National Pesticide Information Center

- 2003 -

Questions about pesticides?

Call NPIC...

Real answers to real questions from real people in real time!

npic

Environmental & Molecular Toxicology

OREGON STATE University

This is the ninth annual report for the National Pesticide Information Center (NPIC) since it began operation at Oregon State University in April, 1995. NPIC, a service providing a variety of pesticide and pesticide-related information to the general public and professionals across the United States, Puerto Rico and the Virgin Islands, is a cooperative project between Oregon State University and the U.S. Environmental Protection Agency. This report, the 2003 Annual Report, covers the period April 1, 2003 - March 31, 2004, corresponding to NPIC's ninth grant year.

DISCLAIMER

Material presented in this report is based on information as provided to NPIC by individuals who have contacted NPIC for information or to report a pesticide incident. None of the information reported to NPIC has been verified or substantiated by independent investigation by NPIC staff, laboratory analysis, or any other means. Thus, if a person alleges/reports a pesticide incident, it likely will be recorded as an incident by NPIC. Based on the information provided, NPIC qualifies the information by assigning a Certainty Index (CI; an indication of the degree of certainty that the purported incident was related to pesticide exposure) ranging from 1 = "definite" to 5 = "unrelated." NPIC makes no claims or guarantees as to the accuracy of the CI or other information presented in its reports, other than that NPIC has done its best to accurately document and report the information provided to NPIC.

Submitted To:

Frank L. Davido
NPIC Project Officer
Pesticide Incident Response Officer
US EPA Office of Pesticide Programs

Submitted By:

Terry L. Miller, Ph.D.
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NPIC 2003 Annual Report
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Read the Label ***First!***

– before you ***buy***, ***use***, or ***store*** a pesticide.

"Pesticide Information . . .
. . . How May WE Help You?"

The NPIC Team

Executive Summary - NPIC 2003 Annual Report

Note: The complete record of NPIC accomplishments for the current operational year includes the 12 monthly reports and 4 quarterly reports (submitted earlier), in addition to this "2003 Annual Report." This report covers the NPIC grant year: April 1, 2003 through March 31, 2004.

Operations

- The NPIC World Wide Web site continues to be a popular way of obtaining information from NPIC - during this operational year the site received 782,677 hits. NPIC received 901 inquiries via email (Table 4.1, Graphs 4.1 - 4.6).

- NPIC updated its West Nile Virus Resource Guide.

- General and Medical Case Profiles were developed and posted to NPIC's web site.

- NPIC responded to 146 inquiries about Hartz flea and tick control products for cats and kittens.

- Over 880 inquiries were received about Chromated Copper Arsenate (CCA).

- NPIC answered 23,609 inquiries during its ninth operational year. Eighty-four percent of the inquiries were received between March and October, coinciding with that part of the year when most pest pressures are highest (Table 1.1, Graph 1.1).

- The majority of inquiries (91.0%) were for information only (i.e., not related to an incident); 5.9% related to exposure concerns, and 1.6% concerned other non-health-related pesticide incidents (Table 7.1, Charts 7.1 and 7.2).

- The greatest number of inquiries (34.6%) were health-related, whereas 28.8% were for information about pesticide usage, and 9.4% were of a regulatory nature (Table 6.1, Graph 6.1).

- Examples of "health-related" inquiries include:

  - Inquirer wanted to know if the product Bonide Termite and Carpenter Ant Killer is applied twenty-five feet away from a lake, if it will contaminate the lake.

  - Inquirer asked about the safety of a lawn pesticide used to prevent fleas and ticks. She has a 12-month old daughter and her husband contracted lyme disease, and hence is very concerned about ticks.

Pesticide Questions?

NPIC
- **7 days a week**
- **6:30 am to 4:30 pm (PT)**
- **Phone: 1.800.858.7378**
- **Web: npic.orst.edu**
- **Email: npic@ace.orst.edu**

We've Got Answers!

  - Inquirer wants to apply "Preen" to garden for preemergent weed treatment, and asked if it could be a health concern for her dog or a problem for her well water.

  - Inquirer had convinced her landlord not to have PCO spray her apartment while she was pregnant, but now the baby is 6 months old and the landlord wants to have apartment sprayed monthly. If she doesn't let them spray, she will be evicted. She wanted to know how it will affect her child.

- Of the 23,609 inquiries, 7.5% (1,777) involved pesticide incidents, while 42.0% (9,907) were for information about specific pesticide active ingredients or products, and 46.8% (11,056) were for general information about pesticides and pesticide-related issues (Table 2.1, Charts 2.1 and 2.2).

- Examples of pesticide incident inquiries include:

  - Inquirer is a physician at an emergency room and wanted information about the active ingredients in Roundup, because a young child drank Roundup product stored in a plastic soda bottle.

  - Inquirer states product spray pump clogged and she was squirted on face and in mouth while she was fixing it. She washed her face within a minute of the squirt for 10 to 15 minutes, but felt "nauseated" and had "skin burning and tingling" and called the poison control center. Now she wondered if it is okay to breastfeed.

  - Inquirer concerned about reaction his 6 month old female 4 lb cat had to Hartz Advance Care 1 Month Flea and Tick product. The product was applied according to label instructions, and about 7 hours later his cat began showing signs of shaking, tremors, glassy eyes, and lethargy.

  - Inquirer's dog ate a few tablespoons of Corry's Slug and Snail Killer last night while he was applying it to the garden. The dog is now shaking, thirsty, and has difficulty walking. Inquirer wanted to know what to do.

- Of the 1,777 incident inquiries, 11.4% were assigned a certainty index of 1 or 2, thus judged to have been either definitely or probably caused by the pesticide in question (Table 12.1).

- Permethrin generated more inquiries (1,386) than any other active ingredient, accounting for 5.9% of all inquiries, and 14.0% of pesticide-specific inquiries. Of these, 11.6% (161) were incident inquiries and 88.4% were inquiries for information. Of the 161 permethrin incident inquiries, 16.7% were assigned a certainty index of 1 (definite) or 2 (probable) (Table 10.1, Graph 10.1).

- Metaldehyde was involved in more incidents (171) than any other active ingredient; 17.5% were assigned a certainty index of 1 or 2. Most of the metaldehyde incidents involved animals, particularly dogs.

- Although fewer incidents were involved, 46.7% of the 126 D-phenothrin incidents and 42.9% of the 77 methoprene incidents, respectively, had a certainty index of 1 or 2.

- Of the 1,072 times that one of the other top 25 active ingredients was mentioned during incident inquiries, in which human or animal entities were involved, 4.9% of the cases were assigned a certainty index of 1 (definite) or 2 (probable). Most of the reported incidents (44.1%) involved animals; 40.0% involved humans (Table 11.1, Graph 11.1).

- There were 1,888 entities involved in incidents reported to NPIC - 40.5% were human, 41.6% animal, and 17.9% other (e.g., building, environment). Of the human entities, 38.4% were male, 54.0% female, 6.7% groups, and 0.9% where gender was not stated (Tables 14.1 and 15.1, Graph 14.1 and Chart 15.1).

- Of the 766 humans involved in incident inquiries, information about symptoms was given for 725. Of these, 47.6% were symptomatic (symptoms matched those for pesticide in question), 30.8% were asymptomatic, and 21.7% reported atypical symptoms (Table 16.1, Charts 16.1 and 16.2).

- Amongst the 766 human entities, no deaths were reported. Of the 787 animal entities, 47 deaths were reported; 14 of these incidents were assigned a certainty index of 1 or 2, indicating likely pesticide involvement (Table 17.1, Chart 17.1).

- Ages were available for 577 of the 766 human entities. A portion (13.9%) of the entities were less than 5 years old, 6.4% between the ages of 5 - 14, 5.2% between 15 - 24, 60.3% between the ages of 25 - 64, and 14.2% over age 64 (Table 18.1, Graph 18.1).

- Of the known locations (1,666) where incidents occurred, 93.4% were the home or yard, while 2.1% were agriculturally related, and 1.4% involved an office building or school (Table 12.1).

- Most of the inquiries (86.6%; 20,443) to NPIC came from the general public, while 3.9% came from federal/state/local agencies, 2.4% from medical personnel, 2.5% from information providers, and 2.6% from consumer users (Table 5.1, Graph 5.1 and Chart 5.1).

- Most of the inquiries to NPIC (91.8%; 21,671) were handled by providing verbal information to the inquirer. Other actions taken by Specialists were to refer inquirers to EPA and SLA (0.9%), County Extension Service (0.3%), Oregon Poison Center (0.3%), National Animal Poison Control Center (0.4%), and other organizations (0.1%). Some inquirers (6.2%) received information via mail, fax or email (Table 8.1, Charts 8.1 and 8.2).

- NPIC received 21,999 (93.2%) inquiries via telephone (Table 3.1).

- The largest number of inquiries originated from California, Texas, and New York - states ranked 1, 3, and 2, respectively, in terms of population (Table 9.1, Graph 9.1).

- By EPA region, 13.9% of the inquiries came from Region 5, 13.4% from Region 4, 11.5% from Region 6, 11.4% from Region 9, and 11.0% from Region 3 (Graph 9.2).

Organization

- NPIC hired three full-time Specialists during the 2003 grant year. One student worker was hired to assist with office support and one graduate-level student was hired to assist with active ingredient file management. Two Specialists, one student worker, and two graduate-level students resigned during this period. Recruitment for full-time Specialists and another graduate-level student is underway. NPIC's current staff includes a full-time Project Coordinator, twelve full-time Specialists, a full-time information resource supervisor, a fiscal/personnel manager, and three part-time undergraduate student assistants.

- NPIC reallocated space to accommodate in-house staff meetings, presentations, and seminars, after losing access to its former conference area.

- NPIC added a new Dell Precision 650 workstation, along with software upgrades, to assist with the conversion of paper documents into digital files. NPIC installed a new Sun Microsystems Sun Fire V480 server, which offers increased performance to improve NPIC's information delivery capacity.

- NPIC purchased the following during the 2003 grant year: four Dell Precision 340 workstations and six Dell Precision 360 workstations to replace aging desktop computers; a Dell PowerEdge 2600 server to replace a failed server computer; an HP 4300DTN Auto Duplex Printer to improve infrastructure capacity; and two workstation video system upgrades to improve operations.

NPIC Mission Statement

The primary mission of the National Pesticide Information Center is to serve as a source of objective, science-based pesticide information on a wide variety of pesticide-related subjects, including:

- recognition and management of pesticide poisoning
- toxicology
- environmental chemistry
- pesticide products.

In addition, NPIC provides referrals for:

- health and environmental effects
- safety practices
- clean-up and disposal
- emergency treatment, investigation of pesticide incidents, and laboratory analyses.

A major goal of NPIC is to promote informed decision-making on the part of the inquirer.

Service provided by NPIC is available 10 hours/day from 6:30 am - 4:30 pm Pacific Time, 7 days per week (excluding holidays), via a toll-free telephone number, and 24 hours/day via email and the WWW, available to anyone in the United States and its territories. NPIC is sponsored cooperatively by Oregon State University and the U.S. Environmental Protection Agency.

NPIC is open to questions from the public and professionals. It is staffed by highly qualified and trained Specialists who have the toxicology and environmental chemistry training needed to provide knowledgeable answers to questions about pesticides. NPIC Specialists deliver information in a user-friendly manner, and are adept at communicating scientific information to the lay public. Specialists can help inquirers interpret and understand toxicology and environmental chemistry information about pesticides. The services provided by NPIC are strictly informational and have no regulatory or enforcement capability or authority.

NPIC maintains a TDD to facilitate access to pesticide information by the hearing-impaired.

Objectives

The objectives of NPIC are:

1) To operate a toll-free telephone service to inquirers in the United States, Puerto Rico, and the Virgin Islands, including a recording device to capture off-hour inquiries.

2) Provide access to NPIC and pesticide-related information via the World Wide Web and email.

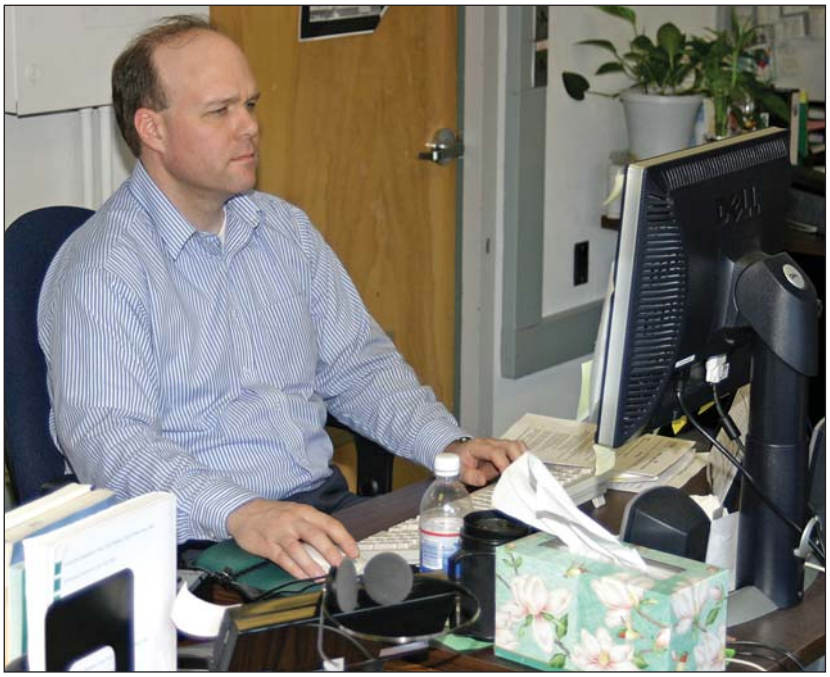
3) To serve as a source of factual, unbiased information on pesticide chemistry, toxicology, and environmental fate to all who inquire, including industry, government, medical, and agricultural personnel, as well as the general public.

4) To provide the medical community with diagnostic and crisis management assistance involving pesticide incidents in situations pertaining to both human and animal patients.

5) To acquire accurate and complete information on all inquiries considered to be pesticide incidents.

6) To computerize all inquiry information as well as pesticide incident data for easy retrieval.

NPIC provides objective, science-based information about pesticides and pesticide-related topics to empower inquirers to make informed decisions about pesticides and their use...



David - Pesticide Specialist

History

The pesticide information service began in 1978 with the Texas Tech University Health Sciences Center associated Pesticide Hazard Assessment Project (PHAP) in San Benito, Texas. This service, offered via telephone, was originally used to report pesticide incidents in EPA Region VI through the Pesticide Incident Monitoring System (PIMS). Later, callers from across the U.S. began using the service to obtain information on pesticides. In 1980, the network was designated as the National Pesticide Information Clearinghouse (NPIC). In 1984, the NPIC added the 24 hour responsibilities of South Carolina's National Pesticide Telecommunications Network (NPTN) and changed its name to NPTN.

The NPTN system remained in San Benito until April 1985, when it moved to the Department of Preventive Medicine and Community Health of the Texas Tech University Health Sciences Center in Lubbock, Texas. NPTN remained at Texas Tech through March, 1995. Following a competitive renewal process for the grant supporting the Cooperative Agreement between the U.S. Environmental Protection Agency and the co-sponsoring university, NPTN moved to Oregon State University on April 1, 1995. In addition to the telephone, NPTN began to place major emphasis on the World Wide Web and email as means of disseminating pesticide information, and as alternate routes of contact with NPTN. To more accurately reflect the nature of its service, NPTN was renamed National Pesticide Information Center (NPIC) in 2000.

Inquiries and Resources

NPIC receives inquiries from across the U.S. and from Puerto Rico, the Virgin Islands, Canada, Mexico, and numerous other countries. Most of the inquiries to NPIC are from the general public. The nature of the inquiries range from requests for information about: health implications of pesticide use; pesticide toxicology, environmental chemistry, regulations, and use practices; product information; environmental effects of pesticides; pesticide safety, protective equipment, cleanup and disposal; and current pesticide-related issues in the news.

NPIC is a cooperative effort of Oregon State University and the U.S. Environmental Protection Agency...

NPIC maintains an extensive collection of hard-copy and electronic resources for pesticide information, used as necessary by the Specialists in answering inquiries. Included in this collection are: NPIC's Active Ingredient (AI) file collection containing information on over 800 pesticide AIs; numerous compendia of pesticide information (e.g., Handbook of Pesticide Toxicology, Code of Federal Regulations - 40 CFR Parts 150 - 189, Pest Control Operations, Toxicology - The Science of Poisons, Farm Chemicals Handbook, WHO Environmental Health Criteria series, Herbicide Handbook, The Pesticide Manual, Common-Sense Pest Control, pesticide product labels - to name but a few); electronic access to EXTOXNET (EXtension TOXicology NETwork), CHEMBANK (HSDB, RTECS, IRIS), and PESTBANK; and online literature searching capabilities (e.g., Medline, Toxline).

