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Promoting Safety for America's Future



Office of Public Awareness

EY 2010/2011

Letter from the Director
Office of Pesticide Programs

Executive Summary

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Promoting Safety for America's Future

Dear Readers:

Americans today have become accustomed to an extraordinary quality of life that is unparalleled elsewhere in the world. We have a vast supply of high-quality, low-cost food available to us year in and year out. We rely on public health agencies to take action when diseases transmitted by mosquitoes and other pests may threaten our health and safety. We also expect our homes and our children's schools to be free from harmful insects and other pests. None of these expectations could be met without effective pest management techniques and proper stewardship of our nation's resources.

This year's annual report, "Promoting Safety for America's Future," illustrates the work of EPA's "Pesticide Program." The "Pesticide Program" represents the collective efforts of the Office of Pesticide Programs, along with our partners in the EPA regional offices and the state and tribal pesticide regulatory agencies, to promote safety for all people who are exposed to pesticides in their daily lives. These include agricultural workers and pesticide applicators and handlers who are exposed to pesticides on the job; school children who spend much of their time in buildings, parks, and playgrounds where pesticides may be used; and all of us who count on EPA to ensure that the food we eat, the water we drink, and the air we breathe are clean and safe.

Fiscal Year 2002 was a demanding, yet auspicious, time for the Pesticide Program. Early in the year, as the nation was recovering from the aftermath of September 11, anthrax contamination was discovered in our nation's capital and other locations. We played a key role in identifying and evaluating existing pesticide products that would be safe and effective for response to contamination by anthrax spores. The security of materials held by pesticide manufacturers, distributors, and applicators became an ongoing homeland security concern. By summer, West Nile virus had

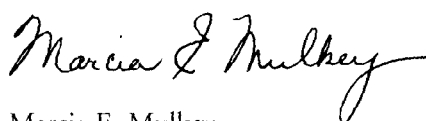
U.S. Environmental Protection Agency
Region 5, Library (PL-12J)
77 West Jackson Boulevard, 12th Floor
Chicago, IL 60604-3500

taken a considerable toll across more than 30 states. The Pesticide Program had significant roles in all these public health and safety issues.

While facing these challenges during the year, our hard-working professionals succeeded in developing both the Preliminary and the Revised Organophosphate Cumulative Risk Assessment—a major scientific and regulatory achievement and the very first risk assessment based on a group of chemicals that can affect health through the same toxic characteristics. On August 3, 2002, we reached yet another milestone as we completed the second phase of a 10-year effort of safety evaluations by completing reevaluation of 66 percent of existing pesticide tolerances, ensuring that pesticide residues on food meet tough new food safety standards. Further, we met critical deadlines by issuing several key risk management decisions for currently used pesticides, e.g., diazinon, phosmet, and azinphos methyl. We also secured the voluntary cancellation of CCA (chromated copper arsenate) for treatment of wood used in residential settings by January 2004, which will reduce millions of Americans' exposure to arsenic, a known human carcinogen.

What is truly remarkable about this fiscal year is that, in addition to successfully addressing the daunting workload brought about by the critical Food Quality Protection Act (FQPA), the Pesticide Program also met and often exceeded its many other important regulatory commitments, including registering new lower-risk pesticides, reevaluating older pesticides, working with partners, and communicating regularly with our stakeholders and the public to ensure pesticide safety for all Americans.

We ask for your continued cooperation and support to help us bring about greater protection of public health and safety and in protecting the natural environment from pesticide risks. On behalf of all the dedicated public servants across the country who work on pesticide issues, I am honored to be able to provide you with this report.



Marcia E. Mulkey
Director
Office of Pesticide Programs

EXECUTIVE SUMMARY

This annual report focuses on the U.S. Environmental Protection Agency's commitment to pesticide safety—enhancing testing requirements for new pesticide products, continuing reassessment of older products using updated data, and current science, building strong partnerships with stakeholders, and reaching out to communicate with the public. By their very nature, most pesticides create some risk of harm to humans, animals, or the environment because they are designed to kill or otherwise adversely affect certain living organisms. At the same time, pesticides are critical to society because of their ability to kill potential disease-causing organisms and control insects, weeds, and other pests. Biologically based pesticides, such as pheromones and microbial pesticides, are becoming increasingly popular and often are safer than traditional chemical pesticides. The Pesticide Program regulates the more than 18,000 pesticide products licensed for use in this country, continues to protect public health and the environment from the risks posed by pesticides, and promotes safer means of pest control.

Promoting Safety

To ensure the quality of the U.S. food supply, the Pesticide Program completed a comprehensive safety evaluation of 66 percent of existing pesticide tolerances, as mandated by the Food Quality Protection Act (FQPA). Altogether, EPA has reassessed more than 6,400 tolerances for pesticide residues on food, revoking more than 1,900 tolerances. Nearly two-thirds of the tolerances assessed were for foods commonly consumed by children. We have evaluated 71 percent of the 5,543 tolerances in the first-priority group including:

- 100 percent of organochlorines
- 56 percent of carbamates
- 67 percent of organophosphates (OPs)
- 64 percent of carcinogens
- 92 percent of other tolerances included in this group

The Pesticide Program worked diligently to meet a variety of other challenges, including delivery of critical support in the aftermath of terrorist attacks and in response to public health threats such as anthrax.

Registering New Active Ingredients, Uses, and Alternatives

In FY 2002, the Pesticide Program registered 26 new active ingredients, including antimicrobials, biopesticides, conventional reduced-risk pesticides, and conventional pesticides. We also registered 720 new uses for previously registered active ingredients. In addition, the Pesticide Program reviewed requests for emergency exemptions in an average processing time of 35 days.

26 ACTIVE INGREDIENTS REGISTERED

- 3 antimicrobials
- 4 conventional reduced-risk pesticides (1 OP alternative)
- 11 biopesticides
- 8 conventional chemicals

Evaluating Older Pesticides Against Current Standards

Through reregistration, EPA is ensuring that older pesticides meet current health and safety standards and product labeling requirements and that their risks are appropriately managed so that the general population is not at risk. We look at aggregate exposure to pesticides—from food, drinking water, and home and garden use—in determining allowable levels of pesticide residues in food. We consider whether pesticides may have a cumulative effect because they share a common mechanism of toxicity.

RISK MANAGEMENT DECISIONS MADE FOR ACTIVE INGREDIENTS

- 7 Reregistration Eligibility Decisions (REDs) issued
(total since Federal Insecticide, Fungicide, and Rodenticide Act of 1988: 214)
- 8 Interim Reregistration Eligibility Decisions (IREDs)
- 21 Tolerance Reassessment Progress and Interim Risk Management Decisions (TREDs)

Reaching Out and Educating the Public

An important part of the Pesticide Program's work to promote safety is developing communication tools and establishing outreach programs to help educate stakeholders about safe pesticide use and Integrated Pest Management (IPM). Highlights of FY 2002 include:

- Issued 200 Pesticide Program Updates
- Responded to more than 600 Webmails and 600 letters
- Responded to more than 25,000 telephone inquiries through the National Pesticide Information Center
- Stepped up efforts to promote IPM in schools by funding new pilot programs, providing support through IPM Technical Resource Centers, and issuing new IPM in Schools brochure to all U.S. public schools

Building Partnerships with Stakeholders

Building partnerships with a variety of stakeholders helps ensure that the Pesticide Program stays in touch with the needs of its stakeholders, promotes efficiencies through the exchange of information and other resources, and encourages the adoption of reduced-risk pest management practices. Important FY 2002 accomplishments include:

- Agricultural Initiative projects such as Washington State's corn earworm pilot project
- Projects sponsored by the North American Free Trade Agreement (NAFTA) Technical Working Group and U.S.-Mexico Pesticide Information Exchange to promote safety across national borders
- Certification and Training Assessment Group's Web project to enhance quality of information states provide to EPA on activities carried out under state-managed certification and training plans

Each year in the United States, more than 2 billion pounds of pesticides are applied to food crops, homes, schools, parks, and forests. In the United States, annual expenditures for pesticides account for \$11 billion. The economic investment in pesticides is significant, as is the potential economic impact of pest infestations. We achieve a balance by employing the best science and by keeping human health and safety foremost at all times. Our decisions must ensure that pesticide users in the United States have access to adequate pest management tools that will not put our nation's health or safety at risk.



INTRODUCTION

Each year in the United States, over 2 billion pounds of pesticides are applied to food crops, homes, schools, parks, and forests. Worldwide, pesticide expenditures exceed \$33.5 billion per year. In the United States, annual expenditures for pesticides account for \$11 billion—or about one-third of the world total. The economic investment in pesticides is significant, and the potential economic impact of pest infestations is also quite steep. For example, the National Pest Management Association estimates that termites cause \$1.5 billion worth of damage to property in the United States each year.

EPA's Pesticide Program has been entrusted with the responsibility of registering pesticides while safeguarding public health and the environment from risks that may be posed by them. We must also make sure that effective and safer means for controlling pests are available. In carrying out this mission of safety, we regulate the more than 18,000 pesticide products licensed for use in this country. Pesticides differ from other classes of chemicals regulated by EPA because they are intentionally applied, rather than released into the environment as by-products of industry or other human activity. Pesticides are released into nature for the purpose of killing, repelling, or mitigating pests that can ruin crops, contaminate the food supply, transmit disease, and cause structural damage to homes, schools, and other buildings. While the use of pesticides can provide social and economic benefits, by their very nature, most pesticides pose some degree of risk because they are designed to have a negative effect on living organisms.

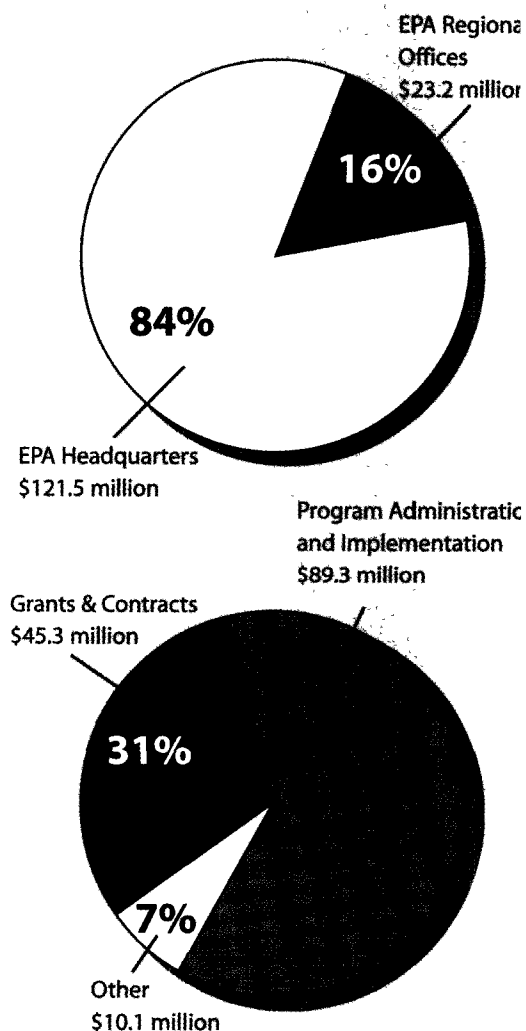


One of our greatest challenges is achieving the right balance so that the benefits pesticides offer society outweigh the risks they pose to human health and the environment. We seek this balance using the latest tools science has to offer, keeping health and safety foremost at all times. This report is a summary of EPA achievements that underscore our commitment to safety—rigorous testing requirements for new pesticide products, continuing reassessment of older products, building partnerships with stakeholders, and communicating with the public.

In FY 2002, EPA's budget for its Pesticide Program was \$144.7 million. Of these funds, \$121.5 million were allocated to activities managed by our headquarters in Washington, DC. The remaining \$23.2 million were allocated to EPA's 10 regional offices.

Of the total budget, \$89.3 million were used to cover payroll, travel, and other administrative expenses, while \$45.3 million were spent on grants and contracts. The Pesticide Program's budget is partially self-sustaining in that revenues—13 percent of the budget—come from fees levied on registrants of pesticide products.

