reviews of all the data available on a pesticide active ingredient, data gaps identified, and the Agency's existing regulatory position on the pesticide

Reregistration: The reevaluation and relicensing by EPA of existing pesticidal active ingredients originally registered prior to current scientific and regulatory standards.

Reregistration Eligibility Document (RED): Issued for pesticides that require a cumulative assessment but do not require a reregistration eligibility decision (issued for pesticides first registered after 1984, pesticides that previously had REDs, and pesticide with import tolerances only). Like IREDs, TREDs do not become final until EPA completes a cumulative assessment and risk management decision.

Residues: The pesticide remaining after natural or technological processes have taken place.

Restricted Use: When a pesticide is registered, some or all of its uses may be classified under FIFRA for restricted use if the pesticide requires special handling because of its toxicity. Restricted-use pesticides may be applied only by trained, certified applicators or those under their direct supervision.

Scientific Advisory Panel (SAP): The SAP was created on November 28, 1975, pursuant to Section 25(d) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended by Public Law 94-140, Public law 95-936, Public law 96-539, and Public Law 104-170. The Panel is composed of seven members who are selected on the basis of their professional qualifications to assess the impact of pesticides on health and the environment. Members are appointed by the EPA Administrator from a list of 12 nominees submitted by the National Institutes of Health and the National Academy of Sciences. The SAP members, who represent the disciplines of toxicology, pathology, environmental biology, and related sciences, serve a four-year term with appointments made on a staggered basis. An additional 50-60 ad hoc members of the SAP with unique expertise also are available; six to twelve usually participate at each meeting, providing input on particular issues within their areas of expertise.

Suspension: EPA's act of prohibiting the use of a pesticide in order to prevent an imminent hazard resulting from continued use of the pesticide. An emergency suspension takes effect immediately; under an ordinary suspension, a registrant can request a hearing before the suspension goes into effect.

Tolerance: The maximum amount of pesticide residue allowed by law to remain in or on a harvested crop.

Tolerance Reassessment Eligibility Decision (TRED): Issued for pesticides that require a cumulative assessment but do not require a reregistration eligibility decision (issued for pesticides first registered post-'84, pesticides that previously had REDs, and pesticides with import tolerances only). Like IREDs, TREDs do not become final until EPA completes a cumulative assessment and risk management decision.

Toxicity: Inherent capability of a substance to cause adverse effects in human, animal, or plant life.

Unreasonable Risk: Under FIFRA, "unreasonable adverse effects on the environment" means any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefit of the use of any pesticide.

Young Farmworkers' Academy (YFA) students paint mural in downtown Washington, D.C., during the Hispanic Heritage Month Celebration of 2000.

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Family in Suburban Area: Image Bank

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Walnut Marketing Board
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Washington State Department of Transportation
West Virginia Power
Winter Pear Control Committee
Wisconsin Ginseng Growers Association
Wisconsin Public Service Corporation