Funding

Funding for NPIC is provided principally by the U.S. Environmental Protection Agency, with substantial support provided by Oregon State University in the form of cost sharing, salary support, and facilities.

OREGON STATE UNIVERSITY

Open minds. Open doors.™

NPIC Update

Inquiry Update

NPIC responded to 23,609 inquiries, 1,777 of which were classified as pesticide incidents. A pesticide spill, a misapplication, a contamination of a non-target entity, or any purported exposure to a pesticide (regardless of injury) is classified as an incident. Incident inquiries are reviewed by Dr. Daniel Sudakin and/or a senior NPIC Pesticide Specialist (referred to as *Specialist* below). On the basis of information provided by the inquirer, and with reference to established criteria, all incident inquiries are assigned a certainty index (CI) - this is NPIC's assessment as to whether the effects were definitely (CI = 1), probably (2), possibly (3), or unlikely (4) to have been caused by exposure to a pesticide, or whether the effects were unrelated (5) to pesticide exposure. For incidents in which the inquirer reported an exposure, accident, or odor, but no health effects, a certainty index of zero (0) is assigned.

Achievements

Administrative and Operational Infrastructure -

Mission, Goals, & Values - A *Mission, Goals, and Values* statement, which articulates NPIC's mission and goals, was created to help NPIC fulfill its mission. Further, NPIC identified and adopted a set of values and attributes deemed to contribute to a positive workplace culture and promote a sustainable public service-oriented organization. These values and attributes include: Teamwork and Camaraderie; The Professional; Quality Customer Service; Respect and Thoughtfulness for Others; Diversity and Understanding of Differences; Outreach and Partnerships; Honesty, Trust, Integrity and Loyalty; Accountability and Dependability; Initiative, Creativity, Productivity and Effectiveness; and Hard Work and Dedication.

NPIC Policies - NPIC updated several policies. Upon completion, policies are posted to the NPIC Intranet (Inet) and added to the hard-copy policy collection. NPIC posted the following policies this year: *Sick-Leave Policy*; *Vacation-Leave Policy*; *Schedule Policy*; *Faculty Position Descriptions, Annual Evaluations, and Salary Increases*; and *Policy Guidance Overview*.

Standard Operating Procedures (SOP) - The Executive Committee and staff worked together to review and update the NPIC SOP. NPIC posted the following administrative and operational SOP this year: *Referrals for Human Poisonings*; *Referrals for Animal Poisonings (NAPCC)*; *Transferring Spanish Speaking Callers to SRC*; *Posting Quarterly Achievements*; *Difficult Callers*; *Staff-In/Staff-Out Procedures*; *NPIC Audix Messages*; *Responding to Audix Messages*; *Personal Audix/Voice Mail*; *Maintaining Staff Directories and Station Locator*; *Opening/Closing Procedures*; *NPIC Meetings: Specialist, Full Staff, and Continuing Education*; *Inquirer's Options for Reporting Incident Information to EPA*; and *NPIC Routing Slip*. NPIC posted the following Specialist Project SOP this year: *NPIC Phone Number on Product Labels*; and *Managing Responsive and Proactive Outreach to Manufacturers*.

Project and Information Review

Pesticide Incident Database (PID) - Quality Assurance/Quality Control (QA/QC) techniques, intended to foster accuracy and completeness in coding information and incident inquiries, continue to be reviewed and improved through weekly meeting discussions, incident report reviews, and refinement of SOP. NPIC posted the following PID Operational SOP/guidance this year: *Referrals to NPMMP*; *Reporting Human Deaths, Group Illnesses, Group Deaths*; and *Collecting and Documenting Incident Information.*

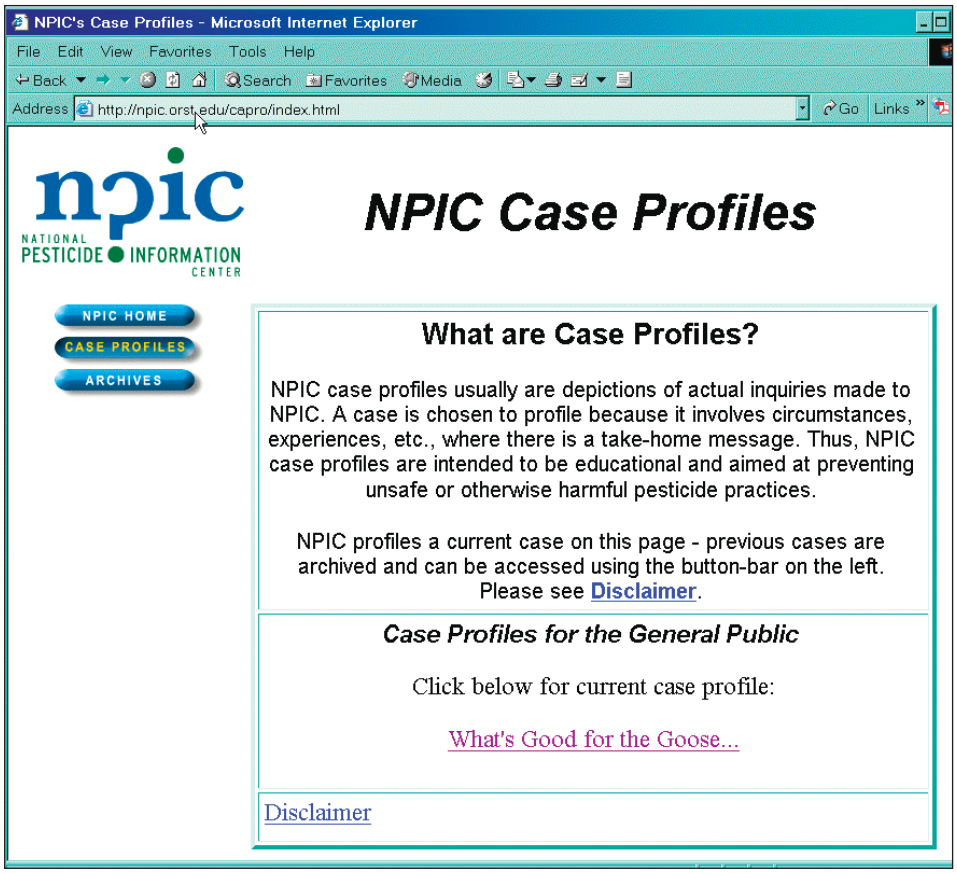
NPIC Web Site - NPIC posted a PDF version of its new, colorful, four panel brochure on the web site. The NPIC web site is useful to NPIC clientele and is an effective tool for providing pesticide-related information. The NPIC web site presently provides the user access to many types of pesticide information including: 1) NPIC fact sheets and

other materials developed by NPIC; 2) Links to pesticide information at other web sites, demonstrated to be of use to NPIC clientele.

In many respects, the NPIC web site is a "Gateway" or "a one-stop shopping center" for pesticide information. NPIC anticipates access to its web site will continue to increase and proceeds with frequent updates and enhancements to the content and functionality of the main pages. In addition, NPIC continues to update specific resources including: WNV Resource Guide (with specific emphasis on WNV background, state contacts, and new science); and Security Alerts Resource Guide.

Active Ingredient Files - NPIC presently maintains 868 active ingredient (AI) files containing more than 10,000 documents, each catalogued in a searchable database with full bibliographic information. During the 2003 grant year, NPIC added 77 new active ingredient files to the collection, and 993 new documents to specific AI files within the collection. Common updates to all hard-copy files include: new Federal Register notices with significant changes (10X or aPAD/cPAD); new human and ecological risk assessments; IREDs, TREDs, or REDs; SAP or other regulatory and scientific reports of significance (i.e., Q&As, FYIs, CCA, and exposure to children); and information from many other authoritative resources.

NPIC completed the following projects this year to assure the quality of its AI files: 1) Reviewed the top 40 active ingredients most commonly discussed, to verify all pertinent data is available to Specialists in hard-copy files, either from updates to standardized references or through searches for newly available information; 2) Continued with an on-going effort to fill gaps in the RED collection, which presently contains 283 REDs; 3) Posted an *AI Content Guide* on the Inet to increase Specialist's accessibility to information within the AI files; and, 4) Completed the annual NPIC quality assurance/quality control activities verifying the accuracy in the AI master files, working files, database, and *AI Content Guide*.



"Other" Ingredient Files - NPIC continues to update its inert or "other" ingredient files by addition of Federal Register notices, NTP, ATSDR, WHO, and other relevant scientific documents.

Intranet (Inet) - NPIC developed the Inet, an internal resource to assist NPIC staff with more efficient access to operational and administrative information and allow more effective management of inquiries. The Inet was made available to NPIC staff in October 2003. General topics include: *Calendar*; *Hot Topics*; *InfoBase*; *Meeting Notes*; *Fact Sheet Guidance*; *Projects*; *Policies*; *Schedule*; *SOP*; and *Staff Directories*. Improvements and enhancements to the Inet format, design, and organization are on-going.

Fact Sheets - NPIC posted the following pesticide active ingredient fact sheets on its web site during the grant year: *Bendiocarb - Technical*; *Bendiocarb - General*; *Captan - Technical*; *Captan - General*; *Carbaryl - Technical*; *Carbaryl - General*; *Hydramethylnon - Technical*; *Hydramethylnon - General*; *Triclopyr - Technical*; and *Triclopyr - General*. Several new fact sheets are in preparation, including: *Aluminum Phosphide*; *Capsaicin*; *Deltamethrin*; *Diazinon - Technical*; *Napthalene*; and *Paradichlorobenzene*.

Updates of existing NPIC fact sheets, which include incorporation of any new regulatory and/or scientific information available, are currently underway for the following:

Diazinon - General; *Glyphosate - General*; *Glyphosate - Technical*; *and DEET - General*.

NPIC posted the *NPIC Fact Sheet Guidance* document on the Inet. The document describes the purpose and protocol for writing NPIC fact sheets, provides guidance for getting started, summarizes available resources, and incorporates current templates and outlines.

Case Profiles - Two new features, *General Case Profiles* and *Medical Case Profiles*, were added to the NPIC web site. General Case Profiles provide an educational opportunity to the reader, or in some way share an experience, that would result in learning about ways to reduce risk or prevent accidental exposures. During this grant period, NPIC developed and posted the following General Case Profiles: *More Is Not Better...*; *A Weed Killer By Any Name May Not Be The Same!*; *A Man and His Dog - Poorly Stored Pesticide Container*; *Thinking About Saving Some Money?*; *The Best of Intentions...*; *In The Wrong Hands...*; and *What About the Fish!* Several new case profiles are under development, including: *What's Good for the Goose...*; *Bug Bombs: Don't Put Your Family at Risk - Read the Label!*; and *Get Rid of Slugs & Snails, Not Puppy Tails!*

Medical Case Profiles are directed toward health care providers and convey pesticide specific clinical information useful to this audience. Medical Case Profiles posted to the NPIC web site this year include: *Inhalation Risks from Phosphide Fumigants*; *Synthetic Pyrethroids and Paresthesias*; and *Biomarkers of Exposure: Organophosphates*. Under development is the topic *Pesticide Incident Reporting*.

Training and Continuing Education

NPIC Training Manual updates were on-going throughout the grant year, with an emphasis on: revisions to format, procedures, resources, and facilitated exercises; the development of advanced training activities; and incorporation of the new NPIC logo. NPIC also created a "Review and Revision" team this year to provide input on the Training Manual.

The Trainer, Sarah Peskin, successfully cross-trained Kaci Agle to ensure another member of the staff is familiar with the training process and the daily functions and tasks associated with NPICs training program. On November 7, 2003, a training presentation titled *Be A Mentor!,* about training goals, emphasized the enriching role mentors play in the training process, and provided staff with tools and guidance necessary to be successful with each mentor activity.

Three Specialists completed the training program, and all three continue to attend Oregon State University (OSU) lecture courses as part of a 3-term series in graduate-level toxicology, including: Fundamentals of Toxicology, Target Organ Toxicology, and Environmental Toxicology and Risk Assessment. The Specialists will complete the 9-credit series in grant year 2004-5.

Pesticide Specialist in Training

The NPIC staff meets each week to further their knowledge of pesticide-related topics. QA/QC procedures and administrative matters are discussed, to further improve the service NPIC provides the public. Internal seminars were held during many of those weekly sessions. OSU also provides additional opportunities for continued learning, including seminars, lectures, and conferences.

NPIC staff benefitted from the following guest presentations this year: Ron Montgomery from the West Umatilla County Vector Control District, along with Jill Townzen (Washington County) and Dave Sjogren (an equipment distributor), presented an overview, on May 22, 2003, of mosquito control application equipment and the regulatory aspects of mosquito control in Oregon. On July 10, 2003, Kara Warner, an OSU graduate student, reviewed scientific literature addressing atrazine's potential effects on frogs, including endocrine disruption and teratogenicity.

Rich Lague, a physical therapist with the OSU Student Health Center, reviewed the epidemiology and etiology of back pain on October 23, 2003. He discussed methods for preventing back pain, reviewed common treatments, and provided exercises to relieve it. On November 13, 2003, Sean Ross, Supervisor, NPIC Information Resources Capability, introduced staff to the NPIC InfoBase and provided instruction on how to conduct searches within the following libraries: NPIC and EXTOXNET web sites; EPA Pesticide Web Sites; Federal Register; 40 Code of Federal Regulations; and US Code: Food, Drug, and Cosmetic Act.

Steve Leboeuf, Manager of OSU's Environmental Health and Safety program, provided an overview, on January 8, 2004, of OSU safety policies and procedures. Staff learned of OSU, NPIC, and employee responsibilities to help insure a safe work environment, and reviewed how employees should protect themselves (e.g., how to exit buildings safely during a fire or earthquake).

On January 15, 2004, Dr. Kim Anderson, Director of the Food Safety and Environmental Stewardship Program in OSU's Environmental and Molecular Toxicology Department, presented an overview of the history and regulatory requirements for Good Laboratory Practices (GLP). She reviewed the differences between quality assurance and quality control, discussed the relationship between regulatory compliance and GLP, and emphasized that quality assurance plans do not need to be complicated, yet must be thorough.

NPIC Staff and Directors gave presentations on various topics throughout the year. The following staff discussions occurred during this grant period: On May 1, 2003, Dr. Jeffrey Jenkins reviewed the science article, *Organophosphorus Pesticide Exposure of Urban and Suburban Preschool Children with Organic and Conventional Diets*, C. Curl, R. Fenske, K. Elgethun, Environmental Health Perspectives, Vol. 111, No. 3, p. 377-382, March 2003.

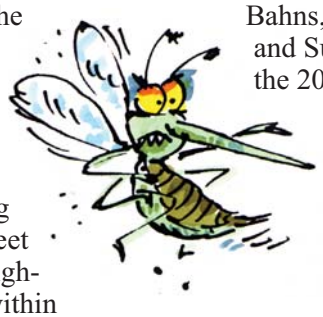
Dr. Daniel Sudakin, M.D., M.P.H., reviewed recently published epidemiological and basic toxicology/pharmacology research on DEET and presented information on new chemical formulations. Dr. Sudakin also discussed new and refined recommendations from the Centers for Disease Control (CDC) and the American Academy of Pediatrics (AAP) regarding the use of DEET by specific populations.

On August 7, 2003, Dr. Jenkins provided an overview on the discipline of environmental epidemiology. Focus areas included a history of the discipline, study types within the discipline (e.g., descriptive studies vs. analytical studies), including their goals, differences, and weaknesses, and how advances in various data systems will improve the field. Dr. Jenkins and Dr. Sudakin reviewed the following journal article and used it as an example of a descriptive study: *Birth Malformations and Other Adverse Perinatal Outcomes in Four U.S. Wheat-Producing States*, Schreinemachers, D.M., Environmental Health Perspectives, Vol. 111, No. 9, p. 1259-1264, 2003.