PESTICIDE PROGRAM FY 2002 BUDGET \$144.7 MILLION





SECTION 1: THE PESTICIDE PROGRAM PROMOTES SAFETY IN AMERICA

The Pesticide Program's work to promote safety for the American public took many forms in Fiscal Year 2002. We continued to enhance safety through many activities designed to eliminate high-risk pesticide exposures. We developed a cumulative risk assessment for organophosphate pesticides. This groundbreaking scientific achievement facilitates the assessment of health risk associated with multiple pesticides and routes of exposure. The program worked to ensure that all pesticides on the market meet federal health-based safety standards. We continued to register reduced-risk pesticides, encouraging a move away from the use of older, potentially more risky pesticides.


Prompted by new and emerging public health threats including anthrax contamination and the vector-borne West Nile virus, we adopted a more systematic approach to addressing significant public health pests. This approach involved a range of activities: from setting priorities for new product registration that address these public health challenges to increasing coordination with other federal and state agencies. Recognizing the particular vulnerability of children to potential health effects arising from exposures to chemicals, we continued to emphasize the review of pesticides used on foods most frequently eaten by children. Finally, we strengthened our public outreach efforts, focusing on segments of the population considered to be at greatest risk and providing them with information on how to avoid pesticide poisonings, how to use pesticides safely, and how to eliminate unnecessary uses of pesticides.

The Food We Eat

Many of the fruits and vegetables we eat are grown in fields where pesticides are applied to reduce the risk of pest infestations. Pesticides are often applied after the food is harvested as well, to ensure that it reaches the grocer in an acceptable condition. EPA sets standards for pesticide tolerances—the maximum amount of pesticide residue allowed to remain in or on food—to ensure that pesticide residues on food meet a “reasonable certainty of no harm” standard.

In a tremendous undertaking by the Pesticide Program, we completed the second phase of tolerance reassessment, an intensive 10-year scientific and regulatory effort mandated by the Food Quality Protection Act (FQPA) to ensure that all existing pesticide tolerances meet a tougher food safety standard. In keeping with FQPA, EPA completed the comprehensive safety evaluation of 66 percent of existing pesticide tolerances by the August 3, 2002, deadline.

Altogether, EPA has reassessed more than 6,400 tolerances for pesticide residues on food, including nearly two-thirds of the tolerances for foods commonly consumed by children. During the reassessment process, EPA revoked more than 1,900 tolerances. Acceptable tolerances must be both high enough to cover residues that could be left when the pesticide is used in accordance with its labeling and low enough to protect public health. In conducting safety evaluations, EPA gave priority to classes of pesticides posing the greatest risk—organophosphates, carbamates, organochlorines, and pesticides that show evidence of carcinogenicity.



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**—STEPHEN L. JOHNSON,
ASSISTANT ADMINISTRATOR
FOR PREVENTION, PESTICIDES,
AND TOXIC SUBSTANCES**



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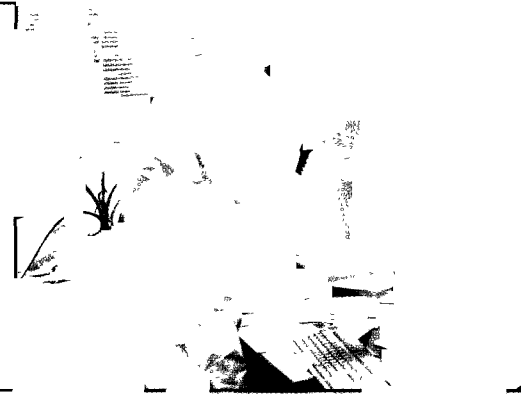
In addition, we registered 15 new, reduced-risk active ingredients, bringing the total number of reduced-risk pesticides to 80. In many cases, these reduced-risk pesticides are alternatives to older, more risky pesticides.

The Water We Drink

In FY 2002, the results of a two-year drinking water monitoring study were released. This study was a joint effort of the U.S. Geological Survey (USGS) and EPA, in which USGS analyzed 186 pesticides and degradation products from 12 water-supply reservoirs and community water systems throughout the United States. Data obtained from this monitoring study will help the Pesticide Program more effectively characterize human exposure to pesticide residues in drinking water derived from surface-water sources. The results of this study were incorporated into the Revised Cumulative Organophosphate Risk Assessment.

Our Homes

In February 2002, EPA announced its receipt of the CCA (chromated copper arsenate) registrants' request for voluntary cancellation of CCA products for treating wood used in residential settings. Wood treated with CCA contains arsenic, a known carcinogen. CCA-treated wood has been used widely in residential settings including play structures,



decks, picnic tables, landscaping timbers, residential fencing posts, patios, walkways, and boardwalks. Use of CCA to treat wood for these residential purposes will not be legal after December 31, 2003. We have provided information to consumers on alternatives to CCA-treated wood including untreated wood (e.g., cedar and redwood) and nonwood alternatives such as plastics, metal, and composite materials.

An expanded consumer information program, developed by the American Wood Preservers Institute and reviewed by EPA, includes end-tag labeling on all pieces of CCA-treated lumber, in-store bin stickers and signs, and a new Web site and toll-free hotline.

The Anthrax Challenge

When the anthrax crisis arose, EPA responded quickly. Since there are no pesticides registered to kill anthrax spores, the Pesticide Program allowed emergency use of certain registered products that were effective in killing the spores but would not harm humans or the environment. Our Microbiology Lab conducted efficacy performance tests of pesticides selected for cleanup efforts. We issued 17 emergency exemptions for products that were used to decontaminate at least 10 buildings. We also assisted in the development of national decontamination policies and procedures.

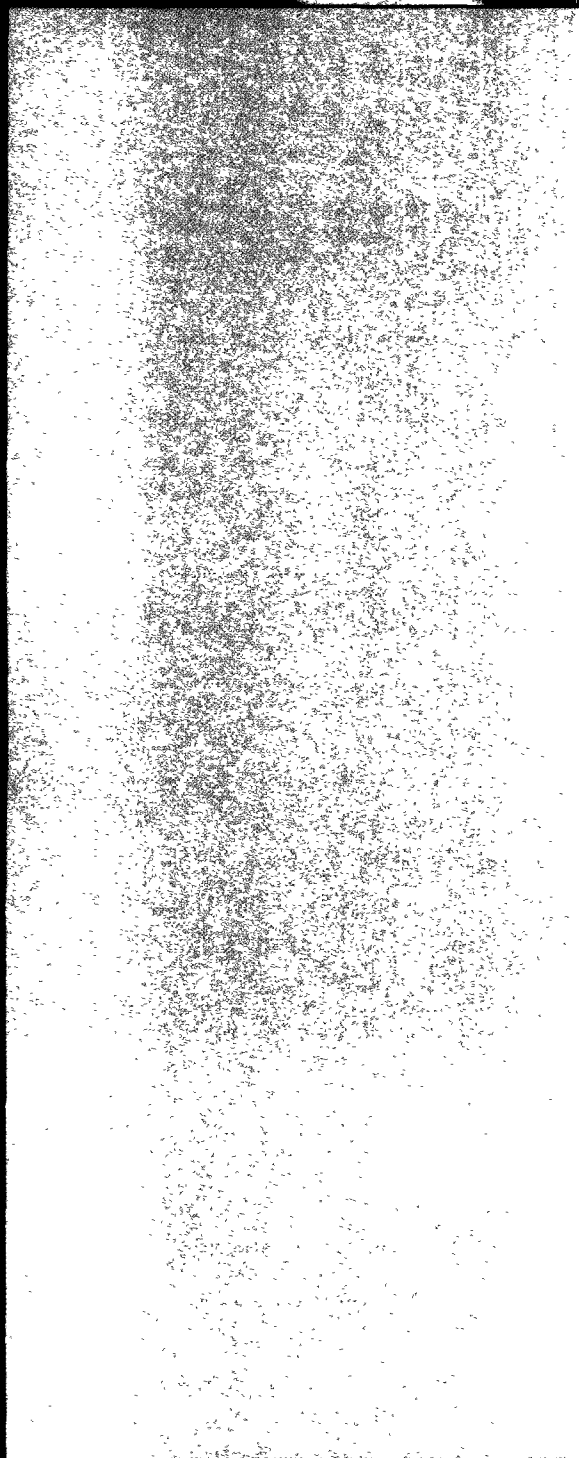
Critical Support in Aftermath of Terrorist Attacks

Soon after the attack on the Pentagon, the U.S. Army asked EPA for emergency assistance to analyze cleanup wipe samples. The Dioxin Analytical Team at the Pesticide Program's Environmental Chemistry Lab was charged with testing for chlorinated dioxins, furans, and dioxin-like PCBs. Incineration is a major source of these chemicals. The



Administrator Christine Todd Whisman

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work of the Lab was instrumental in helping guide the Army to specific areas in the Pentagon where cleanup of toxic chemicals was needed.

Within days of conducting tests for the Pentagon, EPA received a request from the Occupational Safety and Health Administration (OSHA) to analyze personal air monitors worn by workers at the World Trade Center site. OSHA was concerned about the concentration of chlorinated dioxins and furans in the air. The Dioxin Team provided prompt, high-quality data to ensure the safety of workers.

Security of Our Homeland

The Pesticide Program played an important role in helping develop EPA's Homeland Security Strategic Plan. We assisted national security authorities in enhancing national preparedness and prevention against potential threats of terrorism. In announcing the Agency's plan on October 2, 2002, Administrator Christine Todd Whitman provided a blueprint for strengthening homeland security. The plan includes protection of the nation's critical infrastructure; preparedness, response, and recovery; communication and information; and protection of EPA's personnel and infrastructure.

The Pesticide Program's homeland security team also worked with other EPA offices to develop the details for these goals and identified initiatives to improve pesticide security. These included strengthening the pesticide applicator certification and training program and pesticide storage requirements, enhancing the program's laboratory capabilities, and collaborating with other stakeholders to expand communication networks and strategies. We also shared critical information with authorities and issued security alerts to the pesticide industry.

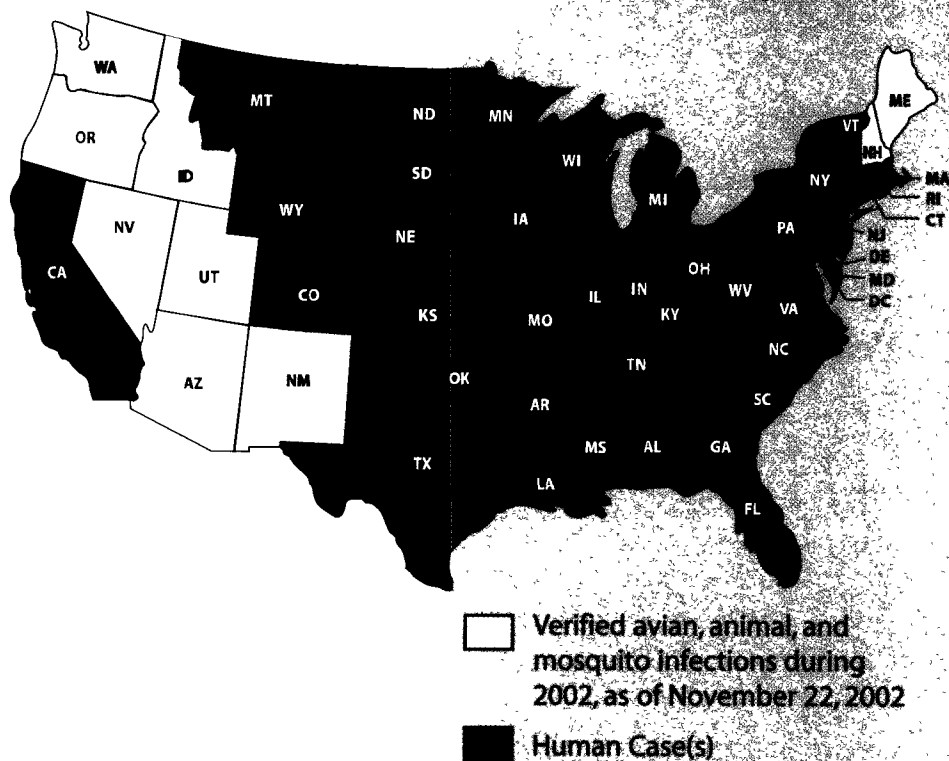


Tools for Controlling Mosquitoes

West Nile virus cases increased dramatically in 2002, spreading across 38 states and the District of Columbia. As of October 17, 2002, 172 deaths were linked to West Nile and 3,104 human cases of the virus were reported in the United States. In areas with new West Nile virus detections, our regional offices reported heightened concern about the pesticides used for mosquito control. EPA provided outreach and technical assistance to state agencies and the public about the safe and responsible use of pesticides in mosquito control programs. We also permitted registrants of DEET products to simplify their labels by using the easily recognized name DEET instead of the chemical name, N,N-diethyl-meta-toluamide.