Dr. Sudakin gave a presentation on October 16, 2003, titled *Pesticides and Ocular Exposures*. He discussed how ocular chemical exposures are medically managed, reviewed the EPA first aid statements for eye exposures found in the Label Review Manual (LRM), and discussed how Specialists can provide assistance to callers with ocular exposures. Dr. Sudakin instructed Specialists to use the SOP titled *Referrals for Human Poisonings* as a framework for decision-making when trying to determine if a caller should be transferred to the Oregon Poison Center (Level 1 referral), or if the caller should be directed to their

Regional Poison Control Center (Level 2 referral), for first aid and/or medical advice.

On February 26, 2004, Kaci Agle gave a presentation to staff titled *Bacillus thuringiensis: The Pesticide's Basic Attributes and the New Active Ingredient File Structure*. Kaci introduced the new, streamlined AI file structure for the Bt family of pesticides and provided an overview of the pesticide's attributes in preparation for the WNV season.



Specialists presented staff development-related topics to the group during the grant year, including an overview of the Fact Sheet Guidance Document and highlights of specific sections within the document ("NPIC Writing Guide", "Active Voice versus Passive Voice", "EndNote Instruction Guide - Tutorial", "The ACS Style Guide" and EndNote).

NPIC personnel also attended several off-site conferences, meetings, or seminars during the period including: The Western Region Pesticide Meeting, held in Salt Lake City, May 6 through May 9, 2003, was attended by Terry Miller, Jeffrey Jenkins, and Crista Chadwick. Topics discussed included: label harmonization, federal certification and training, IPM, toxic molds, antimicrobial efficacy testing, state cholinesterase testing, ESA, translation needs, and budget constraints.

Kaci Agle, an NPIC Specialist, attended three seminars on ethics in toxicological research, presented by the OSU Environmental and Molecular Toxicology Department, and subsequently informed staff of the new information. Topics presented include: 1) Use of Human Subjects in Research, by Laura Lincoln, Coordinator and Administrator of Activities, Institutional Review Board (IRB) for the Protection of Human Subjects; 2) Scientific Misconduct and Conflicts of Interest in Research, by Peggy Lowry, the Director of Sponsored Programs at OSU; and 3) Use of Animals in Research, by Dr. Alex Ojerio, Director of Laboratory Animal Resources, OSU.

The NPIC Executive Committee members (Dr. Terry Miller, Dr. Daniel Sudakin, and Dr. Jeffrey Jenkins), the NPIC Project Coordinator (Crista Chadwick), Kelly Bahns, Kristen Larson, and Sunny Jones attended the 2004 Chemical Applicator Short Course in Jantzen Beach, Oregon in January 2004. Topics of interest included: EPA Region 10's Learning from a Pesticide Spill; Oregon DOT and Salmon Recovery; Harmful Properties of Pesticides: Protecting Farm Workers from Pesticides; ODA Administrative and Regulatory Changes related to the Clean Water Act, the Endangered Species Act, and FIFRA; Watershed-based Pesticide Risk: Exposure Assessment for Aquatic Environments; Calibrating a Boom Sprayer; Sudden Oak Death; Wilbur-Ellis Company on the Endangered Species Act, Clean Water Act, and Pesticides - Spray Drift Adjuvants; The Nature Conservancy's Management of Japanese Knotweed; Understanding Spray Drift, Pesticide Toxicity and Risk Assessment; and Controlling Rodents In and Around Structures.

On March 4, 2004, Matt Sunseri, an NPIC Specialist, attended a seminar titled *Developmental Effects of the Biocide Metam Sodium,* by Dr. Melissa Haendel (a post-doctorate working at the Marine/Freshwater Fish Laboratory, Environmental and Molecular Toxicology Department, OSU), and subsequently shared the information with staff.

Terry Miller, Jeff Jenkins, Daniel Sudakin, Crista Chadwick, and three Specialists (Kelly Bahns, Kristen Larson, and Sunny Jones) attended the annual AAPCO meeting, held in Alexandra, Virginia on March 8-10, 2004. Highlights included an address from Steven

L. Johnson, Acting Deputy Administrator of EPA. Anne Lindsay, OPP Deputy Director, and Geoffery Grubbs, OW Director of Science and Technology Office, addressed cooperative relationships. In addition, other topics of interest included: National Association of the State Departments of Agriculture (NASDA) Update, Panel Discussion on Homeland Security; States and Industry lessons learned from the phase-out of chlorpyrifos and diazinon, and current regulations

on atrazine; Panel discussion from USDA, USFWS and EPA Endangered Species Protection Program; Farm Family Exposure Study: Chlorpyrifos & 2,4-D Exposure to Farm Families; New Developments in the Oversight of Biotechnology; EPA Wood Preservative Update; Pesticide Safety Education Program Update; OECA & OPP Updates; Requiring Minimum-age Requirements for Approval of State Certification Programs; Pesticide Containment/Container Issues; Status and Issues for Mold Control/Antimicrobials; Hazardous Materials Transportation Security; US Pesticide Use Databases; and, an update by the American Association of Pesticide Safety Educators.

Of Special Interest -

Site Visit - NPIC's Project Officer, Frank Davido, of the Office of Pesticide Programs/IRSD, visited NPIC in Corvallis, Oregon on September 16 through 18, 2003.

Issues - Topics of high interest this grant period included questions or concerns related to: Chromated Copper Arsenate treated wood (882 calls), Hartz Pet Care products (146 calls), and Counterfeit Products (25).

The spread of West Nile virus across the United States prompted continued interests in mosquito control and repellent products this grant year and generated 927 calls to NPIC. States with the highest number of calls include: New York (57); Colorado (54); Illinois (49); California (46) and Canada (46). The most frequent topics discussed were: health effects (277); mosquito control (257); reporting dead birds or breeding sites (132); product and/or chemical information (145); concerns about encephalitis (81); and inquiries about spray schedules (75).

Publicity

Logo and Brochure - NPIC finalized its new logo and brochure designs, and subsequently ordered 100,000 new NPIC brochures for dissemination. NPIC posted a PDF version of the colorful, four panel brochure on the NPIC web site. NPIC also completed design of its stationery package (including letterhead, envelopes, and business cards), as part of its outreach package. In addition, a double-sided, full-page, color advertisement was developed for insertion into conference and program binders. This advertisement targets environmental health professionals, pest control applicators, or other professionals with clientele asking pesticide questions.

NPIC Outreach Efforts -

Outreach administrative project structures and standard operating procedures (SOP) continued to be improved to address consistency in data collection, streamlined processing of Outreach Processing Forms (OPF), tracking, sorting, and reporting capabilities. New reporting capabilities improved evaluating outreach successes, inventory tracking, identifying priorities, and development of future outreach materials.

NPIC developed an integrated electronic filing system called *DB Central* for storing all databases containing contact information. Maintaining databases in a single location ensures accuracy of the records and streamlines resources for use in outreach and other proj-

ects, without duplication of work. The Outreach team standardized and prepared numerous outreach databases for updating.

Outreach activities were further defined as either "Proactive", or "Responsive". Proactive outreach is initiated by NPIC, while Responsive outreach is NPIC responding to inquiries received. As a result of both Proactive and Responsive outreach this grant period, NPIC provided 67,798 brochures. NPIC further defined "outreach audiences" of interest, and continues focused outreach to important groups targeting children, elderly, tribal, public health interests and underserved populations.

Outreach Audience Definitions - Audience definitions and codes (see table) were developed to assist in identifying and defining NPIC outreach categories to enhance NPIC's ability to evaluate the quality and quantity of its outreach efforts. The audience codes (three letters in parenthesis) will be referenced in future "Outreach Status Reports" for ease in tracking, sorting, and reviewing progress for a given audience:

Proactive Outreach - Outreach initiated by NPIC is considered proactive, and can be conducted through four methods: 1) Conferences and Events, 2) Mailouts, 3) Publications and Editorials, or 4) other means. NPIC proactively provided 24,334 NPIC brochures during this grant year.

Following is a summary of the number of activities performed with a particular audience, presented as the audience name, number of activities and number of NPIC brochures provided by NPIC (e.g. Animal Caretakers (2/500) - this notation conveys that NPIC initiated 2 outreach activities with the Animal Caretakers audience and, as a result, provided 500 NPIC brochures).

Audiences targeted include: Animal Caretakers (3/413); Emergency Services (2/151); Environmental Agencies and Municipal Offices (3/581); Environmental Protection Agency (5/3584); Farmers, Workers, and Applicators (18/1850); Gardeners (5/1157); General Public (6/850); Other (12/6679); Parents and Children (7/513), Physicians (3/150); Public Health Information Services (7/7089); State Pesticide Agencies (4/324); Tribes (5/537); and Underserved (8/456).

Audience Definitions and Codes

Animal Caretakers (ANI)

a) Animal hospitals, zoos, retail outlets, publications, organizations, and rescue facilities which assist, educate, or have the ability to reach those who care for animals.

b) Examples: Veterinarians, American Animal Hospital Association, PetCo Stores, Humane Society, National Zoo, Veterinary Medical Association.

Emergency Services (EMS)

a) Public safety organizations, publications, coordinated groups, agencies, or local governments with the mission of assisting the public during an emergency situation.

b) Examples: Fire departments, hazardous waste management personnel, and public safety officers.

Environmental Agencies and Municipal Offices (ENV)

a) State, county, and municipal offices with jurisdiction over environmental regulations.

b) Examples: USDA and state EPA/DEQ's (not pesticide regulatory agencies).

EPA (EPA)

a) All officials employed by the U.S. Environmental Protection Agency on a regional level or at EPA headquarters.

Farmers, Workers, and Applicators (FAR)

a) Organizations, publications, businesses, and farming programs who provide employment, education, support, or assistance to agriculture professionals, farm workers, and structural and landscape pest control operators.

b) Examples: Pesticide Safety Education Programs, Pest Control Operators, and Future Farmers of America programs.

Gardeners (GAR)

a) Organizations, nurseries, retail outlets, coordinated groups, publications, and University Extension Service programs who provide information, assistance, or education to the non-professional gardening community.

b) Examples: Master Gardeners; American Rose Society; Garden editors; Clubs.

General Public/Non-targeted Audience (GEN)

a) Organizations, agencies, general retail, and media who provide a means of reaching a large diverse group of public without classification.

b) Examples: Readers of newspapers, customers of retail stores that cater to homeowners.

Industry (IND)

a) Manufacturers and distributers of pesticide products who reach the public through distribution of products and/or company literature. Organizations representing industry.

b) Examples: Manufacturers, Distributors, CropLife America, American Wood Preservative Institute.

Other (OTH)

a) Any other target audience, which is not represented in the other descriptions.

Parents and Children (PAR)

a) Organizations, associations, publications, and school, church, or extension programs whose mission is to reach out to children and/or their parents.

b) Examples: Children's Foundation, National Childcare Foundation, parenting magazines.

Physicians (PHY)

a) Organizations, associations, educational programs, medical facilities, and media targeting human health care practitioners who may be interested in NPIC as an additional pesticide resource for themselves, their staff, or their patients.

b) Examples: American Academy of Pediatrics, hospitals.

Public Health Information Services (PHI)

a) Organizations, associations, and state, county, or local health agencies providing public health information to diverse communities.

b) Examples: Organization of Teratology Information Services, health departments.

State Pesticide Agencies (SPA)

a) State regulatory agencies involved in the registration, regulation, and/or enforcement of pesticide use within the state.

b) Examples: Department of Agriculture (DOA), CA county agricultural commissioners.

Tribes (TRI)

a) Organizations, programs, and national, regional, state, or tribal governments serving nationally recognized and/or unrecognized native communities.

b) Examples: USDA Indian Health Services, EPA regional tribal program.

Underserved Communities (UND)

a) Organizations, associations, and programs serving urban and rural communities of no specific ethnicity or race, and that experience minimal, or lack of quality financial, educational, and medical opportunities.

b) Examples: National Rural Health Association, WIC, HUD, State or Local Social Services, Community Action Networks, USDA Food and Nutrition Services.

NPIC conducted off-site outreach in November, 2003, when Crista Chadwick, Project Coordinator, guest lectured for a graduate level course in public health. The class presentation included an overview of public health pests, food safety, toxicology, and risk assessment and risk management as they related to specific public health pesticide issues.

Responsive Outreach - Responsive outreach relates to inquiries to NPIC by telephone, web comment, or e-mail, requesting NPIC outreach materials. NPIC provided 43,464 NPIC brochures in response to requests by inquirers.

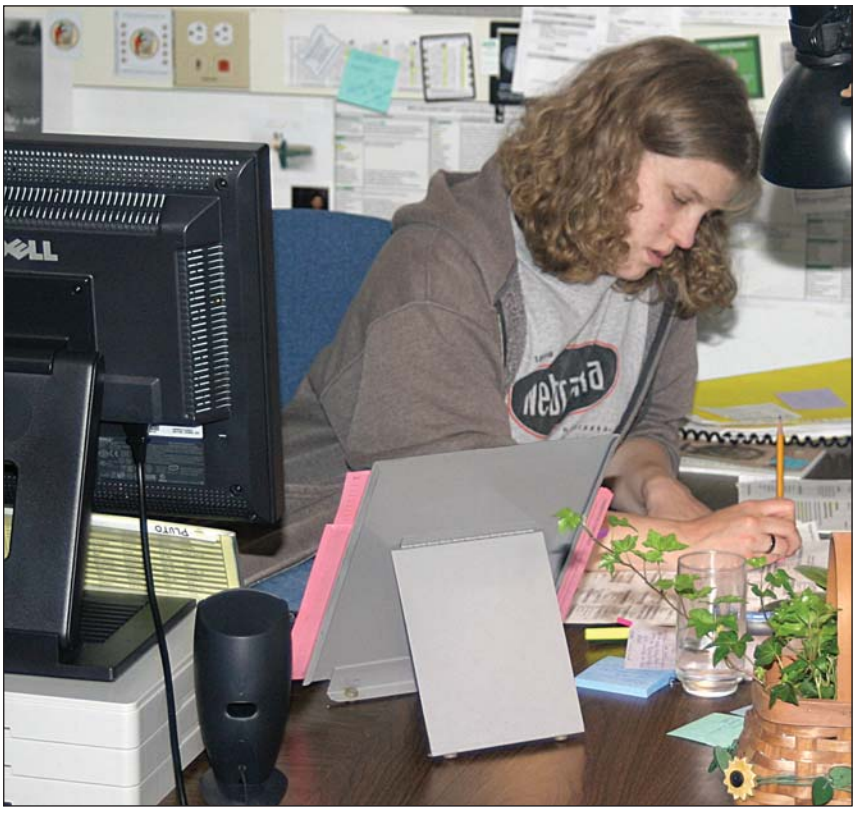
The following is a summary of the number of inquiries received from a particular audience, presented as the audience name, number of inquiries and number of NPIC brochures provided by NPIC (e.g. Animal Caretakers (3/1,250) - this notation conveys that NPIC responded to 3 outreach inquiries with the Animal Caretaker audience, and, as a result, provided 1,250 NPIC brochures).

The following is a summary of the respective audiences who requested brochures: Animal Caretakers (8/757); Emergency Services (2/501); Environmental Agencies and Municipal Offices (15/1562); Environmental Protection Agency (23/6945); Farmers, Workers, and Applicators (28/8632); Gardeners (12/1885); General Public (56/4814); Industry (3/5); Other (11/1721); Parents and Children (16/3150), Physicians (5/626); Public Health Information Services (18/3517); State Pesticide Agencies (17/8036); Tribes (3/312); and Underserved (2/1001).

NPIC also responded to many EPA regional requests for NPIC brochures, subsequently providing 8,045 NPIC brochures for 18 Regional activities with various audiences.

Efforts with OPP - NPIC was involved in outreach efforts with EPA Headquarters through OPP. In May 2003 NPIC released its new colorful, four-panel brochure and the NPIC logo. All OPP employees were provided the NPIC brochure through the Project Officer, Frank Davido. In June 2003, EPA Headquarters published a Press Advisory highlighting that NPIC's new colorful brochure was available to the public. NPIC subsequently disseminated over 7,500 NPIC brochures to Regions, State, County and local communities. EPA Headquarter's thereafter disseminated several hundred NPIC brochures to the National Black Catholic Congress. Also, the *Pesticide Safe Storage Label* campaign poster, released in July 2003, featured NPIC's telephone number, as did the August 2003 bookmark "What do you know about chemicals in your home?". Efforts continued by EPA Headquarters in August 2003 to disseminate NPIC's telephone number through the Metro taillight posters and bus cards campaign, *Pesticides are Meant to Poison These****. In October 2003, EPA Headquarter published the "*Pesticide Safe Storage - Lock-It Up!*" campaign poster in the MBL World Series program. EPA also released the Counterfeit Pest Products Q & A in February 2004, directing the public to contact NPIC if adverse effects resulted from using a suspected counterfeit product.

Efforts with EPA Regions - NPIC participated in outreach efforts with various EPA Regions. In February 2003, EPA Region 2 conducted an urban initiative coordinated to inform members of Chinese-American and Portuguese communities in New York about the harms of using illegal pesticides. The initiative disseminated the brochure titled *Protect Your Family... Know the Dangers of Illegal Pesticides* featuring NPIC's telephone number. In March 2003, EPA Region 2 placed this poster in local community shop windows.



Kelly - Pesticide Specialist

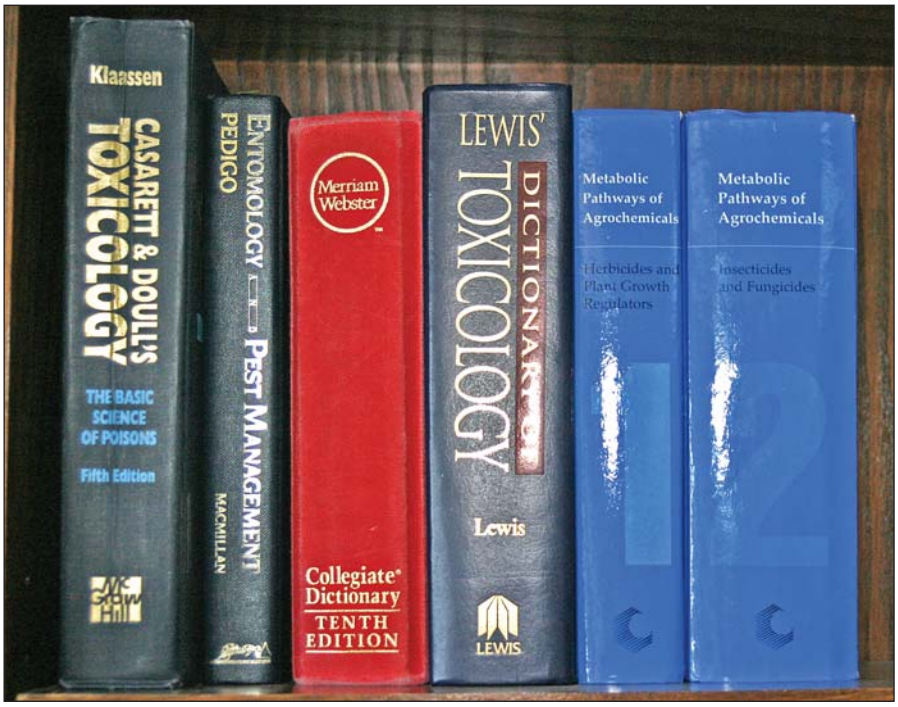
EPA Region 4 initiated radio Public Service Announcements titled *Pesticide Awareness Campaign* using four different sixty-second radio messages. The PSA's were broadcast to the general public in southwest Georgia, southwest Alabama, and northwest Florida from June 16 to July 2003. The messages warned about the consequences of incorrect pesticide use, directed callers to NPIC for more information on pesticide safety, and offered a children's activity book.

Efforts with West Nile Virus (WNV) or Mosquito Vector Control Associations - Outreach to licensed pesticide applicators through the American Mosquito Control Association (AMCA) included providing NPIC brochures to AMCA for their 70th Annual National Meeting, as well as, submission of an NPIC article for publication in the AMCA Quarterly Newsletter. The Northwest Mosquito & Vector Control Association Workshop was attended by Jeff Jenkins, who provided brochures to attendees. Additional efforts included providing brochures to the South Dakota Department of Health West Nile Virus Conference.

Efforts with Tribal Programs - NPIC materials were provided to national tribal organizations, including: National Council of Urban Indian Health (NCUIH) and the Tribal Environmental Council (TEC), reaching both Indian health care providers and stewards of the environment. Several EPA-related efforts entailed working with Georgia McDuffie of the Field and External Affairs Division (FEAD) in handing out NPIC brochures at the Tribal Pesticide Program Council (TPPC) Meeting, and a direct mailing of brochures to 11 EPA Regional Tribal offices. NPIC distributed brochures through local Indian tribal organizations for tribes currently receiving benefits from the Federal Food and Nutrition Service (FFNS) of the USDA, and further for 34 urban tribal projects affiliated with the U.S. Department of Health and Human Services (HHS), Indian Health Service (IHS).

Resources

NPIC acquired many books, reports, and other documents to supplement its library and serve as resources for Specialists in responding to pesticide inquiries.



Books acquired or purchased during the 2003 grant year include: *Pesticides on Tobacco: Federal Activities to Assess Risks and Monitor Residues*, United States General Accounting Office, March 2003; *Metabolic Pathways of Agrochemicals, Part One: Herbicides & Plant Growth Regulators,* T. Roberts, January 1998; *Metabolic Pathways of Agrochemicals, Part Two: Insecticides & Fungicides,* T. Roberts & D. Hutson, January 1999; *Handbook of Pest Control,* A. Mallis, GIE Media, Inc., 2004; *Federally Registered Pesticides Distributor Registrations,* Gresham Trade Directories, 1992; *Turf and Ornamental Reference for Plant Protection Products,* C&P Press, 2004; and *Crop Protection Handbook,* Meister Media Worldwide, 2004.

NPIC obtained the following EPA publications: *Child-Specific Exposure Factors Handbook,* September 2002; *America's Children and the Environment: Measures of Contaminants, Body Burdens and Illnesses,* February 2003; *Protecting Children in Schools from Pests and Pesticides*, February 2002; *Promoting Safety for America's Future,* May 2003; *Label Review Manual,* August 2003; *Human Health Research Strategy,* September 2003; and *EPA Headquarters Telephone Directory,* December 2003.

NPIC acquired the following EPA, Office of Pesticide Programs, Reregistration Eligibility Decision documents: *Atrazine (IRED),* January 2003; *Diazinon (IRED),* August 2003; *Dicrotophos (IRED),* April 2003; *Ethoprop (IRED),* June 2002; *Fenamiphos (IRED),* May 2003; *Methamidiphos (IRED),* April 2003; *Methyl Parathion (IRED),* May 2003; *Naled (IRED),* January 2003; *Oxydemeton Methyl* (IRED), August 2002; *Propargite,* September 2001; *Dinocap (RED),* March 2003; *Diuron (TRED),* July 2003;

Fernarimol (TRED), August 2002; *Primixulfuron-methyl (TRED),* July 2002; *Dinocap (RED),* May 2003; *Imazilil (TRED),* July 2002; *Hydroxytetracycline Monohydrochloride and Oxytetracyline Calcium (RED),* March 1993; *Carbaryl (IRED),* July 2003; *M-Cresol and Xylenol (RED),* September 1994; *Sodium Acifluorfen (RED),* September 2003; *Atrazine (IRED),* January 2003; and *Dicrotophos (IRED),* April 2002. NPIC maintains a collection of 283 Eligibility Decisions, including REDs, IREDs, and TREDs.

NPIC added the following publications from NIEHS, National Toxicology Program (NTP), to its library this year: *The National Toxicology Program - Annual Plan Fiscal Year 2002,* January 2002; *Toxicological Profile for: Atrazine,* September 2003; *Toxicological Profile for: Fluorides, Hydrogen Fluoride, and Fluorine (Update),* September 2003; *Toxicological Profile for: Malathion,* September 2003; *Toxicological Profile for: Sulfur Mustard (Update),* September 2003; *Toxicological Profile for: Selenium (Update),* September 2003; *Toxicological Profile for: Pyrethrins and Pyrethroids,* September 2003; *Toxicology and Carcinogenesis Studies of 1,4-Dichlorobenzene,* January 1987; *Toxicology and Carcinogenesis Studies of Oxytetracycline Hydrochloride,* January 1987; *Toxicology and Carcinogenesis Studies of Methyl Methacrylate,* October 1986; *Toxicology and Carcinogenesis Studies of Dimethyl Chloride (1-Chloro-2-Methylpropene),* August 1986; *Toxicology and Carcinogenesis Studies of Ampicillin Trihydrate,* April 1987; *Toxicology and Carcinogenesis Studies of Chlorpheniramine Maleate,* September 1986; *Toxicology and Carcinogenesis Studies of 2,4-Hexadienal,* October 2003; and *NTP Technical Report on the Toxicity Studies of Butanal Oxime,* January 2004.

World Health Organization International Programme on Chemical Safety publications received by NPIC include: *Concise International Chemical Assessment Document No. 45, Ethylene Glycol: Human Health Aspects,* 2002; *Concise International Chemical Assessment Document No. 44, Silver & Silver Compounds: Environmental Aspects,* 2002; *Concise International Chemical Assessment Document No. 47, Arsine: Human Health Aspects,* 2002; *Concise International Chemical Assessment Document No. 46, Carbon Disulfide* 2002; *Concise International Chemical Assessment Document No. 51, 1,1-Dichloroethene Vinylidene Chloride*, 2003; *Concise International Chemical Assessment Document No. 52, Diethylphthalate,* 2003; *Concise International Chemical Assessment Document No. 53, Hydrogen Sulfide: Human Health Aspects,* 2003; *Concise International Chemical Assessment Document No. 54, Ethylene Oxide,* 2003; *Concise International Chemical Assessment Document No. 55, Polychlorinated Biphenyls: Human Health Aspects,* 2003; *Concise International Chemical Assessment Document No. 56, 1,2,3-Trichloropropane,* 2003; *Environmental Health Criteria 229, Selected Nitro- and Nitro-oxy-polycyclic Aromatic Hydrocarbons,* 2003; *Pesticide Residues in Food,* 2002; *Evaluations Part II, Toxicological,* 2002; *Environmental Health Criteria 230: Nitrobenzene,* 2003; *Concise International Chemical Assessment Document No. 48, 4-Chloroaniline,* 2003; *Concise International Chemical Assessment Document No. 49, Thiourea,* 2003; and *Concise International Chemical Assessment Document No. 50, Elemental Mercury and Inorganic Mercury Compounds: Human Health Aspects,* 2003.

Other World Health Organization publications received by NPIC include: *Journal of Water and*

Health, Vol. 1, No. 1, 2003; *Journal of Water and Health*, Vol. 1, No. 2, 2003; *Environmental Health in Emergencies and Disasters*, Vol. 21, 2003; *The Right to Water,* 2003; *Health Opportunities in Development,* 2003; *Journal of Water and Health,* Vol. 1, No. 3, 2003; *Hazard Characterization for Pathogens in Food and Water,* 2003; *Guidelines for Safe Recreational Water Environments: Volume 1, Coastal and Fresh Waters,* 2003; *Climate Change and Human Health,* 2003*; Journal of Water and Health,* Vol. 1, No. 4, 2003*; Assessing Microbial Safety of Drinking Water,* 2003*;* and *Heterotrophic Plate Counts and Drinking-Water Safety,* 2003.

Other publications received by NPIC include: *2003 Threshold Limit Values & Biological Exposure Indices*, American Conference of Governmental Industrial Hygienists (ACGIH), 2003; *Public Health Pest Control Training & Mosquito Management,* NDSU Extension Service, May 2003; *40 Code of Federal Regulations: Protection of Environment, Parts 150 to 189*, National Archives and Records Administration, July 2002; *40 Code of Federal Regulations: Food and Drugs, Parts 170 to 199*, National Archives and Records Administration, July 2003; *Poncho, Pflanzenschutz-Nachrichten*, Bayer Crop Science, 2003; *Fentrazamide, Pflanzenschutz-Nachrichten*, Bayer Crop Science, 2003; *Envidor, Pflanzenschutz-Nachrichten*, Bayer Crop Science, 2003; *2003 Oregon Agricultural Resources Directory*, Oregon Department of Agriculture, 2003; *Modern Marvels: The Exterminator,* The History Channel, 2002; *Understanding Pesticide Formulations,* Bayer Environmental Science; *Health Reference Series: Environmental Health Sourcebook,* Dawn D. Matthews, 2003; and *Registration Handbook for Pest Control Products Under the Pest Control Products Act and Regulations,* Pest Management Regulatory Agency of Canada, 2003.

Kristen - Pesticide Specialist

NPIC completed updating its collection of hard-copy resources pertaining to chromated copper arsenate (CCA). NPIC assessed available resources and selected documents it deemed best for providing quality responses to public inquiries. Topics include regulation, industry and consumer perspectives, wood preservation, alternatives, leaching and speciation, wood coatings, dislodgeable residues, gardening, consumer safety, resources written in Spanish, disposal, and toxicology associated with each metal. NPIC hyperlinked the documents and posted an electronic version of the collection on the NPIC Intranet for efficient access to the information.

NPIC enhanced and updated the desktop reference *Resource Book*. The book provides Specialists with a standardized, current version of commonly utilized hard-copy materials. Resource books are available at each station for use in the event of a power failure or server problem and to aid with multitasking. The resource book contains contact information for agencies best suited to address certain types of inquires. Contact information was updated for pesticide regulatory agencies, health organizations, environmental contacts, healthy home coordinators, extension educators, hazardous waste facilities, and manufacturers. New additions to the resource book include information about pet poisonings, endocrine disruption, and organic substances.

Personnel Update

NPIC hired three full-time Specialists during the 2003 grant year. One student worker was hired to assist with office support and one graduate-level student was hired to assist with active ingredient file management. Two Specialists, one student worker, and two graduate-level students resigned during this period. Recruitment for full-time Specialists and another graduate-level student is underway.

NPIC's current staff includes a full-time Project Coordinator, twelve full-time Specialists, a full-time information resource supervi-

sor, a budget/personnel assistant, and three part-time undergraduate student assistants. All Specialists have at least a bachelors degree in a scientific field; many have advanced degrees. Specialists come from a variety of scientific disciplines including toxicology, plant pathology, environmental science, biotechnology, horticulture, botany, ecology, soil science, among others.

Facilities

NPIC reallocated space to accommodate in-house staff meetings, presentations, and seminars, after losing access to its former conference area (279 Weniger). NPIC created a dedicated conference/meeting/library space in 314 Weniger and moved student assistants and support staff to 310 Weniger. NPIC also added intermittent power failure lights to the workspace to improve safety and security.

To aid in NPIC's InfoBase project, a new Dell Precision 650 workstation, along with software upgrades, to assist with the conversion of paper documents into digital files, was purchased. This will enhance NPIC's Optical Character Recognition (OCR) capabilities, by speeding up the OCR process while scanning, and enable the creation of improved Adobe PDF files from paper originals.

NPIC installed the new Sun Microsystems Sun Fire V480 server, which offers increased performance compared to the previous Sun server and improves NPIC's information delivery capacity.

NPIC purchased the following during the 2003 grant year: four Dell Precision 340 workstations and six Dell Precision 360 workstations to replace aging desktop computers; a Dell PowerEdge 2600 server to replace a failed server computer; an HP 4300DTN Auto Duplex Printer to improve infrastructure capacity; two workstation video system upgrades to improve operations; and a Dymo Labelmaker to streamline outreach mailings in response to inquiries and to track individual clientele addresses for future outreach projects.

Traffic Report

Traffic Report Summary

There are basically three main means of inquiry to NPIC - telephone, email, and the World Wide Web. For purposes of this report, use of the terms "inquiry", "inquiries", and "inquirer" generally refer to use of the telephone or email to contact NPIC. Unless otherwise specified, inquiries to NPIC via the WWW are referred to as "hits".

NPIC answered 23,609 inquiries received via phone and/or email during its ninth year of operation (April 2003 - March 2004) at Oregon State University. Most of the inquiries received by NPIC are quite sophisticated, requiring extensive expertise on the part of the Specialists to be able to provide answers which are objective, science-based and, at the same time, presented in an understandable way to the inquirer.

A summary of the number of inquiries received per month is provided in Table 1.1 and Graph 1.1. Also included in Table 1.1 is a listing of the total number of inquiries by calendar year. Most inquiries occured during the period March to October.

The types of inquiries received by NPIC are shown in Table 2.1 and Charts 2.1 and 2.2. Inquiries ranged from questions regarding general or specific information about pesticides, to reporting of incidents.

The means by which people contact NPIC is shown in Table 3.1. The telephone was by far the most important verbal contact route. However, many people accessed NPIC through its World Wide Web site.

During this year, the web site received 782,677 hits. (Table 4.1 and Graphs 4.1 - 4.6). In addition, 901 direct inquiries were made to NPIC via email.

The variety of inquirers to NPIC is shown in Table 5.1 and Chart 5.1. The predominant number of inquiries received by NPIC were from the general public.