In addressing these concerns, we encouraged the use of Integrated Pest Management (IPM) approaches for mosquito control, including early detection and use of larvicides that help prevent higher populations of adult mosquitoes. Because much of the outreach and technical support is provided through our Web site, we updated our "EPA and Mosquito Control" pages to provide the most current information about mosquito control and pesticides that may be used in control programs.

WEST NILE VIRUS IN THE UNITED STATES, 2002



Credit: Center for Disease Control, <http://www.cdc.gov/ncidod/dvbid/westnile/surveillancecontrol.htm>



Regional offices met with schools and other institutions to provide education and outreach materials about using IPM for mosquito control. Regional office activities included monitoring product composition, environmental monitoring of water bodies close to pesticide applications, and surveillance of ground and aerial applications of pesticides to ensure they were carried out according to label directions. EPA's New York office worked with local authorities to alert the public well in advance of planned pesticide applications and to ensure that residents were inside their homes when applications occurred.

New Approach for Tick Control

Lyme disease, transmitted by the blacklegged tick, is a serious public health concern. It can lead to problems such as arthritis, neurological abnormalities, and inflammation of the brain. In extreme cases, it can kill. According to the Centers for Disease Control and Prevention, more than 17,000 cases of Lyme disease were reported in the United States in 2000. In 2002, EPA granted emergency exemptions for the use of rodent bait boxes containing the pesticide fipronil for Connecticut, New York, and New Jersey, three states with particularly high incidences of Lyme disease. Fipronil kills immature ticks that live and feed on rodent hosts but is not lethal to the rodent. During the tick season in spring and summer, bait stations were placed in parks, campgrounds, hiking trails, and other community common areas. The bait stations deposited fipronil on the coats of rodents such as mice and chipmunks as they entered and made contact with the stations. Human exposure risks associated with bait stations tend to be much lower than for broadcast applications, the method most often used to control ticks.



Technical Support for EPA Enforcement Actions

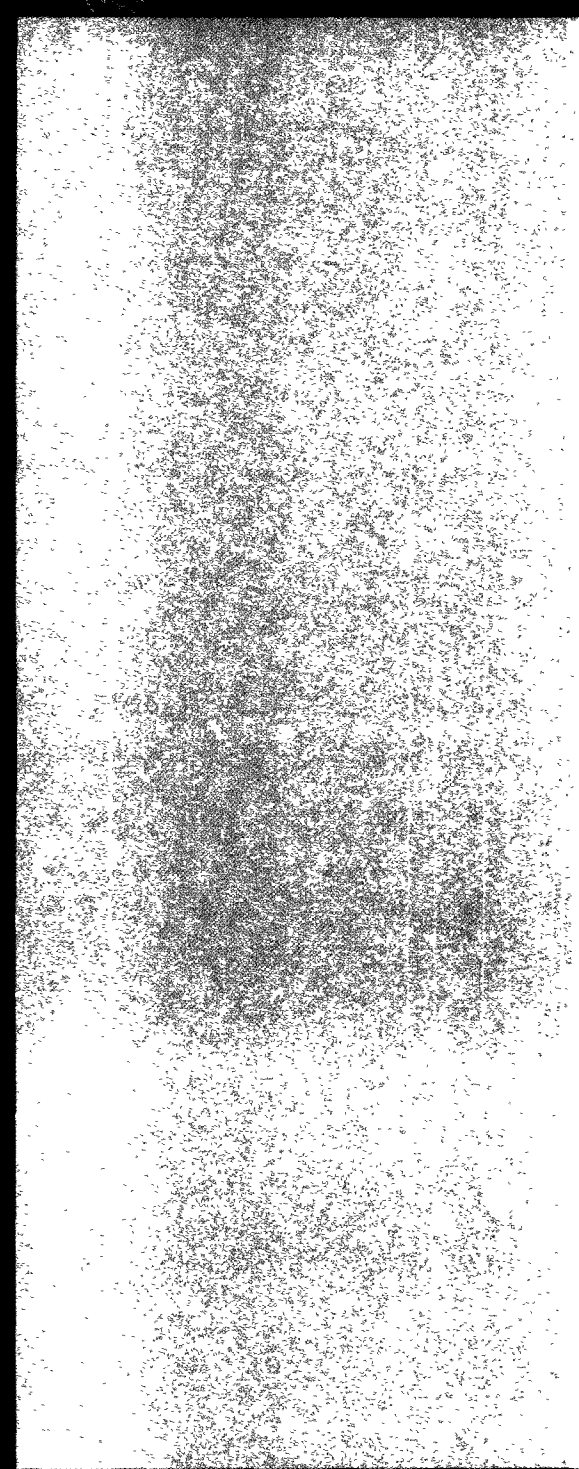
Effective implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) includes developing conditions for proper pesticide use and assuring compliance with these conditions. EPA works to ensure that pesticide products on the market are registered and in compliance with the terms of their registration.

EPA STOPS SALE OF UNREGISTERED PRODUCTS MARKETED FOR ANTHRAX DECONTAMINATION

EPA's pesticide enforcement staff regularly inspect advertisements on the Internet and other marketing venues to identify unregistered pesticides being sold illegally to the public. Under FIFRA, no one may sell, distribute, or use a pesticide unless it is registered by EPA, and all label language must be approved by EPA before the product is introduced into the marketplace. EPA took enforcement actions against four companies advertising and selling unregistered products on the Internet that claimed to protect the public from anthrax. EPA issued "stop sale" orders to the companies, forcing immediate removal of the products from the marketplace.

EPA TAKES ACTION AGAINST COMPANIES SELLING MISLABELED PESTICIDE PRODUCTS

Two enforcement cases carried out by EPA's regional offices illustrate the importance of inspections at both the producer/manufacturer and the marketplace levels. In the first case, EPA's Atlanta office reached a settlement with a registrant who was selling products whose composition differed from the composition EPA had approved in granting the registrations. Settling a 669-count complaint, the company paid a civil penalty of



more than \$1 million. Products whose composition differs from what is indicated on the label can be ineffective or may cause unreasonable adverse effects. In this case, the products were sold and used in both agricultural and residential settings.

In a second case, EPA took action after a misbranded pesticide was sold for use in public swimming pools in Covington, KY. Application of pool chemicals in either higher or lower concentrations than necessary can pose serious public health threats. This product contained a sodium hypochlorite antimicrobial pesticide. The manufacturer, however, had removed all pesticidal claims and its EPA registration as a pesticide-producing establishment from the label. Pesticide labels contain valuable use instructions and safety precautions, and their removal from a registered product is illegal.

EPA Fulfills Antimicrobial Provisions of FQPA

During FY 2002, EPA continued its efforts to ensure that sound science underpins all decisions on antimicrobial pesticides, and that stakeholders have ample opportunity to provide input and voice concerns through numerous monthly and issue-specific meetings. The Agency continues to maintain a zero backlog in its FQPA registration actions and has met all of its FQPA registration deadlines.

ANTIMICROBIAL REGISTRATION ACTIONS IN FY 2002

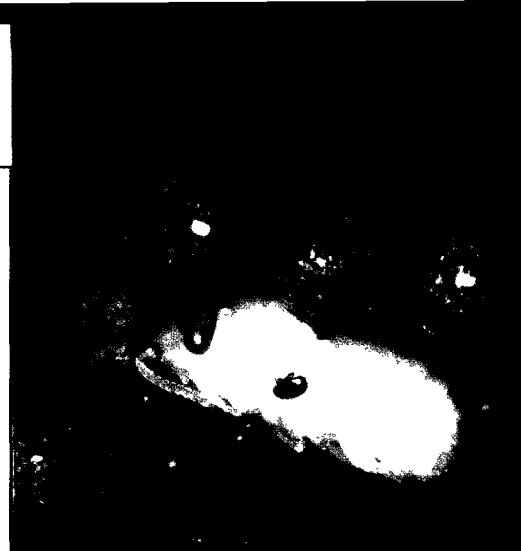
- 3 new active ingredients
- 17 new uses of either new or previously registered active ingredients
- 1,335 fast track amended registrations

- 95 nonfast track amended registrations
- 120 old chemical fast track registrations
- 129 old chemical nonfast track registrations

Phaseout of TBT Promotes Ecological Health

Tributyltin (TBT) is a pesticide used in antifouling paints to prevent the buildup of organisms such as bacteria, algae, and mollusks on ships' hulls. TBT antifouling paints are associated with adverse effects in marine life, particularly shellfish. The U.S. Government and many other countries took action to restrict the use of TBT antifouling paints in the late 1980s. More recently, the Pesticide Program contributed to the development of an international agreement for the phaseout of TBT under the auspices of the International Maritime Organization.

When ratified by 25 member nations who control one-fourth of the world shipping tonnage, the agreement will enter into force as an international treaty. To be prepared for ratification, the Pesticide Program worked with TBT registrants this year to promote the voluntary cancellation of antifouling registrations and to register alternative products. In FY 2002, we registered 16 alternatives.



Varroa Mites Threaten Honeybee Population

Domesticated honeybees and thousands of different species of wild bees pollinate more than 150 food crops in the United States, including potatoes, melons, cotton, onions, and almonds. The U.S. Department of Agriculture estimates that honeybees contribute to increased yield and quality to an industry worth \$14.6 billion per year. The varroa mite is a parasite that has devastated bee populations throughout the United States and threatens the honeybee's critical role in agriculture. The population decline in wild bees created a market for commercial services where domesticated bees are brought in to perform the pollination. The cost of pollination services is climbing as varroa mites also attack bees bred for pollination services. In FY 2002, EPA granted 46 emergency exemptions for the use of coumaphos to control varroa mites.



SECTION 2: NEW ACTIVE INGREDIENTS, USES, AND ALTERNATIVES REINFORCE PUBLIC SAFETY IN REGISTRATION ACTIONS

Before EPA registers a pesticide, the producer of the pesticide product typically must provide data from more than 100 different studies done according to EPA guidelines. We look at the pesticide's ingredients; the site or crop where it will be used; the amount, frequency, and timing of its use; and storage and disposal practices. EPA evaluates pesticides to ensure they will meet federal safety standards that protect human health and the environment and nontarget species. Registering a pesticide is a considerable investment of resources for both the registrant and EPA. We place high priority on registering lower-risk pesticides, pesticides with public health benefits, and pesticides that are of particular economic importance to users.

In FY 2002, the Pesticide Program registered 26 new active ingredients, including antimicrobials, biopesticides, conventional reduced-risk pesticides, and conventional pesticides. We also registered 720 new uses for previously registered active ingredients. In addition, the Pesticide Program received 503 requests for emergency exemptions and reviewed each, averaging a record-low processing time of 35 days.

Examples of Pesticide Registration Actions

TRITICONAZOLE REGISTERED FOR USE AS A SEED TREATMENT FOR WHEAT AND BARLEY

Triticonazole can be used to control various seed-borne plant diseases such as true loose smut in barley, as well as loose smut and common bunt in wheat.



NEW CONVENTIONAL "REDUCED-RISK" FUNGICIDE, FENAMIDONE, REGISTERED FOR USE ON LETTUCE

Fenamidone is a broad spectrum foliar fungicide that has the capability to replace some use of maneb, a carcinogenic pesticide.

NEW USES REGISTERED FOR THIOPHANATE-METHYL

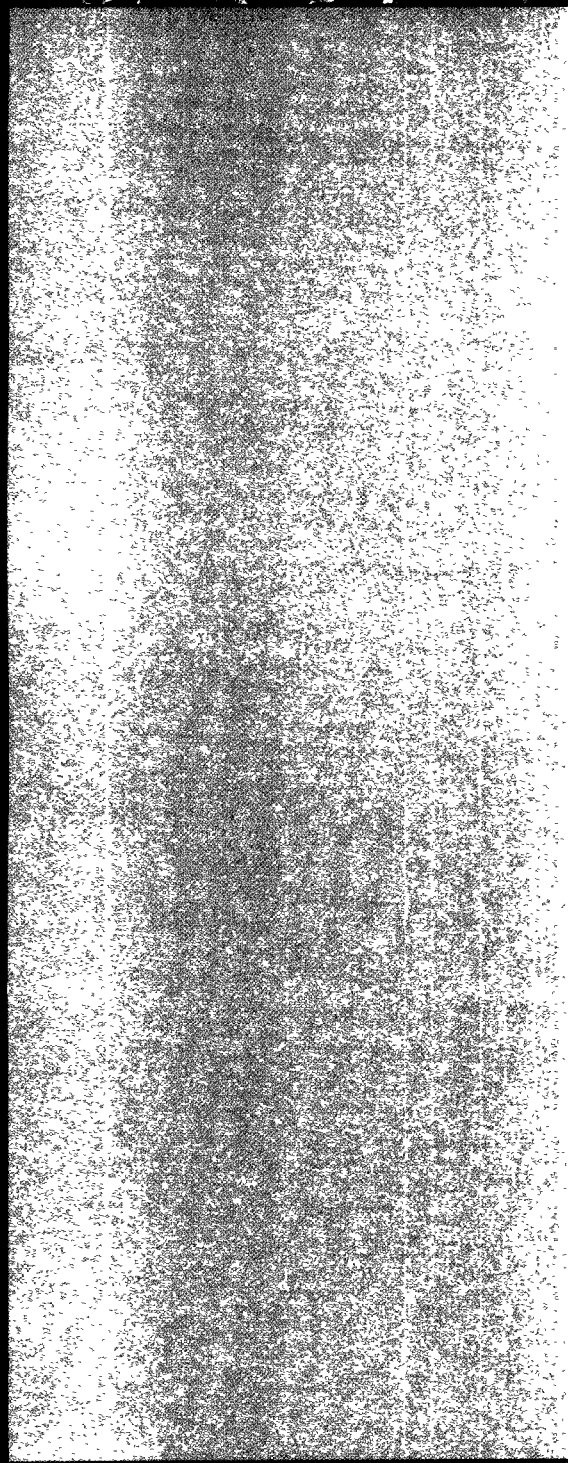
Following the registration of thiophanate-methyl for use on canola, we registered thiophanate-methyl for use on grapes, pears, and pistachios and for use on potatoes as a foliar application. These registrations offer an alternative to benomyl, which was canceled last year.

TOLERANCE EXEMPTION GRANTED FOR FORAMSULFURON

In March 2002, we issued registrations for the new chemical foramsulfuron, or Option Corn Herbicide, used to control weeds in field corn. Because this new herbicide demonstrated very low toxicity for all routes of exposure, foramsulfuron was granted an exemption from the requirement of a tolerance on corn. Foramsulfuron also demonstrated very low toxicity to any nontarget organisms other than vascular plants.

BIOCHEMICAL INSECTICIDE AND MITICIDE, SUCROSE OCTANOATE ESTERS, REGISTERED

Used to control varroa mites, a significant pest of honeybees, sucrose octanoate esters have a physical, nontoxic, mode of action. They dewax the cuticle of soft-bodied target pests causing them to dessicate.



PUCCINIA THLASPEOS STRAIN WOAD REGISTERED TO CONTROL DYER'S WOAD

Puccinia thlaspeos strain woad is a plant rust that controls an invasive shrub called dyer's woad that is rapidly spreading in several western states.

CALCIUM HYDROXIDE PAINT ADDITIVE REGISTERED

Also known as hydrated lime, calcium hydroxide was registered for use in the formulation of products such as paints and coatings. Calcium hydroxide will be used to make formulations resistant to the growth of odor-causing bacteria as well as mold and mildew, which can discolor surfaces.

DIETHYLENE GLYCOL MONOMETHYL ETHER (DiEGME) AT 99.7% REGISTERED AS FUEL ADDITIVE

DiEGME at 99.7% was registered as a new active ingredient for use as an antimicrobial additive for jet, diesel, and marine fuels. It is used to control bacteria and fungi, which are usually found in hydrocarbon fuel systems and which can reduce fuel performance. DiEGME has been widely used for many years as an anti-icing agent in fuel systems, but this is the first time it has been registered as a pesticide.

Alternatives, Special Exemptions Ease Methyl Bromide Phaseout

The Pesticide Program is working with the U.S. Department of Agriculture (USDA), states, and the grower community to identify potential alternatives that can facilitate the phaseout schedule and the

transition away from methyl bromide. In FY 2002, EPA registered seven methyl bromide alternatives. The Pesticide Program has made the registration of methyl bromide alternatives a high priority and has ensured that resources are available to complete timely reviews of applications.

EPA is working to design and implement the process for evaluating applications for "critical uses." The methyl bromide critical use exemption (CUE) program provides a mechanism for growers to legally use methyl bromide in special circumstances. The CUE program requires applications or petitions to be filed with EPA and requires technical and economic data on alternatives available to the user community so that EPA can assess whether the desired use of the pesticide is critical. We are also conducting outreach to grower groups about the phaseout and the exemption process and managing the technical and economic reviews of the incoming applications. In FY 2002, EPA received 56 applications for methyl bromide Critical Use Exemptions. Technical experts from the Pesticide Program and USDA reviewed these applications to consider whether technically or economically feasible alternatives to methyl bromide exist for the requested uses.

Minor Use Pesticides Play Major Role in Agriculture and Public Health

This year, the Pesticide Program registered 1,352 new uses for minor use pesticides. These are pesticides used on minor crops, those grown on less than 300,000 acres. Minor crops make up about 40 percent of U.S. agricultural production. EPA works closely with USDA to

Why Methyl Bromide is Being Phased Out

The United States agreed to phase out methyl bromide, a fumigant used in agriculture and in food processing facilities, to protect the earth from the detrimental effects of stratospheric ozone depletion. This is in keeping with the Montreal Protocol, an international treaty. The Clean Air Act contains provisions implementing this agreement and calls for a complete phaseout of methyl bromide by 2005. The Clean Air Act also includes provisions to allow for exemptions in special circumstances.



address minor crop pest control needs through our pesticide registration and reregistration programs, often relying on data supplied by USDA. Minor use pesticides also play a significant role in protecting public health from vector-borne diseases such as West Nile virus and Lyme disease.

New Methodology Improves Review of All Lower-Toxicity Pesticide Ingredients

In FY 2002, EPA developed new guidance on how lower-toxicity pesticide chemicals, including both active and inert (other) ingredients, will be evaluated for use in pesticide products. We used this guidance to complete 425 tolerance reassessments, as well as to reregister urea and propionic acid, two chemicals that have both active and inert ingredient uses. The guidance introduces an efficient tiering concept that combines assessments and relies on the use of existing scientifically credible data. The guidance improves the review and decisionmaking process used to evaluate low- or low/moderate-toxicity chemical substances. It allows the Pesticide Program to focus resources on evaluating chemical substances of potentially higher toxicity.

United States and Canada Seek Harmony in Pesticide Regulations

At the core of joint efforts with other countries is mutual commitment to seeking harmony in pesticide registration requirements. Harmonization gives growers equitable access to pest management tools in both countries. Human health and environmental data

requirements, as well as the guidelines or test protocols for how companies should conduct all routinely required studies, are largely harmonized between Canada and the United States.

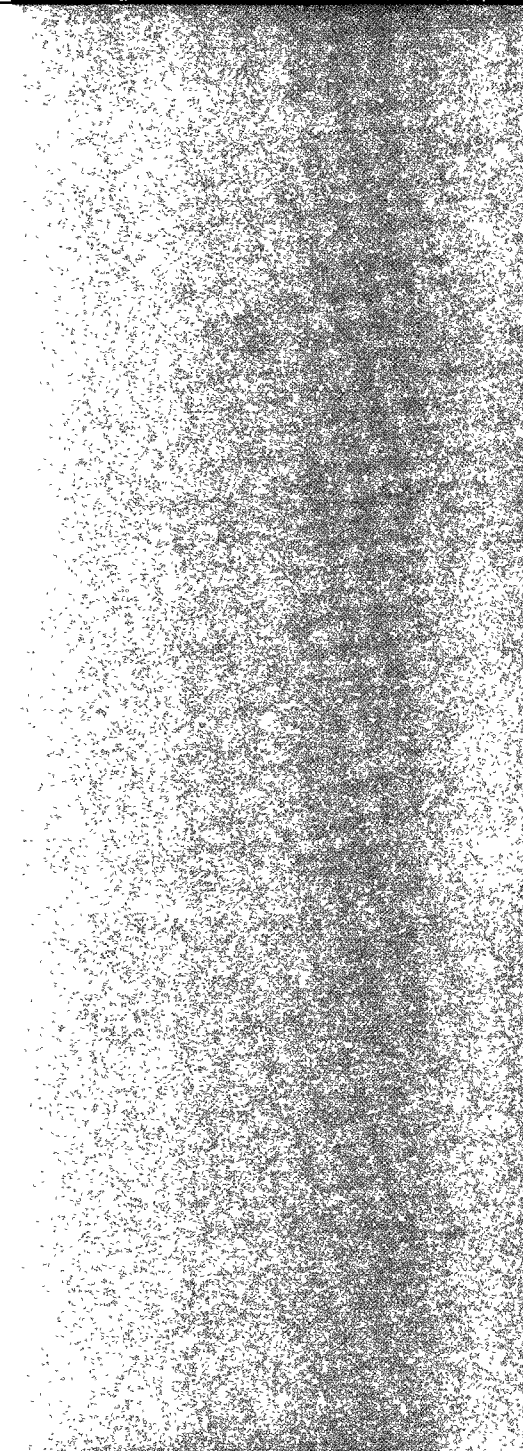
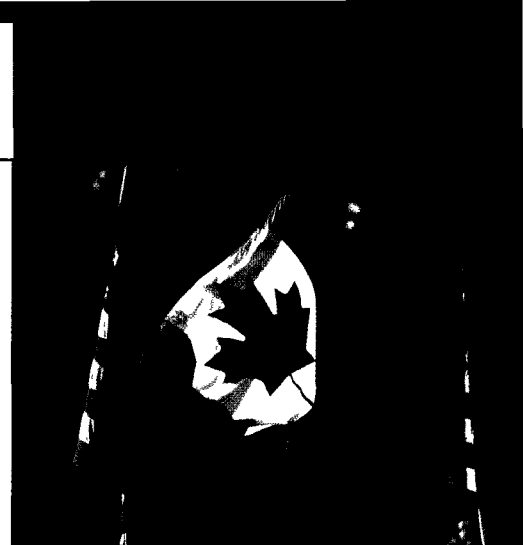
EPA and Canada's Pest Management Regulatory Agency are engaged in a variety of projects to share the work of evaluating old and new pesticides. These involve sharing resources and scientific expertise and the exchange of documents such as risk assessments and Reregistration Eligibility Decision documents. In FY 2002, EPA registered 14 new pesticide products, building on the existing joint registration and workshare review program with Canada. Here are three examples:

BIOPESTICIDE PRODUCT—SPORODEX L—REGISTERED WITH NAFTA LABEL

We registered Sporodex L with a North American Free Trade Agreement (NAFTA) label as part of a pilot project. A NAFTA label will help enable the sale and distribution of a pesticide across North America and guarantee its availability at the same time in the United States and Canada. The ultimate decision to use these types of labels lies with the pesticide registrant.