The types of questions posed to the NPIC Specialists are presented in Table 6.1 and Chart 6.1. Most of the inquirers requested information about health-related issues.

Most of these information inquiries, and others listed in Table 6.1, were prompted by concern/knowledge of the inquirer (Table 7.1 and Charts 7.1 and 7.2). Only about 7.5% of the inquiries are to report a pesticide incident.

Most inquirers received information verbally from a Specialist (Table 8.1 and Charts 8.1 and 8.2). Some inquirers also requested and received written information. In addition, many inquiries were referred to either EPA, National Pesticide Medical Monitoring Program (NPMMP, a cooperative project between Oregon State University and the U.S. EPA to provide medical consultation and follow-up to potential pesticide exposures), or a state lead agency (such as a State Department of Agriculture).

The inquirers to NPIC represented all 50 states, as well as Canada and other foreign nations. Table 9.1 shows the number of inquiries from each of the states, Puerto Rico, the Virgin Islands, and other locations. The 10 states where most of the inquiries were from is presented in Graph 9.1. Residents from California, Texas, and New York initiated the greatest number of inquiries. Also shown in Table 9.1 and presented in Graph 9.2 are the number of inquiries from each of the EPA regions.

The total number of inquiries, as well as the number of information and incident inquiries, for the 25 most asked about pesticide active ingredients are presented in Table 10.1. For incident inquiries, the value shown in parentheses indicates the number of incidents with a certainty index of 1 (definite) or 2 (probable). The 10 active ingredients mentioned most often in all inquiries are presented in Graph 10.1.

The 25 active ingredients most frequently mentioned in incident inquiries are listed in Table 11.1. Incident inquiries are further classified by entity type. The 10 active ingredients most often mentioned in incident inquiries are presented in Graph 11.1.

The locations where pesticide incidents were purported to have occurred are shown in Table 12.1. Of those inquiries where the location was reported, most incidents occurred in or around the home.

The environmental impact of the pesticides involved in incidents is shown in Table 13.1.

The incident inquiries are further categorized by whether the incident involved a human, animal, or building/other (Table 14.1 and Graph 14.1). The incident inquiries for each entity type are qualified by the certainty index. The certainty index is an estimate by NPIC as to whether the incident was either definitely (1), probably (2), possibly (3), or unlikely (4) to have been caused by exposure to a pesticide, or whether the incident was unrelated (5) to pesticides. A certainty index of zero (0) reflects those inquiries where the inquirer reported being exposed to a pesticide, but no symptoms were present. For human entities presented in Table 14.1, the certainty index is further categorized by gender and group.

Table 15.1 and Chart 15.1 list the descriptions for the entities involved in incidents, as female, male, groups, animals, and other.

Reported symptoms are shown in Table 16.1 and Charts 16.1 and 16.2. Symptoms provided by inquirers were either symptomatic, asymptomatic, or atypical.

The number of deaths, life threatening, or interesting/strange cases, due to a potential pesticide exposure, is shown in Table 17.1 and Chart 17.1.

Ages were available for some of the entities and are presented in Table 18.1 and Graph 18.1.

Traffic Report Tables and Figures

Specialists record pertinent information for every inquiry received at NPIC via telephone or email. This information is entered into the NPIC Pesticide Incident Database (PID), an electronic database used to record information for all inquiries to NPIC. Broadly speaking, there are two types of inquiries received by NPIC: 1) those for general or specific information about pesticides and pesticide-related issues and 2) inquiries about pesticide incidents. For example, an inquirer might ask a question about 'pesticides in foods' (a general information inquiry) or about the toxicity of a particular pesticide (a pesticide-specific information inquiry). An inquiry to report an exposure to a pesticide is an example of an incident inquiry. The type and amount of information entered into the PID depends on whether the inquiry was for information or to report a pesticide incident.

Information collected and entered into the PID for information inquiries includes: origin of inquiry (e.g., telephone or e-mail), state from which the inquiry originated, type of person (e.g., general public, government agency, or medical personnel), type of inquiry (e.g., request for pesticide information or report of pesticide incident), reason for inquiry (e.g., concern/knowledge in the case of information inquiries), and action required (e.g., verbal information, referral, or mailed information). If a specific pesticide product or active ingredient is discussed, the product and/or active ingredient is entered into the database.

When incidents are reported, more detailed and specific information is recorded, including: type of incident (e.g., exposure, spill, drift), location of the incident and information about the entity, including age, gender, nature of the exposure, and reported symptoms. For incidents involving reported human or animal health effects, and for environmental incidents, a certainty index is assigned. The certainty index is an estimate by NPIC (based on information provided by the inquirer) as to the likelihood that the reported effects were caused by exposure to a pesticide. Additionally, if an incident involves an environmental impact, the nature of the impact is recorded in the database (e.g., impact to air, water, or soil).

Following is a summary of selected data from the NPIC Pesticide Incident Database for the 2003 NPIC operational year:

1. Monthly Inquiries

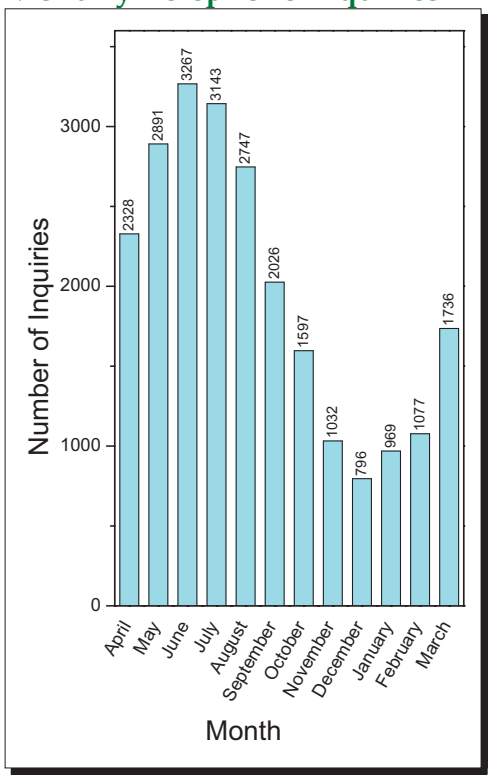
NPIC received 23,609 inquiries via telephone and/or email during the 2003 grant year. Graph 1.1 shows the number of inquiries received for each month. Eighty-four percent of the inquiries were received between March and October, coinciding with that part of the year when most pest pressures are highest. Total inquiries received during previous grant and calendar years is provided for comparison in Table 1.1.

Table 1.1 - Monthly Telephone Inquiries

Month	Number of Inquiries				
	1999	2000	2001	2002	2003
April	2266	2121	2358	2650	2328
May	2520	2680	3118	2942	2891
June	2693	3296	3097	3060	3267
July	2629	2901	3045	3154	3143
August	2342	2770	2676	3326	2747
September	2141	2059	1642	2187	2026
October	1671	1696	1621	1664	1597
November	1232	1177	1171	1030	1032
December	817	795	825	839	796
January	1137	983	1142	1050	969
February	1393	997	1224	1067	1077
March	1880	1572	1592	1580	1736
Calendar[1] Yr Tot	22275	23911	23105	24810	23524
Grant[2] Yr Tot	22721	23047	23511	24549	23609

[1] April 1 through December 31 for 1995; January 1 through December 31, other years.
[2] April 1 through March 31.

Graph 1.1 - Monthly Telephone Inquiries



Sunny - Pesticide Specialist

NPIC Pesticide Specialists deliver information in a user-friendly manner and are adept at communicating scientific information to the lay public...

2. Type of Inquiry

NPIC classifies inquiries as information, incident, or other (non-pesticide) inquiries. The types of inquiries are summarized in Table 2.1 and Charts 2.1 and 2.2.

The majority of inquiries (20,966 or 88.8%) to NPIC were information inquiries in which the inquirer requested information about pesticides or pesticide-related matters (Chart 2.1). Information inquiries may involve a discussion of a specific pesticide, or of pesticides in general. NPIC responded to 9,907 (42.0%) information inquiries about specific pesticides, for example: a) Inquirer received neighbor notification of pesticide application to lawn. She wanted to know about product Dragnet FT Termiticide/Insecticide, active ingredient permethrin; and b) Inquirer stated that PCO plans to use "Tempo SC Ultra" in her yard as a tick treatment. She wanted to know about health effects.

NPIC responded to 11,056 (46.8%) inquiries relating to pesticides in general, for example: Inquirer read an article in her local newspaper notifying locals of pesticide applications to control mosquitoes. She is concerned about the health risks to her family and the family bunny posed by the pesticides.

NPIC responded to 1,777 (7.5%) inquiries about pesticide incidents. A pesticide incident is a spill, a misapplication, a contamination of a non-target entity, or any purported exposure to a pesticide, regardless of injury. The majority of incident inquiries involved human and animal entities (Chart 2.2). Of the 1,777 incident inquiries, 718 (40.4%) involved a human entity, 763 (42.9%) involved an animal entity, and 296 (16.7%) involved damage to a building such as a home or office.

NPIC also took 869 (3.7%) inquiries that were not related to pesticides, for example: a) Inquirer asked if grape ivy toxic to cats. Her cat is acting funny and may have eaten part of houseplant; and 2) Inquirer stated an odor is coming into his house. He requested information on which detectors to use. He did not know what the odor was.

Table 2.1 - Type of Inquiry

Type of Inquiry	Number of Inquiries				
	1999	2000	2001	2002	2003
Information - Specific Pesticide	8595	9941	9952	10831	9907
Information - General Pesticide	10951	10093	11049	11152	11056
Incidents	1962	2193	1916	1884	1777
Human Incidents	1258	1215	952	826	718
Animal Incidents	426	561	583	740	763
Building/Other	278	416	381	318	296
Other - Non-Pesticide	1213	820	593	682	869
Grant Year Total =	22721	23047	23511	24549	23609

Chart 2.1 - Type of Inquiry

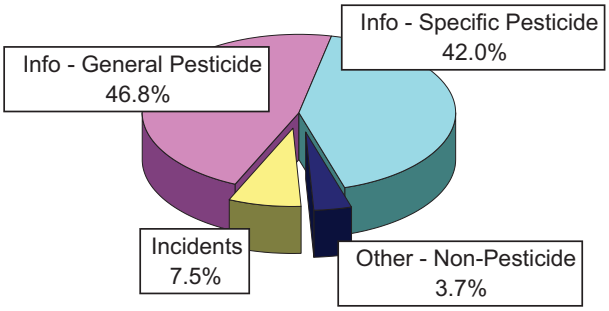
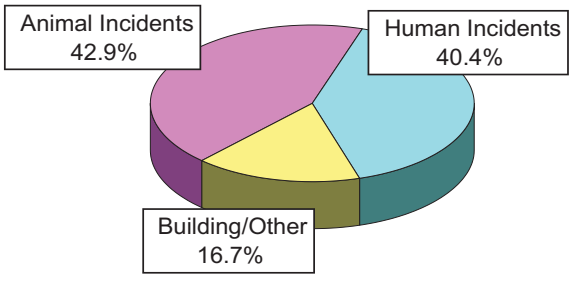


Chart 2.2 - Incidents



3. Origin of Inquiry

Table 3.1 summarizes the origin of inquiries received by NPIC. Most inquiries are received by telephone. Of the 23,609 inquiries, 21,999 (93.2%) were received by telephone, 671 (2.9%) were recorded by a voice mail system, 24 (0.1%) were received by postal mail, 12 were walk-in inquires, and 901 (3.8%) were by email.

Table 3.1 - Origin of Inquiry

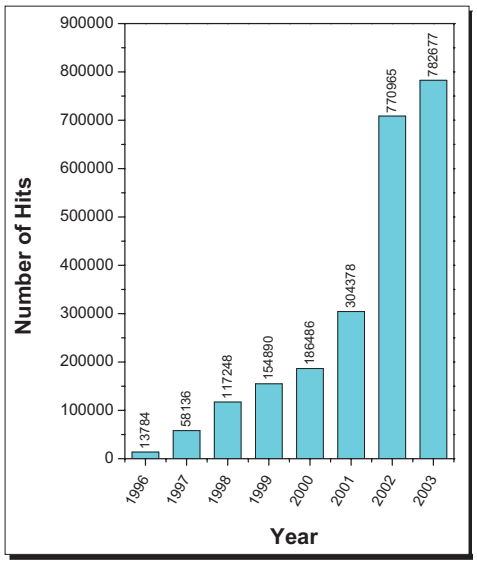
Origin of Inquiry	Number of Inquiries				
	1999	2000	2001	2002	2003
Telephone	21769	21838	22163	23094	21999
Voice Mail	483	615	660	607	671
Mail	73	48	46	45	24
Walk In	7	2	6	2	12
E-Mail	380	544	620	795	901
Other	9	0	16	6	2
Grant Year Total =	22721	23047	23511	24549	23609

Read the Label *First!*

4. Web Site Access

The NPIC World Wide Web site continues to be a popular source of information for NPIC clientele. The NPIC web site received 782,677 hits. Graph 4.1 shows the number of total hits per grant year. Table 4.1 and Graph 4.2 summarizes the number of web site hits to NPIC main web pages. Graph 4.3 shows the number of hits for emergency-related information. The number of hits (168,545) to the NPIC West Nile virus web pages is shown in Graph 4.4. Hits to case profiles, a new NPIC project, are shown in Graphs 4.5 and 4.6. Further, Graphs 4.7 and 4.8 detail the number of hits for NPIC fact sheets (>110,000 hits). Web hits are another form of inquiry to NPIC, in addition to telephone and email.

Graph 4.1 - Hits per Year



Graph 4.3 - Hits to Emergency Information Pages

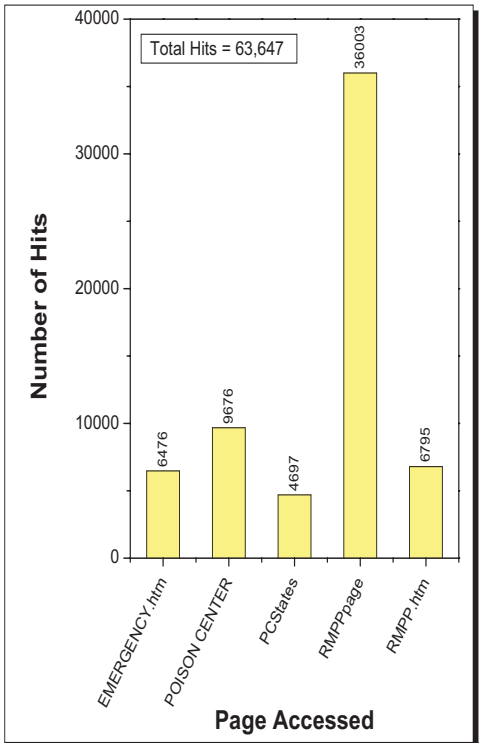
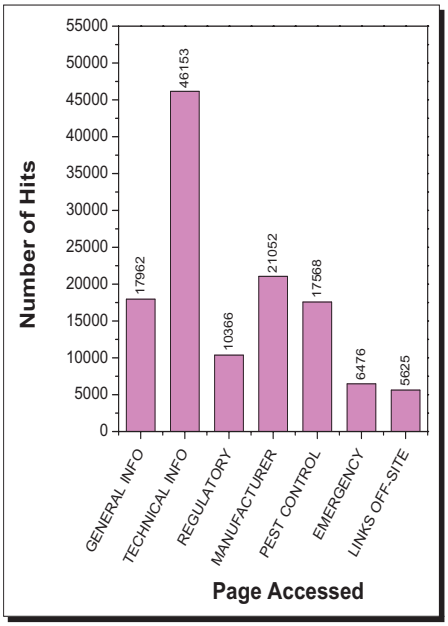


Table 4.1 - Web Hits

Page Accessed	# of Hits NPIC
General Information	17962
Technical Information	46153
Fact Sheets	111293
State Regulatory Agencies	22959
Recognition & Management of Pesticide Poisoning	42978
Manufacturer Info	21052

Graph 4.2 - Hits to NPIC Main Web Pages

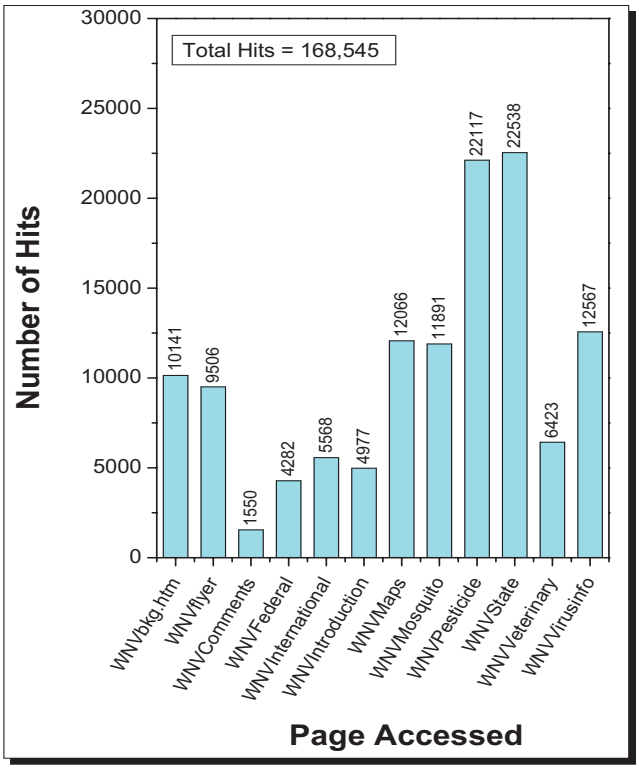


Feedback from Web Site Comment Form -

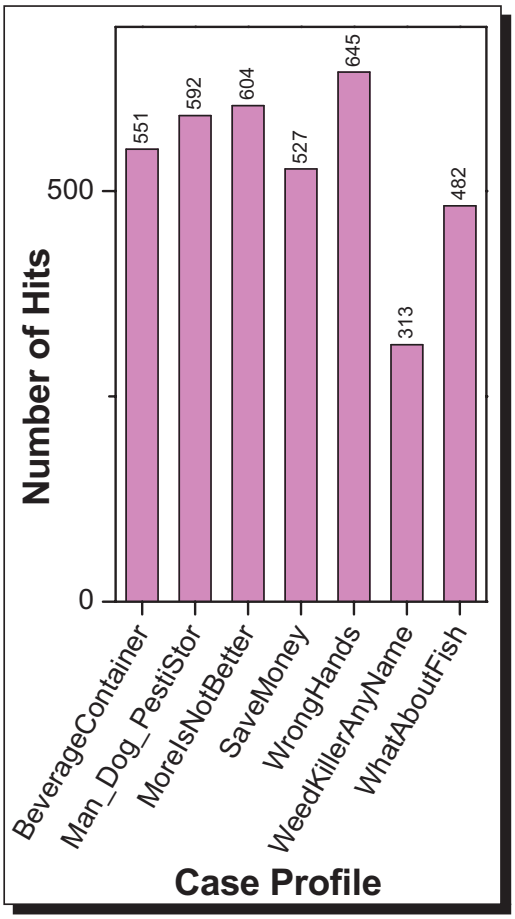
""I found this site through a Google search. I was looking for information on equine fly spray ingredients. The fact sheets are great and in understandable language!!! I know I will visit this site often.

Thank you for this information source."

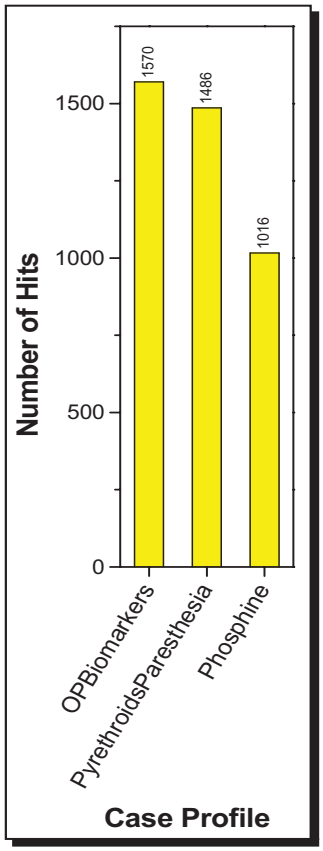
Graph 4.4 - Hits to WNV Pages

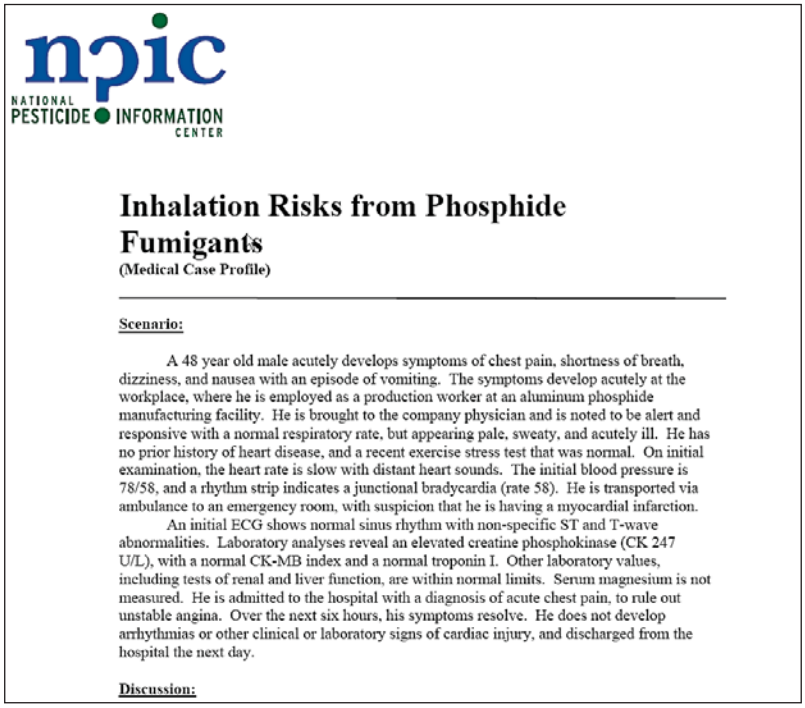


Graph 4.5 - Hits to Case Profiles



Graph 4.6 - Hits to Medical Case Profiles





NATIONAL PESTICIDE INFORMATION CENTER

Inhalation Risks from Phosphide Fumigants

(Medical Case Profile)

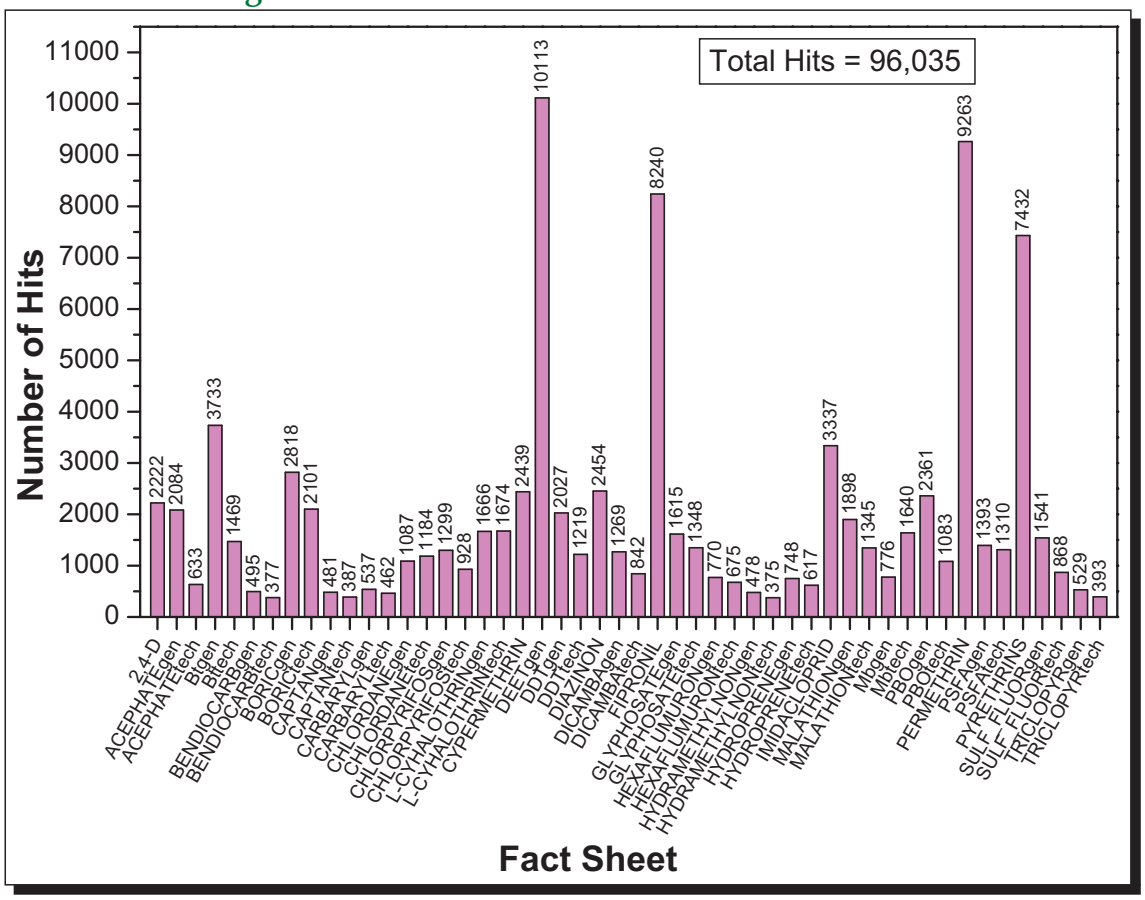
Scenario:

A 48 year old male acutely develops symptoms of chest pain, shortness of breath, dizziness, and nausea with an episode of vomiting. The symptoms develop acutely at the workplace, where he is employed as a production worker at an aluminum phosphide manufacturing facility. He is brought to the company physician and is noted to be alert and responsive with a normal respiratory rate, but appearing pale, sweaty, and acutely ill. He has no prior history of heart disease, and a recent exercise stress test that was normal. On initial examination, the heart rate is slow with distant heart sounds. The initial blood pressure is 78/58, and a rhythm strip indicates a junctional bradycardia (rate 58). He is transported via ambulance to an emergency room, with suspicion that he is having a myocardial infarction.

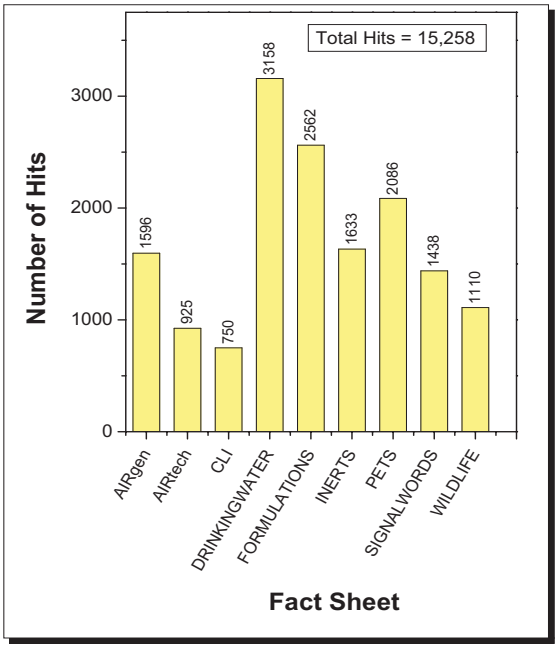
An initial ECG shows normal sinus rhythm with non-specific ST and T-wave abnormalities. Laboratory analyses reveal an elevated creatine phosphokinase (CK 247 U/L), with a normal CK-MB index and a normal troponin I. Other laboratory values, including tests of renal and liver function, are within normal limits. Serum magnesium is not measured. He is admitted to the hospital with a diagnosis of acute chest pain, to rule out unstable angina. Over the next six hours, his symptoms resolve. He does not develop arrhythmias or other clinical or laboratory signs of cardiac injury, and discharged from the hospital the next day.

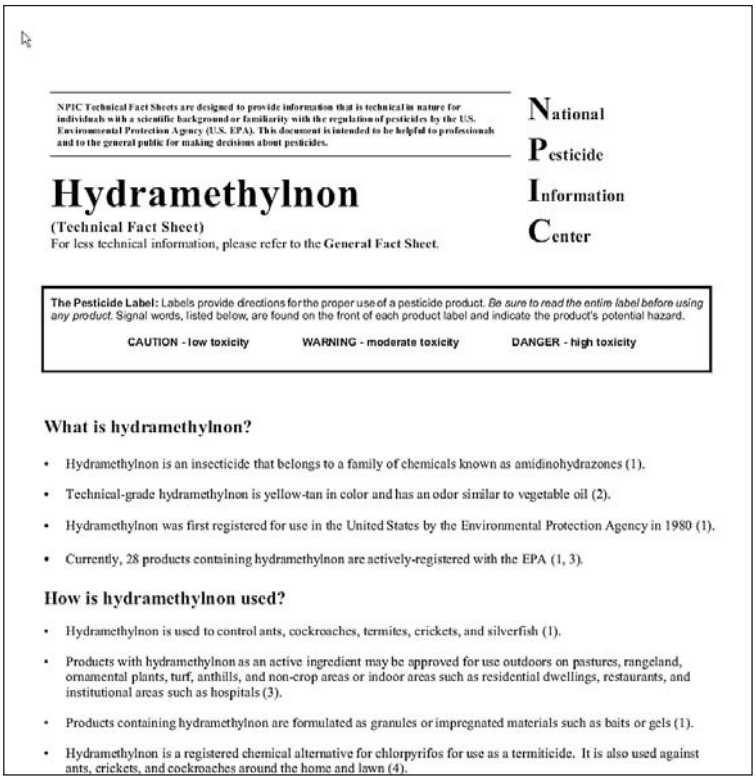
Discussion:

Graph 4.7 - Hits to Active Ingredient Fact Sheets



Graph 4.8 - Hits to Topic Fact Sheets





NPIC Technical Fact Sheets are designed to provide information that is technical in nature for individuals with a scientific background or familiarity with the regulation of pesticides by the U.S. Environmental Protection Agency (U.S. EPA). This document is intended to be helpful to professionals and to the general public for making decisions about pesticides.

National Pesticide Information Center

Hydramethylnon

(Technical Fact Sheet)

For less technical information, please refer to the General Fact Sheet.

The Pesticide Label: Labels provide directions for the proper use of a pesticide product. *Be sure to read the entire label before using any product.* Signal words, listed below, are found on the front of each product label and indicate the product's potential hazard.

CAUTION - low toxicity | WARNING - moderate toxicity | DANGER - high toxicity

What is hydramethylnon?

- Hydramethylnon is an insecticide that belongs to a family of chemicals known as amidinohydrazones (1).
- Technical-grade hydramethylnon is yellow-tan in color and has an odor similar to vegetable oil (2).
- Hydramethylnon was first registered for use in the United States by the Environmental Protection Agency in 1980 (1).
- Currently, 28 products containing hydramethylnon are actively-registered with the EPA (1, 3).

How is hydramethylnon used?

- Hydramethylnon is used to control ants, cockroaches, termites, crickets, and silverfish (1).
- Products with hydramethylnon as an active ingredient may be approved for use outdoors on pastures, rangeland, ornamental plants, turf, anthills, and non-crop areas or indoor areas such as residential dwellings, restaurants, and institutional areas such as hospitals (3).
- Products containing hydramethylnon are formulated as granules or impregnated materials such as baits or gels (1).
- Hydramethylnon is a registered chemical alternative for chlorpyrifos for use as a termiticide. It is also used against ants, crickets, and cockroaches around the home and lawn (4).

5. Type of Inquirer

Graph 5.1, Table 5.1, and Chart 5.1 summarize the profession/occupation of individuals contacting NPIC. The majority of inquiries made to NPIC are from the general public. Of the 23,609 inquiries received, there were 20,443 (86.6%) from the general public; 921 (3.9%) from federal, state, or local government agencies; 563 (2.4%) from human and animal medical personnel; 589 (2.5%) from information groups including the media, unions, environmental organizations and pesticide manufacturing or marketing companies; 624 (2.6%) from consumer users including legal or insurance representatives, laboratory or consulting personnel, pest control operators, retail store personnel, or farm personnel; and 435 (1.8%) inquiries from other professions/occupations.