PYRACLOSTROBIN REGISTERED FOR USE ON MORE THAN 100 FOOD CROPS

We reviewed this new active ingredient, collaborating with both Canada's Pest Management Regulatory Agency and California's Department of Pesticide Regulation (DPR). Pyraclostrobin is a curative and preventive foliar pesticide that belongs to the new class of strobilurin fungicides. Pyraclostrobin can control a broad range of fungal pests.





Standard Set for Electronic Data Submission

In order to improve the efficiency and effectiveness of our regulatory processes, the Pesticide Program encourages registrants to submit reports electronically. The electronic format aids the reviewers because information from the studies can be more easily analyzed and incorporated into the risk assessment documents. In FY 2002, the Pesticide Program received four full electronic submissions for new products or new uses. We have established Adobe Portable Document Format (PDF) as the standard file format for the electronic submission of required studies and compact disk (CD-ROM) as the transport medium. Submitters may send complete submissions or a few studies electronically.

IMPORT TOLERANCES ESTABLISHED FOR TOLYFLUANID

We established import tolerances for the new fungicide tolyfluanid on apples, grapes, hops, and tomatoes. Tolyfluanid is used in Europe to control *Botrytis cinerea*, powdery and downy mildew, scab, early and late blight, and storage diseases such as *gleosporium*, *nectria*, and *monilia*.

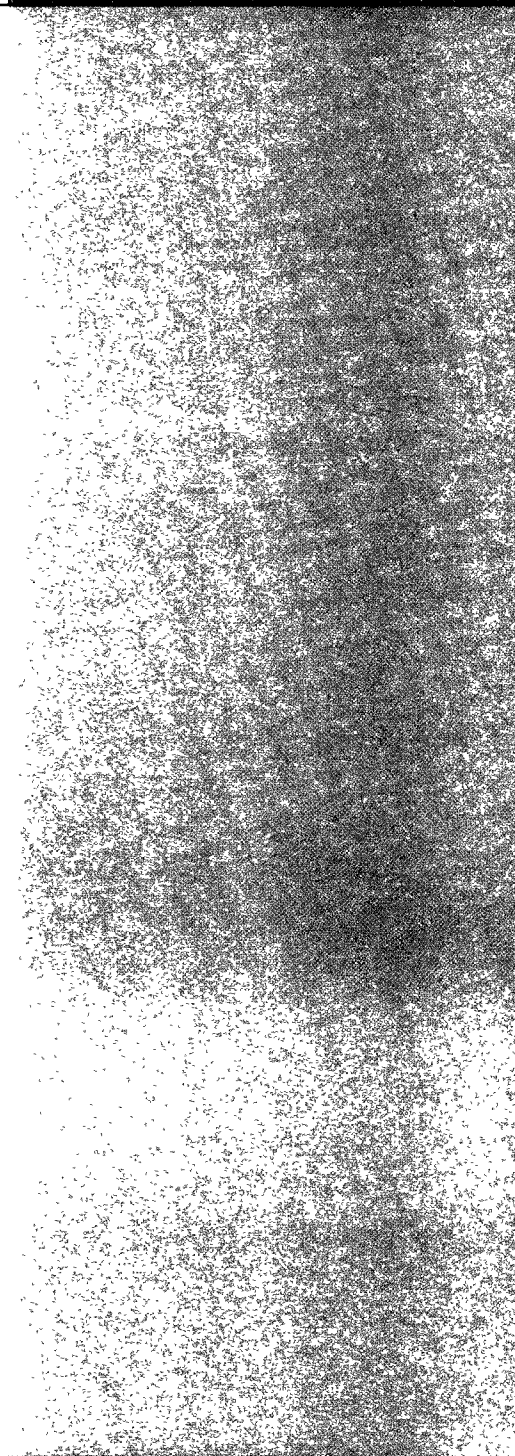
Collaboration with California Improves Registration Process

In FY 2002, several initiatives took place reflecting the growing partnership between the Pesticide Program and the California Department of Pesticide Regulation. In the first workshare, the agencies shared the registration review for the new active ingredient iodomethane, a methyl bromide alternative. DPR also reviewed 8 chemicals, conducting 24 residue chemistry reviews and 3 dietary exposure assessments in support of 24 new minor uses of interest to the state. These reviews expedited the federal registration of these chemicals and their subsequent use in the California.

SECTION 3: REREGISTRATION AND TOLERANCE REASSESSMENT ASSURE OLDER PESTICIDES MEET CURRENT SAFETY STANDARDS

EPA is conducting a comprehensive review of older pesticides—those initially registered before November 1984—to consider their health and environmental effects and to decide their regulatory status. To be eligible for reregistration, a pesticide must not cause unreasonable risks to human health or the environment when used according to label directions. Through the reregistration program, EPA is working to ensure that older pesticides meet current health and safety standards and product labeling requirements, and that their risks are reduced when warranted. EPA sets limits on the amount of pesticides that may remain in or on foods. These limits—called tolerances—are set based on risk assessments and are enforced by the Food and Drug Administration and USDA. All pesticide tolerances and tolerance exemptions that were in place as of August 1996, when FQPA was signed, are subject to reassessment.

Federal law requires that all pesticides meet new, more stringent safety standards. Under the Food Quality Protection Act of 1996, EPA must be able to conclude with reasonable certainty that no harm will come to infants, children, or other sensitive individuals exposed to pesticides. Through reregistration and tolerance reassessment, we look at aggregate exposure to pesticides—from food, drinking water, and home and garden use—in determining allowable levels of pesticide residues in food. We also look at the cumulative effects of pesticides with a common mechanism of toxicity—where two or more chemicals that act through the same major pathway are considered.



Science of Cumulative Risk Puts EPA on the Leading Edge

In December 2001, the Pesticide Program issued a "Preliminary Organophosphate Cumulative Risk Assessment" that established new methods for analyzing data regarding the cumulative risk from organophosphate pesticides. In June 2002, we issued the "Revised Organophosphate Cumulative Risk Assessment" that incorporated comments from the public and Scientific Advisory Panel as well as additional mitigation actions for specific organophosphate pesticides that took place after December 2001. The Revised Cumulative Risk Assessment describes the potential cumulative risks of organophosphates by presenting a range of estimates that reflects the variation inherent in such an assessment.

These significant milestones marked the culmination of more than five years of concerted scientific effort. The cumulative risk assessment is the very first one ever produced that analyzes risks resulting from a whole group of chemicals that share a common mechanism of toxicity. Through cumulative risk assessment, we can consider whether the risks posed by a group of pesticides that act the same way in the body meet the current safety standard of "reasonable certainty of no harm."

To complete this unprecedented task, EPA consulted experts on the FIFRA Scientific Advisory Panel nearly 30 times. The Agency also conferred regularly with the Committee to Advise on Reassessment and Transition (CARAT), a federal advisory committee, and kept the public abreast of its progress through several technical briefings, a Web site dedicated to the issue, and public comment periods. Some of the innovative features of this work include a novel method of ranking potencies of common-mechanism pesticides (e.g., organophosphates);



new techniques for estimating dietary exposures and oral, dermal, and inhalation exposures resulting from residential and public health uses of the organophosphates; and new calendar-based probabilistic methods for residential and water exposures.

EPA Completes 36 Risk Management Decisions

When EPA completes its review of a pesticide reregistration or tolerance reassessment, we issue a risk management decision document known as a RED, an IRED, or a TRED.

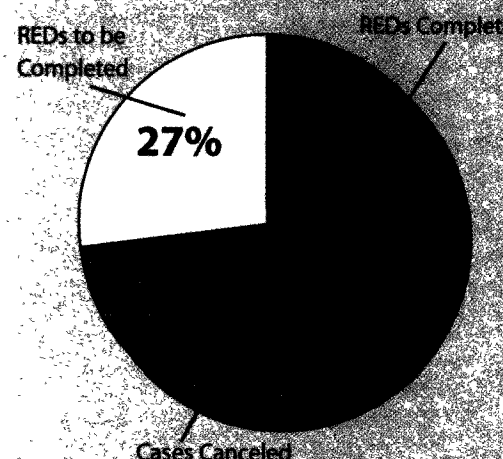
REREGISTRATION ELIGIBILITY DECISIONS (REDs)

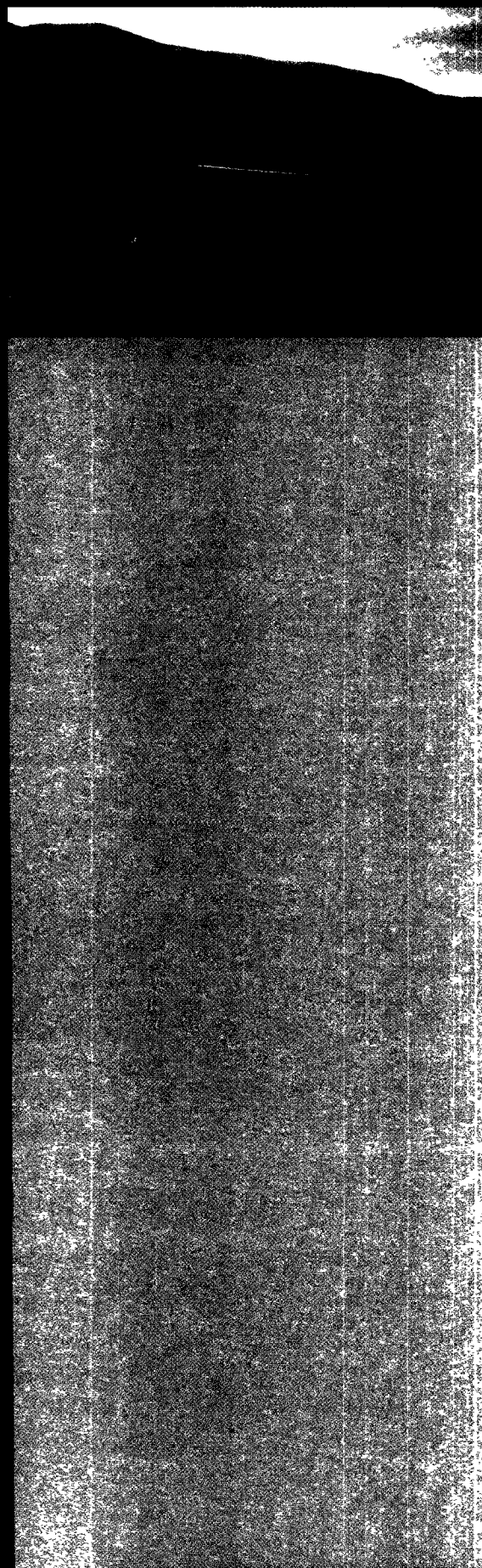
EPA issued 7 REDs in FY 2002, bringing the total number of completed REDs to 445. The RED document summarizes the Agency's risk assessment conclusions and outlines any risk-reduction measures necessary for a pesticide to continue to be registered in the United States.

Endosulfan RED—organochlorine insecticide used on a variety of crops and on ornamental plants in commercial settings. Poses dietary, occupational, and ecological risks of concern. Mitigation measures include canceling uses, reducing application rates and numbers of applications, establishing buffer zone requirements to protect water bodies, and other requirements. To further address risks to aquatic organisms in vulnerable areas, EPA is consulting with stakeholders.

Oxyfluorfen RED—herbicide used to control broadleaf and grassy weeds in a variety of crops, ornamental plants, forestry, and residential settings. Possible human carcinogen. Aggregate risk from combination of food, drinking water, and residential exposures is of concern. Cancer risk of concern also posed to workers who mix, load, and apply oxyflu-

STATUS OF REDs





often to agricultural sites, and to workers who reenter treated sites. Risks of concern to plant and aquatic species, and chronic risks of concern to birds and mammals. Mitigation measures include reduced application rates, vegetative buffer zones around water bodies, special calibration of application equipment to avoid drift, closed mixing/loading systems, and a variety of other measures to protect mixers, loaders, applicators, and reentry workers.