Table 5.1 - Type of Inquirer

Type of Inquirer	Number of Inquiries				
	1999	2000	2001	2002	2003
General Public	20041	20209	20351	21537	20443
Federal/State/Local Agency					
Health Agency	143	104	86	133	116
Government Agency	572	605	611	519	221
Enforcement Agency	11	2	23	111	387
Schools/Libraries	154	209	336	241	165
Fire Department	28	26	39	33	32
Medical Personnel					
Human Medical	351	290	315	333	315
Animal Vet./Clinic	195	252	268	230	238
Migrant Clinic	9	4	8	7	10
Information Groups					
Media	133	142	111	145	121
Unions/Info. Service	61	51	75	72	180
Environmental Org.	156	113	100	102	82
Pesticide Mfg./Mktg. Co.	106	136	173	174	202
Consumer Users					
Lawyer/Insurance	76	107	98	72	62
Lab./Consulting	105	100	80	65	56
Pest Control	131	149	183	196	161
Retail Store	154	197	286	257	308
Farm	50	44	63	58	37
Other	245	307	270	233	435
Grant Year Total =	22721	23047	23511	24549	23571

Graph 5.1 - Type of Inquirer

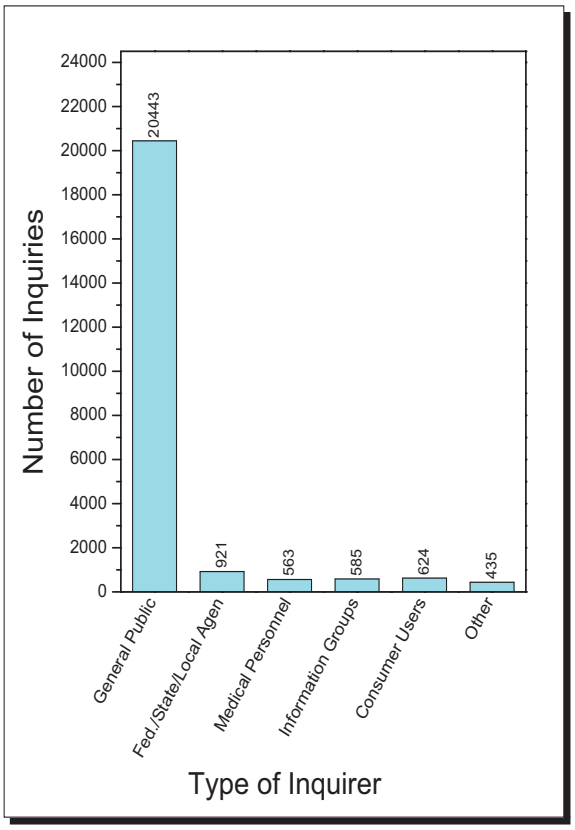
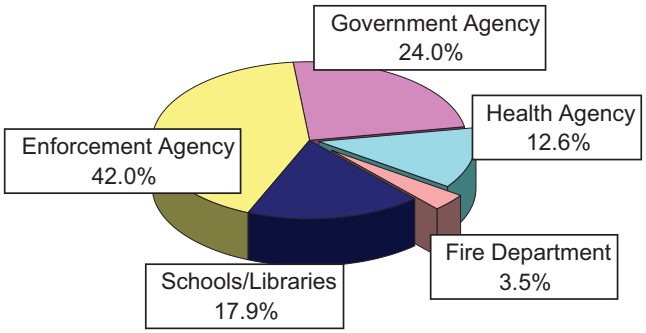


Chart 5.1 - Inquiries - Governmental Agencies



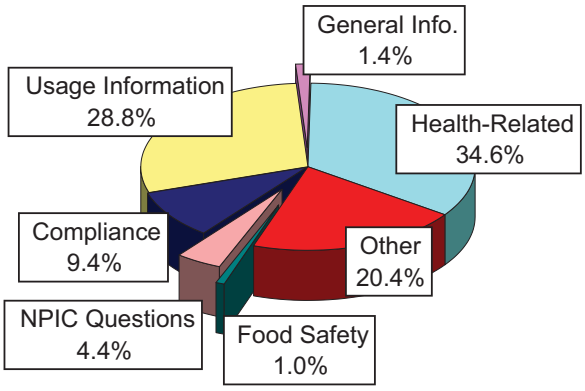
6. Type of Question

The types of questions received at NPIC are most often related to health effects of pesticides (Chart 6.1 and Table 6.1). NPIC responded to 8,178 (34.6%) inquiries related to health effects of pesticides, including inquiries about general health, treatment and testing, and laboratory questions. In addition, there were 6,794 (28.8%) inquiries involving requests for pesticide usage information, including questions about use on specific pests or crops, chemical information, pros and cons of application, safety and application questions, cleanup questions, questions about preharvest intervals, and lawn care usage questions. NPIC also responded to 2,223 (9.4%) inquiries involving compliance questions, including questions about regulations, disposal, and complaints. Lastly, there were 227 (1.0%) inquiries about other food safety issues, 323 (1.4%) inquiries involving general pesticide questions, 1,042 (4.4%) inquiries involving questions about NPIC, and 5,045 (20.4%) inquiries not classified according to type of question.

Table 6.1 - Type of Question

Type of Question	Number of Inquiries				
	1999	2000	2001	2002	2003
Health Related					
Health	8976	8717	9283	9287	7850
Treatment	151	100	125	125	159
Testing Lab.	84	104	97	86	169
Usage Information					
Pest/Crop	1846	1570	1732	2292	1918
Chemical	2196	2482	2342	2252	824
Pros and Cons	55	74	65	67	75
Safety/Application	686	2038	2446	2885	3559
Cleanup	270	376	290	274	255
Harvest Intervals	64	123	111	88	123
Lawn Care	30	30	18	12	40
Compliance					
Regulations	1587	1427	1587	1565	1597
Complaints	288	321	390	506	492
Disposal	174	211	178	165	134
FQPA	31	10	5	0	0
Food Safety	227	189	234	237	227
Consumer Report Article	5	5	12	0	0
General	619	544	325	201	323
NPIC Questions	1185	918	1139	1125	1042
Non-Pesticide Related	1	12	1	6	3
Other	4246	3796	3129	3376	5045
Grant Year Total =	22721	23047	23511	24549	23608

Chart 6.1 - Type of Question



7. Reason for Inquiry

Specialists identify the reason for inquiry for all inquiries received by NPIC (Table 7.1 and Charts 7.1 and 7.2). The reason for inquiry for all information inquiries is Concern/Knowledge. The reason for inquiry for incident inquiries varies according to the nature of the incident. Of the 1,777 inquiries for which a reason was available, there were 1,389 (78.2%) about pesticide exposure, and 334 (18.8%) about accidents. There were 24 (1.4%) inquiries about odor only, and 30 (1.7%) inquiries for other reasons. The reason for all other (non-pesticide) inquiries is N/A–Unknown.

Chart 7.1 - Pesticide Exposures

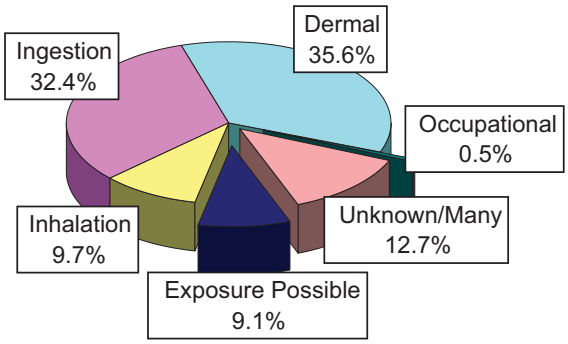


Chart 7.2 - Pesticide Accidents

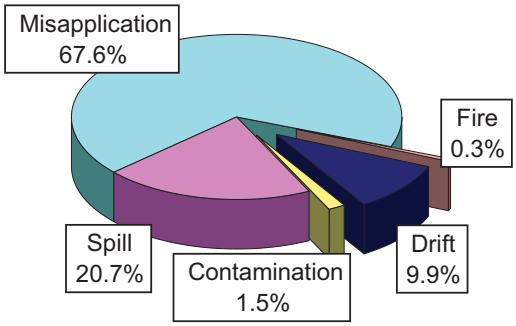


Table 7.1 - Reason for Inquiry

Reason for Inquiry	Number of Inquiries				
	1999	2000	2001	2002	2003
Information Inquiries					
Concern/Knowledge	20474	20719	21465	22586	21476
Incident Inquiries					
Exposures					
Dermal - Acute	293	336	315	496	482
Dermal - Chronic	15	4	10	10	12
Ingestion - Acute	298	382	359	400	443
Ingestion - Chronic	4	3	3	6	7
Inhalation - Acute	308	248	153	140	115
Inhalation - Chronic	25	6	18	12	20
Exposure Possible	314	324	215	150	127
Unknown/Many	211	258	268	219	176
Occupational	17	23	26	20	7
Accidents					
Misapplic. - Homeowner	137	189	198	172	165
Misapplic. - PCO	70	72	59	41	37
Misapplic. - Other	37	31	31	17	24
Spill - Indoor	75	115	102	74	59
Spill - Outdoor	20	19	25	19	10
Contamination - Home	6	11	2	3	3
Contamination - Other	9	11	7	2	2
Drift	60	62	48	49	33
Fire - Home	1	1	1	0	0
Fire - Other	1	3	1	0	1
Industrial Accident	0	0	0	0	0
Odor Only	55	77	55	32	24
Testing Laboratory	1	0	1	0	0
Other	21	39	27	22	30
N/A-Unknown	269	114	122	79	356
Grant Year Total =	22721	23047	23511	24549	23609

8. Action Taken

NPIC Specialists respond to inquiries in many ways, including the provision of verbal information, referrals to other agencies or organizations, and hard-copy information sent by mail, fax, or email. Actions taken by Specialists in response to inquiries are summarized in Table 8.1, and Charts 8.1 and 8.2. Most inquiries (21,671; 91.8%) were answered by providing verbal information to the inquirer. If Specialists determine that other agencies or organizations are better able to respond to an inquiry than NPIC, a referral is made. Referrals were made for 468 (2.0%) inquiries. Common NPIC referrals were to the EPA, state lead agencies or the National Pesticide Medical Monitoring Program; to county extension services; and to Oregon Poison Center and National Animal Poison Control Center. Some inquirers (1,470; 6.2%) received hard-copy information via mail, fax, or email.

Table 8.1 - Action Taken

Action Taken	Number of Inquiries				
	1999	2000	2001	2002	2003
Verbal Information	17070	19277	21318	22660	21671
Referrals to:					
EPA, State Lead Agencies, National Pesticide Medical Monitoring Program	1245	708	613	407	205
County Extension	1435	495	109	144	68
Oregon Poison Center	72	43	77	59	71
National Animal Poison Control Center	81	112	111	87	97
National Antimicrobial Information Network	213	207	202	0	0
Other Organizations	1992	1475	316	113	27
Mailed Information, Brochure, Publication	472	611	664	822	1018
Other/FAXED Information	141	119	101	257	452
Grant Year Total =	22721	23047	23511	24549	23609

Chart 8.1 - Action Taken

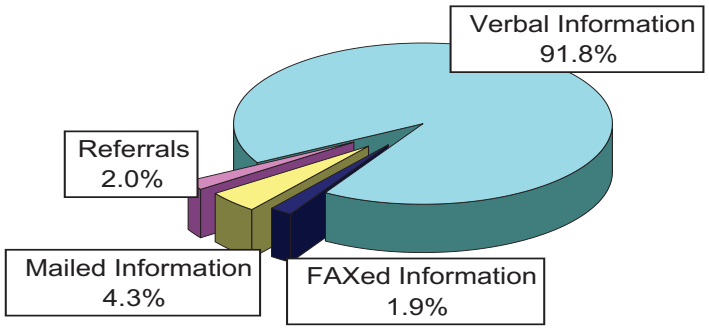
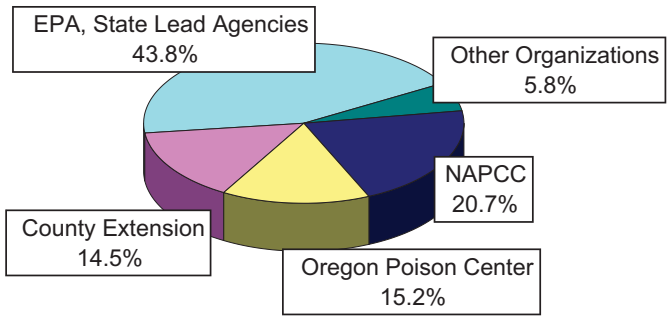


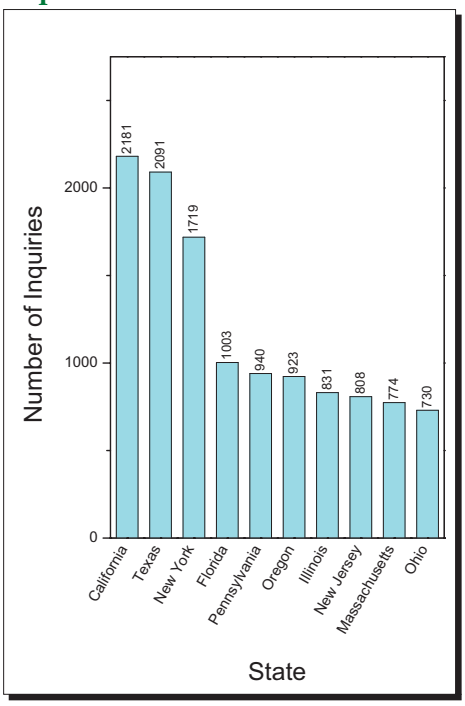
Chart 8.2 - Referrals Made



9. Inquiries by State

Table 9.1 lists the number of inquiries received by NPIC from each state. The largest number of inquiries were received from California, Texas, and New York (Graph 9.1) - states ranked 1, 3, and 2, respectively, in terms of population. Graph 9.2 summarizes inquiries by EPA region. NPIC received 13.9% of inquiries from Region 5, 13.4% from Region 4, 11.5% from Region 6, 11.4% from Region 9, and 11.0% from Region 3.

Graph 9.1 - Top 10 States



Graph 9.2 - Inquiries by EPA Region

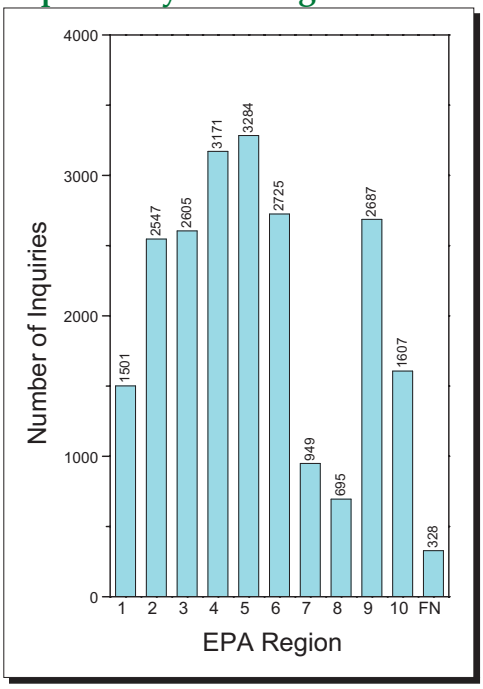


Table 9.1 - Listing of States and Foreign Nations Using NPIC

EPA Region	State Code	State	# of Inquiries
		Not recorded	1510
10	AK	Alaska	42
4	AL	Alabama	233
6	AR	Arkansas	156
9	AZ	Arizona	319
9	CA	California	2181
FN	CN	Canada	159
8	CO	Colorado	353
1	CT	Connecticut	323
3	DC	DC	271
3	DE	Delaware	62
4	FL	Florida	1003
FN	FN	Foreign	169
4	GA	Georgia	484
9	HI	Hawaii	77
7	IA	Iowa	250
10	ID	Idaho	106
5	IL	Illinois	831
5	IN	Indiana	340
7	KS	Kansas	182
4	KY	Kentucky	239
6	LA	Louisiana	193
1	MA	Massachusetts	774
3	MD	Maryland	615
1	ME	Maine	89
5	MI	Michigan	654
5	MN	Minnesota	388
7	MO	Missouri	355
4	MS	Mississippi	105
8	MT	Montana	85
4	NC	North Carolina	580
8	ND	North Dakota	58
7	NE	Nebraska	163
1	NH	New Hampshire	142
2	NJ	New Jersey	808
6	NM	New Mexico	117
9	NV	Nevada	111
2	NY	New York	1719
5	OH	Ohio	730
6	OK	Oklahoma	167
10	OR	Oregon	923
3	PA	Pennsylvania	940
2	PR	Puerto Rico	19
1	RI	Rhode Island	103
4	SC	South Carolina	207
8	SD	South Dakota	41
4	TN	Tennessee	319
6	TX	Texas	2091
8	UT	Utah	126
3	VA	Virginia	584
2	VI	Virgin Islands	3
1	VT	Vermont	70
10	WA	Washington	535
5	WI	Wisconsin	343
3	WV	West Virginia	130
8	WY	Wyoming	32
		Total =	23609