Fenamiphos RED—organophosphate nematicide and insecticide used on various agricultural crops and on nonresidential turf and ornamentals. Fenamiphos poses risks of concern via exposure to shallow ground water sources of drinking water in areas where soils are extremely vulnerable. Risk concerns for workers who mix, load, and apply fenamiphos to agricultural sites and golf courses, and ecological risk concerns for terrestrial, aquatic, and endangered species. Registrant has requested voluntary cancellation of existing pesticide products containing fenamiphos. Will be phased out with use of existing stocks in the channels of trade continuing until depleted. Production caps will progressively decrease the amount of fenamiphos manufactured in the United States during the phaseout period. Several commodities treated with fenamiphos may continue to be imported into the United States. Import tolerances that meet FQPA standards have been set for fenamiphos for bananas, citrus, grapes, pineapples, and garlic.

INTERIM REREGISTRATION ELIGIBILITY DECISIONS (IREDS)

EPA issued eight IREDs in FY 2002. An IRED may be issued for a pesticide that is undergoing reregistration, requires a reregistration eligibility decision, and also needs a cumulative assessment under FQPA. The IRED allows the public to gain the benefits of risk reduction, identified through the aggregate risk assessment, before the final RED is issued.

Methamidophos IRED—organophosphate insecticide and acaricide used primarily on potatoes, tomatoes, and cotton. Has no residential uses but poses risks of concern through surface water sources of drinking water. Risk concerns for workers who mix, load, and apply methamidophos to agricultural sites, and for workers who reenter treated areas. Poses acute and chronic risks to birds and mammals, and some risks to freshwater invertebrates. To mitigate risks, cotton use will be phased out over a five-year period to allow for transition to alternatives. Applications will be reduced, and measures will be employed to protect applicators, flaggers, and post-application workers.

TOLERANCE REASSESSMENT PROGRESS AND INTERIM RISK MANAGEMENT DECISIONS (TREDs)

In FY 2002, EPA issued a total of 21 TREDs. We issue a TRED for a pesticide that requires tolerance reassessment decisions but does not require a reregistration eligibility decision at present for any of the following reasons: the pesticide was initially registered after November 1, 1984; EPA completed a RED for the pesticide before FQPA was enacted on August 3, 1996; or the pesticide is not registered for use in the United States but we established tolerances for crops imported from other countries. Some TREDs will not become final decisions until EPA considers the cumulative risks of all the pesticides in the cumulative group.

Hexazinone TRED—a herbicide used to control a broad spectrum of weeds including undesirable woody plants in alfalfa, rangeland and pasture, woodland, pineapples, sugarcane, and blueberries. Used on ornamental plants, forest trees, and other noncrop areas. Currently, 20 end-use pesticide products and one technical grade, manufacturing use product containing hexazinone are registered. EPA evaluated the dietary



Why Organophosphates Are High Priority for Cumulative Assessment

The first group of pesticides to undergo cumulative risk assessment is the organophosphates.

Organophosphates are used on many food crops, ornamental plants, lawns, and in residential and commercial buildings. In addition to their use on major crops such as cotton, corn, and wheat, they are used on many important minor crops. Some also are used for mosquito control to protect public health. Organophosphates account for about half of all insecticides sold and used in the United States. People may be exposed to organophosphates on a regular basis.

Organophosphates affect the nervous system by reducing the ability of cholinesterase, an enzyme, to function properly in regulating a neurotransmitter called acetylcholine.

Acetylcholine helps transfer nerve impulses from a nerve cell to a muscle cell or another nerve cell. If acetylcholine is not properly controlled by cholinesterase, the nerve impulses or neurons remain active longer than they should, overstimulating the nerves and muscles and causing symptoms such as weakness or paralysis of the muscles.

risk associated with hexazinone and has determined that there is a reasonable certainty that no harm to any population subgroup will result from aggregate exposure to hexazinone. The Agency has reassessed all 25 tolerances for hexazinone and can make a FQPA safety determination.

See the appendix for a complete list of REDs, IREDs, and TREDs.

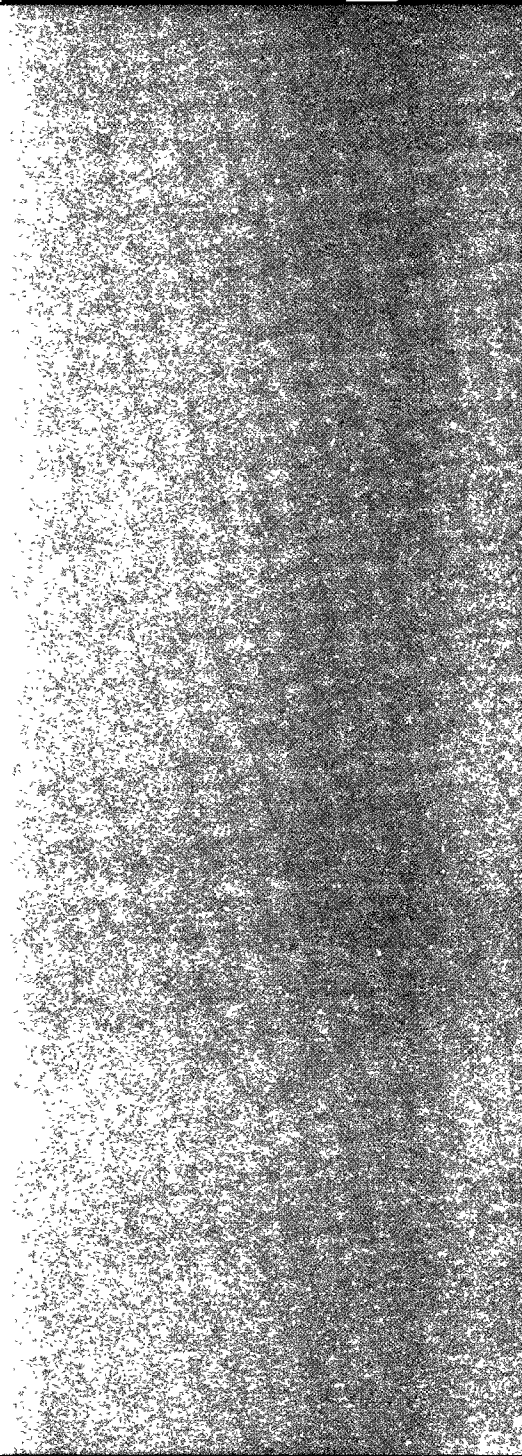
EPA Meets All Deadlines for Review of Priority Pesticides

Since Congress passed FQPA in 1996, the Agency has been working systematically to reassess and mitigate risks of pesticides that may pose the greatest risks to public health. In September 2001, a Federal District Court approved a Consent Decree that resolved lawsuits brought against EPA by the Natural Resources Defense Council, the United Farmworkers of America, the AFL-CIO, and other farmworker and environmental groups regarding pesticide tolerance reassessment and pesticide reregistration. The Consent Decree established a series of deadlines for Agency action relating to the reassessment of pesticide tolerances and the reregistration of older pesticides. In keeping with the Consent Decree deadlines, the Pesticide Program completed risk management decisions on six individual pesticides in FY 2002: azinphos-methyl, phosmet, benomyl, diazinon, endosulfan, and lindane. We also conducted a cumulative risk assessment for organophosphate pesticides and individual risk assessments or risk management decisions for 11 organophosphate pesticides. The agreement is consistent with FQPA and does not change the pesticide reregistration or tolerance reassessment procedures or priorities.



Biotechnology Products Reduce Growers' Reliance on Conventional Pesticides

In October 2001, EPA completed an 18-month reassessment of all currently registered *Bacillus thuringiensis* crops, also known as Bt crops. *Bacillus thuringiensis* is a widely used bacterium that produces pesticidal proteins. The reassessment required the registrants to conduct additional research, predominantly on insect resistance management (IRM), but also on Bt accumulation in fields used to grow Bt crops and the effect of Bt on nontarget organisms. A major new requirement is the Compliance Assurance Program, which requires signed contracts for the purchase of seeds to grow Bt crops, grower education on IRM, farm visits to ensure that growers are implementing the plans, surveys on grower adoption of IRM plans, and penalties for growers who do not comply with the requirements.





SECTION 4: OUTREACH AND EDUCATION ARE KEY TO SAFETY

How to Join Our Mailing List

Interested in joining our Pesticide Program Update mailing list? Visit the Pesticide Program's Web site at www.epa.gov/pesticides and select "Join Our Mailing List" on the pull-down menu.

An important part of the Pesticide Program's work is developing outreach tools designed to educate our stakeholders about pesticide safety. We are continuously adding to our library of fact sheets, brochures, and consumer information. This past year, we increased our focus on reaching out with safety messages to segments of the population with greater potential for pesticide exposure. An important tool for delivering the latest news about our program is the "Pesticide Program Update." These updates are e-mailed advisories that we send to more than 4,000 stakeholders on our electronic mailing lists. In FY 2002, we issued nearly 200 Pesticide Program Updates and responded to more than 600 "Webmails" and 623 traditional letters.

While the Pesticide Program in Headquarters relies heavily on electronic outreach, our regional offices interact more directly with the public. Our regional staff provide the Pesticide Program with valuable feedback on our outreach materials and recommend strategies for developing new outreach materials. EPA's regional offices also work with state, territorial, and tribal governments to negotiate cooperative agreements for pesticide field programs, provide technical assistance in developing and implementing these programs, and oversee commitments made by the states, territories, and tribes.

IPM Reduces Pollution and Helps Protect America's Children

In August 2002, we released a new brochure called "Protecting Children in Schools from Pests and Pesticides." This brochure calls attention to Integrated Pest Management (IPM) as an alternative to scheduled school pesticide applications. It was sent to more than 100,000 primary and secondary school administrators, principals, and school ground and facility managers. The brochure provides basic

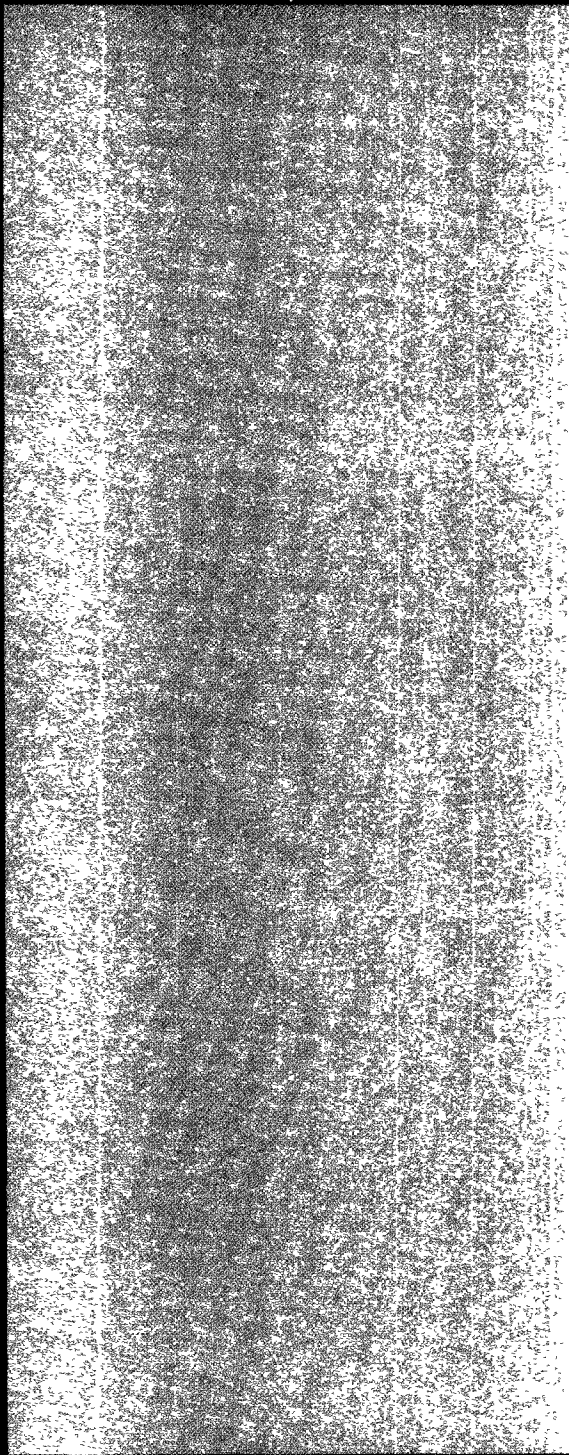


information on IPM and directs people to resources providing detailed information on establishing and maintaining school IPM programs.

To help implement IPM in schools and daycare establishments, EPA supported Technical Resource Centers at Purdue University (serving IL, IN, MI, MN, OH, and WI) and Texas A&M University (serving TX, NM, and OK). These Centers provide tools, training, and technical support to schools and daycare centers interested in starting IPM programs. Training opportunities, IPM principles, and specific management techniques are made available to custodial and maintenance staff.

Several school districts have replaced conventional pest management with IPM. For example, Kyrene, AZ, committed to the practice of IPM because parents were concerned about the use of pesticides in schools. In 2000, two Kyrene schools implemented pilot IPM programs through a partnership with EPA, Arizona Structural Pest Control Board, and the University of Arizona. These schools reduced pests by 85 percent and reduced children's exposure to pesticides by more than 90 percent. In 2002, the Kyrene school district facilities department received an award for bringing IPM to all 25 of its schools.

IPM in schools has been a priority for EPA's regional pesticides staff as well. This past year, EPA's Boston office helped coordinate the efforts of state agencies and local organizations working to promote IPM in elementary and secondary schools throughout the Northeast. EPA financial support for a partnership of 14 land grant universities contributed to the development of comprehensive IPM guidance documents aimed at school administrators and facility managers, educators, and even the students themselves. Products of this collaboration include handbooks on structural and landscape IPM, an interactive Web site designed to facilitate the development of customized school IPM strategies, and teaching materials to introduce IPM in the classroom.



EPA's San Francisco office has been an active promoter of IPM in schools. In FY 2002, it provided funding to the Intertribal Council of Arizona to organize an Urban IPM Workshop for states and tribes. With assistance from University of Arizona urban entomologists, the three-day workshop provided tools for implementation of practical IPM approaches and prompted many tribes to inquire about starting their own pilot urban IPM programs.

Educational Programs Share Pesticide Safety Message

FY 2002 was a banner year for the outreach team in EPA's Atlanta office as it stepped up efforts to educate local residents about the importance of safe pesticide use. Bus shelter posters targeting inner-city residents ran from November 2001 until July 2002. In May 2002, EPA staff sponsored a variety of "safe pesticide use" presentations and skits at elementary schools in the Atlanta area. Mayor Shirley Franklin proclaimed an "Urban Pesticide Awareness Week" in honor of the school activities. Collaboration among staff from EPA, the Georgia Poison Center, and the Pediatric Environmental Health Specialty Unit at Emory University resulted in the distribution of 5,000 pesticide activity packets to elementary school students.

EPA's Denver office is actively involved in educating the public on issues relating to children's environmental health. In FY 2002, EPA awarded funding to the Girl Scouts Mile High Council to develop a pesticides awareness patch program. The program will provide educational materials and information about safe use of pesticides, exposure risks, and potential health concerns associated with pests and pesticides. The Girl Scouts Mile High Council reaches over 36,000 girls between the ages of 5 and 17.



Pesticide Program Reaches Out to Farmworkers

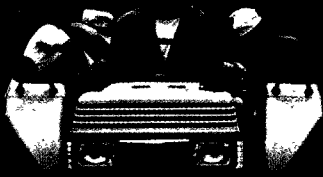
A major focus of the Pesticide Program's outreach is improving safety for an estimated 2.5 million farmworkers in the United States. We targeted safety messages to help reduce pesticide exposure to farmworkers and their families. Pesticide applicators, farmers, migrant workers, and their children may be exposed to pesticides more than any other segment of the American population.

EPA PROVIDES SAFETY INFORMATION TO HEALTHCARE PROVIDERS

EPA is working in partnership with the National Environmental Education and Training Foundation, the U.S. Department of Health and Human Services, and the U.S. Department of Labor to craft the framework for a new initiative called the National Strategies for Health Care Providers: Pesticide Initiative. In March 2002, we published a document outlining our approach for working with healthcare providers to improve the recognition, management, and prevention of pesticide-related health conditions.

An important part of this effort is creating change in educational and practice settings so students in healthcare professions are prepared to recognize, manage, and prevent health effects from pesticide poisonings and exposures. In 2002, for the first time, we established National Competency Guidelines for Medical and Nursing Education and National Pesticide Practice Skills Guidelines for Medical and Nursing Practice to increase the focus on pesticide health education and to serve as a model for integrating specific pesticide issues into education and training.

In May 2002, EPA's Chicago office released a new brochure aimed at healthcare providers working in the migrant farmworker community.



The brochure highlights symptoms of exposure to pesticides and lead, and alerts healthcare providers to resources that provide more detailed information. The brochure has been distributed to healthcare providers through partnerships with the U.S. Department of Health and Human Services, the Midwest Migrant Health Consortium, the Migrant Clinicians Network, and other organizations serving the migrant farm-worker community.

"FOR HEALTHY KIDS!" PROGRAM AIMS TO REDUCE PESTICIDE EXPOSURE IN FARMWORKER FAMILIES

"For Healthy Kids!" is a Yakima Valley-based project involving a number of organizations including EPA's Seattle office. It focuses on preventing children's exposure to pesticides by teaching agricultural workers how to reduce the "take home pathway" for pesticide residue. This multifaceted project involves information gathering through interviews with farmworkers regarding their exposure to pesticides on the job and potential routes of exposure for the rest of the family. It also involves testing, including urinalysis of agricultural workers and family members to measure levels of pesticide metabolites, and dust analysis inside the home and in the family car to measure concentrations of pesticide residues. Finally, it involves education, including the use of bilingual health "*promotores*" to educate agricultural workers on potential pesticide exposure risks.

National Pesticide Information Center Reports Heavy Traffic

The National Pesticide Information Center (NPIC) is a cooperative effort between EPA and Oregon State University. NPIC is a hotline that provides objective, science-based information on a variety of pesti-

cide-related subjects, including pesticide products, recognition and management of pesticide poisonings, toxicology, and environmental chemistry. In FY 2002, NPIC answered nearly 25,000 telephone calls about pesticides, and traffic on the NPIC Web site more than doubled over the previous fiscal year. This year's most popular NPIC offering was the West Nile Virus Resource Guide, a Web-based clearinghouse for West Nile virus-related information. In FY 2002, traffic on the resource guide increased six-fold over the previous fiscal year, with most visits occurring over the summer months. Another recent addition to NPIC's Web site is the Security Alerts Resource Guide, which serves as a gateway to federal, state, and other security advisories and alerts.

Field Tours Increase Awareness, Foster Good Will

The Pesticide Program always looks for ways to improve our understanding of the real world implications of our programs and policies. One way we achieve this is through site visits that take EPA staff directly to places where pesticides are used. These include farms, industrial processing facilities, waste water treatment facilities, wood preservatives treatment facilities, and shipyards. In FY 2002, Pesticide Program staff participated in nine "crop tours," which provided EPA staff an opportunity to exchange ideas with growers, processors, handlers, and laborers, and to see first-hand how pesticide regulatory requirements are implemented in the field. EPA staff gained a greater awareness of the agricultural community and its needs through the crop tours, and growers gained an appreciation for the reasoning behind EPA decisions that can affect their livelihood.

How To Contact The National Pesticide Information Center

NPIC
Oregon State University
333 Weniger Hall
Corvallis, Oregon 97331-6502

E-mail: npic@ace.orst.edu
Internet: <http://npic.orst.edu>

1-800-858-7378



SECTION 5: PARTNERSHIPS HELP ENSURE SAFE PRACTICES

"I AM CONVINCED THAT WE HAVE REACHED A POINT IN OUR NATIONAL LIFE WHERE WE CAN MOVE BEYOND THE COMMAND AND CONTROL MODEL THAT LONG DEFINED WASHINGTON'S RELATIONSHIP WITH THE REST OF THE COUNTRY ON ENVIRONMENTAL POLICY; THE TIME IS RIPE FOR PARTNERSHIP BUILDING."

**—CHRISTINE TODD WHITMAN,
ADMINISTRATOR**

Soon after being appointed Administrator of EPA, Christine Todd Whitman observed, "There was a time when most businesses viewed environmental requirements as unwanted intruders. Today, many business leaders make superior environmental performance an inherent part of their business strategy." Building partnerships with organizations affected by pesticide regulations is an integral part of the Pesticide Program's commitment to staying in touch with the rest of the country. Maintaining strong partnerships with a diversity of stakeholders helps us ensure that we apply the best possible management techniques to natural resources, economic development, and environmental protection.

Agricultural Initiatives Promote Reduced-Risk Pest Management

The agricultural community depends on effective pest management techniques to produce economically viable harvests. The Pesticide Program's Strategic Agricultural Initiative is one of several successful partnerships we have established to use the experience of growers for developing new, reduced-risk approaches to troublesome pest problems.

In FY 2002, we joined forces on a research project to combat corn earworm with the Columbia Basin Processing Vegetable Council. The corn earworm pilot project grew out of the need to distinguish between the corn earworm (a pest) and the false corn earworm (not a pest) in sweet corn grown for processing. Because field consultants could not distinguish between these two look-alikes, they were applying pesticides based on the combined catch of both species. The project was carried out by Washington State University and USDA's Agricultural Research Service. Through this partnership, training materials and workshops were developed to help field consultants distin-



guish between pest and nonpest moths. The pheromone used to bait the moths was refined to improve the trapping technique, resulting in a 50-percent drop in pesticide treatments. This led to \$1 million in savings per 100,000 acres. This pilot project may offer an incentive for growers reluctant to experiment with reduced-risk pest management techniques because it proves that nonconventional pest management can go hand in hand with economic viability.

We also joined forces with USDA, the American Farmland Trust, and the World Wildlife Fund (WWF) to help growers with more than 10,000 acres of Wisconsin potatoes reduce pesticide risk by 46 percent over the course of 4 years. The growers are implementing an environmental risk index and increasing adoption of bio-intensive IPM practices. The index was developed to help track the reduction of toxic substances entering the environment, with toxicity values for each pesticide determined by relative environmental and health risks. Potatoes produced by participating farmers are identified by both the WWF Panda Label and Healthy Grown, an "ecolabel" that will be certified by a third-party, nonprofit organization.

Partnership with Cooperative Extension Service Promotes Safety

EPA's ongoing partnership with USDA's Cooperative Extension Service (CES) helps provide essential safe pesticide use information to a wide range of audiences. EPA's interaction with CES is critical in getting the right messages to the right people, and CES provides EPA useful feedback from pesticide users and others who are affected by pesticide regulations. Cooperation between CES and state regulators helps ensure that educational needs of pesticide applicators are met. It also fosters the exchange of information on pesticide application trends and problems so that issues can be corrected through educational programs.

Pesticide Environmental Stewardship Program (PESP)

PESP is the EPA's premier voluntary pesticide risk-reduction program. PESP members represent diverse interests including agriculture, structural pest control, food processing, landscaping, utilities, schools, and local governments. An analysis of strategies submitted by 70 member organizations showed that: 79 percent of the strategies include some element of reducing pesticide use; 69 percent include the use of reduced-risk alternatives such as biopesticides; and 31 percent address the transition from organophosphates, carbamates, and other higher-toxicity pesticides.



National Agriculture Compliance Assistance Center

EPA's National Agriculture Compliance Assistance Center is an important resource for people in the agricultural community who need information on environmental regulations. The "Ag Center" provides growers, livestock producers, and agricultural information providers with comprehensive, easy-to-understand information about environmentally protective and agriculturally sound pest management practices.

For more information, visit the Ag Center Web site at www.epa.gov/agriculture

In FY 2002, EPA participated in the professional development of extension agents by sponsoring a speaker for the national annual meeting of the National Association of County Agricultural Agents who led a session on effective teaching techniques for educational programs targeting pesticide applicators.

Each year, EPA distributes funds to state CESs to support educational programs on safe and effective pesticide use. Although the principal audience of CES is pesticide applicators, extension service agents interact with the public in many different forums. The agents convey information about safe pesticide use to master gardeners, school programs, farmers, and healthcare professionals through mass media and by participating in state and county fairs, home and garden shows, and meetings of professional organizations and associations.

Pesticide Program Weaves Partnership with Tribes

EPA's collaboration with the California Indian Basketweavers Association (CIBA) has produced better data on pesticide exposure and risk faced by basketweavers. Herbicides such as atrazine, hexazinone, 2,4-D, glyphosate, and triclopyr are concerns for California Indian basketweavers because of the potentially harmful effects their use may have on the health of plant gatherers and communities. Weavers may be exposed to these pesticides through skin contact while gathering or oral contact when they pass the materials through their mouths in preparation for weaving. Tribal members may face further pesticide exposure from plants used for medicinal purposes, and from fish and other food sources.

In FY 2002, an EPA grant to CIBA funded a sampling program to measure pesticide residues in surface water, fish tissue, and plant material. We also funded workshops to facilitate working relationships between tribes and government regulatory agencies and education for

healthcare providers on recognizing and managing pesticide poisonings. Sampling data developed under the grant were used in the hexazinone reregistration risk assessment.

Pesticide Safety Across National Borders

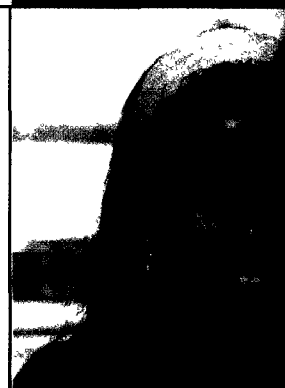
The Pesticide Program has stepped up joint efforts with state, provincial, and federal governments in Mexico and Canada. Our collaborations have centered on developing a uniform framework for protecting agricultural workers from risks posed by pesticides and enhancing information sharing and strategies for pesticide regulation in North America. Here are four examples:

NAFTA TECHNICAL WORKING GROUP PROMOTES HIGH LEVELS OF PROTECTION

Through the NAFTA Technical Working Group on Pesticides (TWG), Canada, Mexico, and the United States share information and strategies to improve the way we use and regulate pesticides in North America while promoting high levels of protection for public health and the environment. During FY 2002, the TWG met with stakeholders and presented its first Milestone Report, which discussed accomplishments and outlined goals for the future. The group made strides in harmonizing reduced-risk approaches to pesticide regulation and working with the Industry Working Group, the Non-Agricultural Working Group, and the NAFTA Grower Network.

NORTH AMERICAN REGIONAL ACTION PLANS EXEMPLIFY COOPERATION

Perhaps one of the most tangible results of international cooperation came through the North American Regional Action Plan on Chlordane and DDT. With the Commission for Environmental Cooperation and the Pan American Health Organization providing expertise, funds, and the proper framework, communities embraced





"WE'VE MADE HISTORY BY WORKING TOGETHER AND SHOWING THAT BOTH COUNTRIES ARE COMMITTED TO PESTICIDE SAFETY IN BOTH THE DISTRIBUTION AND USE OF PESTICIDES. I FEEL THAT THE MORE WE WORK TOGETHER, THE BETTER THE JOB WE CAN DO OF KEEPING TRACK OF CANCELED OR UNREGISTERED PRODUCTS IN BOTH COUNTRIES."

**—PESTICIDE EXCHANGE
PARTICIPANT**

the principles of IPM, and Mexico was able to stop production of DDT for malaria control.

PESTICIDE PROGRAM TRAINS THE TRAINERS

Pesticide Program staff worked closely with state and federal officials in Mexico to launch a national pesticide "train-the-trainer" program in Mexico. This program benefits the common workforce of both nations. In two interactive workshops held in Mexico, agricultural, public health, and outreach specialists were trained to identify signs and symptoms of exposure to pesticides; proper handling, storing, and disposing of pesticide products; and environmental impacts and hazards associated with using pesticides.

EXCHANGE ENHANCES FIELD PROGRAMS IN THE UNITED STATES AND MEXICO

The U.S./Mexico Pesticide Information Exchange (USMPIE) is an innovative outreach program that has successfully promoted the exchange of information about pesticide laws, regulations, and policy and enforcement strategies among Mexican and U.S. officials. The Pesticide Inspector Exchange component of the program allows inspectors from Mexico and the United States to get a first-hand view of how their counterparts operate. They participate in worker protection training and inspections, agricultural and structural pesticide applications, and marketplace inspections. Plans are now under way for an information exchange addressing the transportation of pesticide products across the United States-Mexico border.

New Partnerships Lead to Improvements in Worker Protection and Pesticide Applicator Safety Training

Certification and Training Assessment Group (CTAG), a partnership of EPA, state regulatory agencies, and state extension services, developed an electronic, Web-based template for states to follow in report-

ing pesticide program activities under EPA-approved certification and training plans. The template is designed to promote consistency in the type and quality of information states provide to EPA. It ensures that accurate and complete information is collected on local requirements for pesticide applicators. This system makes it easier for EPA to analyze and synthesize information at a national level. It allows the Agency to spot trends, disseminate information to stakeholders, and facilitate information sharing among states. The Pesticide Program is testing the template through pilot programs with several states.

A second partnership among EPA, states, and other stakeholders, being carried out as part of a national assessment of the agricultural workers protection program, focuses on developing more effective ways to communicate hazards to the agricultural workforce. This workforce is predominantly non-English speaking and functions at a low literacy level.

EPA Works within Multilateral Organization to Coordinate Biocide Regulation

This year, more than 100 participants from all over the world met in a workshop designed to identify pesticide efficacy concerns, regulations, and scientific issues of the Organization for Economic Cooperation and Development (OECD). The U.S. participants—including experts in antimicrobial pesticides from the Pesticide Program—organized, coordinated, and chaired the first-ever OECD international efficacy initiative on certain biocides. Participants exchanged information on label claims, performance standards, and efficacy-testing parameters. The workshop is OECD's first step toward harmonizing efficacy requirements and regulations. The meeting culminated in recommendations on harmonization for biocide regulation and scientific evaluation.

APPENDIX

FY 2002 REGISTRATION AND REREGISTRATION ACTIONS

Number of New Active Ingredients Registered in FY 2002	
Total New Active Ingredients	26
Conventional Chemicals	8
Conventional "Reduced-Risk" Chemicals (included one OP alternative)	4
Biopesticides	11
Antimicrobials	3

Number of New Uses Registered in FY 2002 for New and Previously Registered Active Ingredients	
Total New Uses (food and nonfood by crop groupings)	720
Total New Food Uses	661
Total New Nonfood Uses	59
Biopesticide Nonfood Uses	27
Biopesticide Food Uses	371
Antimicrobials Nonfood Uses	17
Antimicrobials Food Uses	0

Number of New Uses Registered in FY 2002 for New and Previously Registered Active Ingredients (continued)	
Conventional Nonfood Uses	10
Conventional Food Uses	182
Conventional "Reduced-Risk" Nonfood Uses	5
Conventional "Reduced-Risk" Food Uses	108
Methyl Bromide Alternative Uses	7
OP Alternative Uses	79
Total Tolerances Established for New Uses	546
Total Major Crops Associated with New Uses	131
Total Minor Crops Associated with New Uses	1,352

FY 2002 REGISTRATION AND REREGISTRATION ACTIONS (CONTINUED)

Number of Section 18 Emergency Exemption Actions Average Processing Time = 35 Days	
Exemption Requests Received	503
Exemptions Granted	412
Exemptions Withdrawn	20
Exemptions Denied	13
Crises	63
Tolerances Established for Section 18s	21
Tolerances Extended for Section 18s	47

Special Local Needs Accepted (section 24(c)) = 347

Experimental-Use Permits Granted = 46

Number of Fast Track and Nonfast Track Decisions Applications for the registration of pesticide products that are identical or substantially similar to already registered products fall into either "fast track" or "nonfast track" categories. Fast Tracks require no significant data with the application, while Nonfast Tracks require review of product-specific data (because the product formulation is sufficiently different from existing registered products).	
Fast Track Amendments	3,464
Nonfast Track Amendments	557
Old Chemical Fast Tracks ("me-toos")	368
Old Chemical Nonfast Tracks	334

Total FY 2002 Reregistration Eligibility Decisions	
REDs Issued	7
Interim REDs Issued	8
Tolerance REDs Issued	21
REDs Issued since FIFRA 1988	214
FY 2002 Product Registration Decisions	
Products Reregistered	77
Products Amended	51
Products Canceled	186
Total Product Reregistration Decisions for FY 2002	314

7 Reregistration Eligibility Decisions (REDs)

1. 1,4-Bis(bromoacetoxy)-2-butene
2. Endosulfan
3. Fenamiphos (OP RED/Voluntary Cancellation)
4. (HOCH₂-)methyldithiocarbamate (Voluntary Cancellation)
5. Lindane
6. Oxyfluorfen
7. Thiabnedazole

8 Interim REDs (IREDs)

- | | |
|--------------------|----------------------|
| 1. Azinphos-methyl | 5. Merhamidophos |
| 2. Diazinon | 6. Naled |
| 3. Dicrotophos | 7. Oxydemeton-methyl |
| 4. Disulfoton | 8. Phosmet |

FY 2002 REGISTRATION AND REREGISTRATION ACTIONS (CONTINUED)

21 Tolerance Reassessment Progress and Interim Risk Management Decisions

- | | |
|-------------------------|--------------------------|
| 1. Asulam | 12. Linuron |
| 2. Calcium Hypochlorite | 13. Metolachlor |
| 3. Chlorine Gas | 14. Norflurazon |
| 4. Chlorpropham | 15. Primisulfuron-methyl |
| 5. Difenzoquat | 16. Pronamide |
| 6. Diquat Dibromide | 17. Propanil |
| 7. Diuron | 18. Sodium Hypochlorite |
| 8. Fenarimol | 19. Tebuthiuron |
| 9. Fenbutatin-oxide | 20. Tetrachlorvinphos |
| 10. Hexazinone | 21. Urea |
| 11. Imazalil | |

FY2002 FQPA Tolerance Reassessment Summary			
Class	Total Tolerances to be Reassessed	Total Reassessed Since August 3, 1996	Percent Reassessed (nearest whole %)
Organophosphates	1,691	1,127	67
Carbamates	545	303	56
Organochlorines	253	253	100
Carcinogens	2,008	1,278	64
High Hazard Inerts	5	3	60
Other	5,219	3,535	68
Total	9,721	6,499	67

Status of Organophosphates in the Pilot Process

September 30, 2002

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

Phase 1 —Registrant 30-day error only review of preliminary risk assessment	All organophosphates have completed Phase 1		
Phase 2 —EPA responds to registrant comments re: errors	All organophosphates have completed Phase 2		
Phase 3 —EPA releases preliminary risk assessments for public comment	All organophosphates have completed Phase 3		
Phase 4 —EPA responds to public comment, develops revised risk assessments, holds public Technical Briefing	Dichlorvos (DDVP) Dimethoate Methyl Parathion Malathion Oxydemeton methyl		
Phase 5 —EPA releases revised risk assessments; 60-day public participation period begins for risk management	No organophosphates currently are in Phase 5		
Phase 6 —EPA develops risk management proposal			
IREDD EPA completes an Interim Reregistration Eligibility Decision, or	Acephate Azinphos-methyl Bensulfide Chlorpyrifos Diazinon Dicrotophos Disulfoton	Ethoprop Fenthion Methamidophos Methidathion Naled Phorate	Phosmet Primiphos methyl Profenofos Propetamphos Terbufos Tribufos
TRED EPA completes tolerance reassessment risk management decision, or	Cadusafos Chlorethoxyfos *Chlorpyrifos methyl ✓✓Coumaphos	Fenitrothion ✓*Mevinphos Phosalone	Phostebupirim Tetrachlorvinphos
RED EPA completes a Reregistration Eligibility Decision for the OP.	* Ethion * Ethyl Parathion	* Fenamiphos * Sulfotepp	Temepos
Cancellations Prior to Completion/ Early in the Process	Chlorfenvinphos Chlorthiophos Dialifor Dioxathion	✓Fonofos Isazophos ✓Isofenphos	Monocrotophos ✓Phosphamidon ✓Sulprofos

✓Also counted as a RED

✓✓RED Addendum

* Also Canceled