10. Top 10 Active Ingredients for All Inquiries

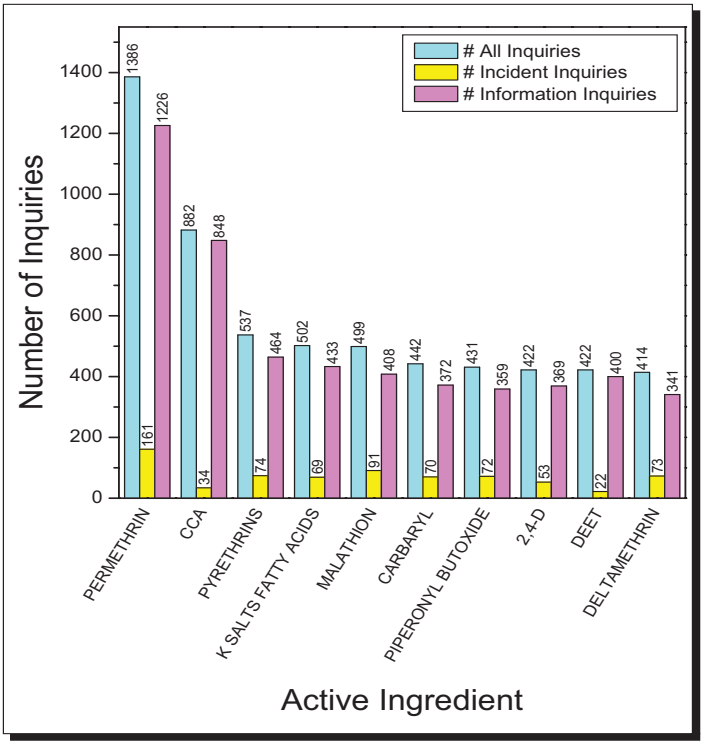
When inquiries to NPIC involve discussion of a specific product or active ingredient, Specialists record the product and the active ingredient in the NPIC Pesticide Incident Database. The active ingredient permethrin was discussed in more inquiries than any other single active ingredient (Table 10.1). Of the 1,386 inquiries involving permethrin, 161 (11.6%) were incident inquiries and 1,226 (88.4%) were inquiries for information. See Table 10.1 and Graph 10.1 for this and similar information for the 25 active ingredients most commonly discussed in inquiries made to NPIC. Note that an inquiry may involve discussion of more than one active ingredient; thus totals reflect the number of times active ingredients are discussed during all inquiries. Table 10.1 also shows the number of times a certainty index of 1 or 2 was assigned to these incident inquiries. The certainty index is an estimate by NPIC as to whether the incident was definitely (1), probably (2), possibly (3), or unlikely (4) to have been caused by exposure to a pesticide, or whether the incident was unrelated (5) to pesticides. A certainty index of zero (0) is assigned to those inquiries where the inquirer reported an exposure, accident, or odor, but no health effects were reported. Of the 161 times that permethrin was mentioned during incident inquiries in which effects were reported, 16.8% of the cases were assigned a certainty index of 1 (definite) or 2 (probable).

Table 10.1 - Top 25 Active Ingredients for All Inquiries

Active Ingredient	Total Inquiries	Incident[1)] Inquiries	Information Inquiries
PERMETHRIN	1386	161 (27)	1226
CHROMATED COPPER ARSENATE	882	34 (0)	848
PYRETHRINS	537	74 (9)	464
POTASSIUM SALTS OF FATTY ACIDS	502	69 (0)	433
MALATHION	499	91 (6)	408
CARBARYL	442	70 (3)	372
PIPERONYL BUTOXIDE	431	72 (13)	359
2,4-D	422	53 (0)	369
DEET	422	22 (1)	400
DELTAMETHRIN	414	73 (7)	341
FIPRONIL	369	41 (1)	328
METALDEHYDE	361	171 (30)	190
PETROLEUM HYDROCARBONS	331	24 (1)	307
CAPSAICIN	310	27 (5)	283
BACILLUS THURINGIENSIS	304	19 (0)	285
DIAZINON	300	57 (5)	245
DICAMBA	290	36 (0)	254
RESMETHRIN	290	23 (0)	267
BORIC ACID	276	37 (0)	241
CAPTAN	262	32 (0)	230
CYFLUTHRIN	261	39 (2)	222
CHLORPYRIFOS	258	48 (3)	212
BIFENTHRIN	246	33 (1)	213
MECOPROP	240	35 (0)	205
GLYPHOSATE	239	37 (1)	202
Total - Above Pesticides =	10274	1378 (115)	8904

[1)] First number represents the total of purported incidents regardless of certainty index - numbers in parentheses indicate the total of incidents with certainty index of 1 (definite) or 2 (probable).

Graph 10.1 - Top 10 Active Ingredients for All Inquiries



11. Top 10 Active Ingredients for Incident Inquiries

The most common active ingredients reported during incident inquiries are listed in Table 11.1 and Graph 11.1. Also, Table 11.1 summarizes the number of reported incidents involving human and animal entities exposured to specific active ingredients. Metaldehyde was reported to be involved in more incidents (171) than any other active ingredient - 17.5% of these incidents had a certainty index of 1 or 2. Although fewer incidents were involved, 46.7% of the 126 D-phenothrin incidents and 42.9% of the 77 methoprene incidents, respectively, had a certainty index of 1 or 2. Permethrin also had a relatively high proportion of incidents with a certainty index of 1 or 2 - 16.8% of 161 incidents.

Of the 1,072 times that one of the other top 25 active ingredients was mentioned during incident inquiries, in which human or animal entities were involved, 4.9% of the cases were assigned a certainty index of 1 (definite) or 2 (probable).

Graph 11.1 - Top 10 Active Ingredients for Incident Inquiries

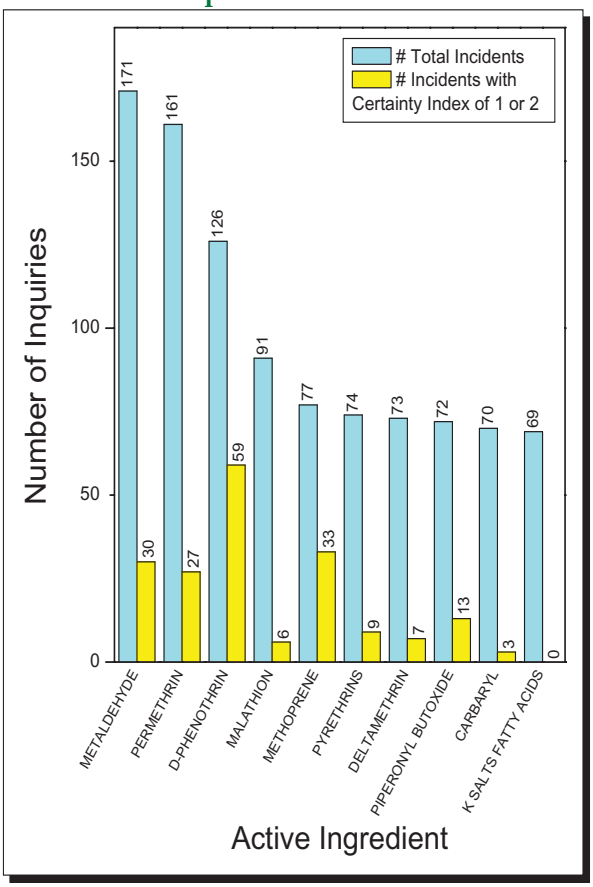


Table 11.1 - Top 25 Active Ingredients for Incident Inquiries

Active Ingredient	Total Incidents[1)]	Human Incidents	Animal Incidents	Other Incidents	Information Inquiries
METALDEHYDE	171 (30)	22 (0)	143 (30)	6 (0)	190
PERMETHRIN	161 (27)	69 (9)	67 (18)	25 (0)	1226
D-PHENOTHRIN	126 (59)	5 (0)	118 (59)	3 (0)	111
MALATHION	91 (6)	43 (5)	6 (1)	42 (0)	408
METHOPRENE	77 (33)	9 (2)	68 (31)	0 (0)	130
PYRETHRINS	74 (9)	45 (4)	20 (5)	9 (0)	464
DELTAMETHRIN	73 (7)	45 (5)	19 (2)	9 (0)	341
PIPERONYL BUTOXIDE	72 (13)	41 (6)	19 (7)	12 (0)	359
CARBARYL	70 (3)	31 (3)	10 (0)	29 (0)	372
POTASSIUM SALTS OF FATTY ACIDS	69 (0)	35 (0)	24 (0)	10 (0)	433
BROMADIOLONE	60 (0)	14 (0)	46 (0)	0 (0)	73
DIAZINON	57 (5)	26 (4)	11 (1)	20 (0)	245
2,4-D	53 (0)	26 (0)	8 (0)	19 (0)	369
DIPHACINONE	50 (2)	4 (0)	45 (2)	1 (0)	77
CHLORPYRIFOS	48 (3)	33 (3)	7 (0)	8 (0)	212
FIPRONIL	41 (1)	13 (1)	17 (0)	11 (0)	328
CYFLUTHRIN	39 (2)	26 (1)	8 (1)	5 (0)	222
BORIC ACID	37 (0)	16 (0)	17 (0)	4 (0)	241
GLYPHOSATE	37 (1)	22 (0)	8 (1)	7 (0)	202
DICAMBA	36 (0)	22 (0)	4 (0)	10 (0)	254
MECOPROP	35 (0)	22 (0)	5 (0)	8 (0)	205
CHROMATED COPPER ARSENATE	34 (0)	30 (0)	4 (0)	0 (0)	848
BIFENTHRIN	33 (1)	23 (0)	6 (1)	4 (0)	213
CAPTAN	32 (0)	15 (0)	2 (0)	15 (0)	230
BROMETHALIN	31 (0)	5 (0)	26 (0)	0 (0)	29
Total - Above Pesticides =	1607 (202)	642 (43)	708 (159)	257 (0)	7782

[1)] First number represents the total of purported incidents regardless of certainty index - numbers in parentheses indicate the total of incidents with certainty index of 1 (definite) or 2 (probable).

Metaldehyde was involved in a higher number of incidents (171) than other active ingredients - 17.5% had a certainty index of 1 or 2. In comparison, although fewer incidents were involved, 46.7% of the 126 D-phenothrin incidents and 42.9% of the 77 methoprene incidents, respectively, had a certainty index of 1 or 2.

12. Location of Incident

For incident inquiries, NPIC Specialists record the reported location of the reported exposure. Of the 1,666 known locations where incidents occurred, 93.4% occurred in the home or yard, 2.1% occurred in an agricultural setting, and 1.4% occurred in an office building or school (Table 12.1).

Table 12.1 - Location of Pesticide Incident

Location	Number of Incident[1] Inquiries				
	1999	2000	2001	2002	2003
Unclear/Unknown	105 (13)	115 (12)	83 (8)	47 (3)	50 (5)
Home or Yard	1565 (121)	1704 (104)	1543 (107)	1622 (178)	1556 (174)
Agriculturally Related	114 (14)	122 (7)	68 (4)	59 (11)	35 (3)
Industrially Related	13 (1)	12 (1)	10 (2)	7 (1)	4 (0)
Office Building, School	39 (2)	65 (1)	59 (2)	37 (1)	23 (1)
Pond, Lake, Stream Related	9 (2)	8 (0)	7 (1)	8 (0)	7 (0)
Nursery, Greenhouse	9 (1)	13 (0)	6 (0)	9 (0)	8 (1)
Food Service/Restaurants	5 (1)	2 (0)	5 (1)	3 (2)	4 (1)
Retail Store/Business	15 (3)	19 (1)	27 (2)	15 (2)	16 (2)
Roadside/Right-of-Way	8 (0)	15 (0)	20 (1)	4 (1)	10 (1)
Park/Golf Course	8 (0)	17 (1)	6 (0)	9 (0)	3 (0)
Other	72 (6)	101 (14)	82 (5)	64 (7)	60 (14)
Total =	1962 (164)	2193 (141)	1916 (133)	1884 (206)	1776 (202)

[1] First number represents the total of purported incidents regardless of certainty index - numbers in parentheses indicate the total of incidents with certainty index of 1 (definite) or 2 (probable).

13. Environmental Impact

NPIC Specialists record reported environmental impacts discussed in incident inquiries. The most common reported environmental impacts are damage to property and damage to plant material, including food crops and other plants or trees. Multiple environmental impacts may be reported for each incident inquiry; thus totals reflect the number of times these sites were discussed during the course of all incident inquiries. Of the 335 times that a specific environmental impact was reported, 3.0% of the cases were assigned a certainty index of 1 (definite) or 2 (probable). (Table 13.1)

Table 13.1 - Reported Environmental Impact

Environmental Impact	Number of Incident[1)] Inquiries				
	1999	2000	2001	2002	2003
Air	11 (0)	23 (0)	29 (0)	17 (2)	18 (2)
Water	9 (1)	15 (2)	21 (2)	14 (1)	8 (0)
Soil	15 (3)	23 (0)	18 (0)	8 (0)	9 (0)
Food Crops/Process	40 (1)	83 (0)	78 (0)	64 (0)	85 (1)
Property	136 (6)	234 (8)	209 (9)	168 (11)	168 (6)
Poultry/Livestock	13 (2)	7 (1)	11 (0)	6 (2)	4 (1)
Plants/Trees	48 (1)	71 (2)	65 (1)	65 (0)	43 (0)
Not Applicable	1675 (147)	1728 (125)	1463 (120)	1527 (190)	1423 (189)
Other	15 (3)	9 (3)	22 (1)	15 (0)	19 (3)
Total =	1962 (164)	2193 (141)	1916 (133)	1884 (206)	1777 (202)

[1)] First number represents the total of purported incidents regardless of certainty index - numbers in parentheses indicate the total of incidents with certainty index of 1 (definite) or 2 (probable).

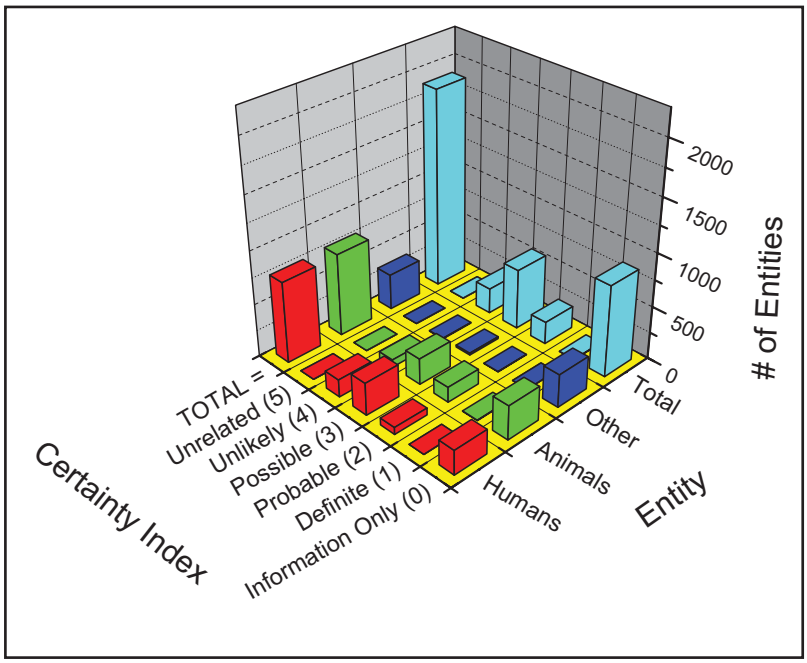
14. Certainty Index

Table 14.1 and Graph 14.1 summarize the assignment of certainty indexes for all incident inquiries received by NPIC. Inquiries are sorted according to type of entity; human entities are further sorted according to gender and groups of entities. Multiple entities may be discussed in one incident inquiry; thus totals reflect the number of entities (as opposed to number of incidents) discussed during the course of incident inquiries to NPIC. Of the total number of entities discussed in incident inquiries to NPIC (1,888), 0.2% of the cases were assigned a certainty index of definite (1), 11.2% of the cases were assigned a certainty index of probable (2), 30.2% of the cases were assigned a certainty index of possible (3), 12.8% of the cases were assigned a certainty index of unlikely (4), 0% of the cases were assigned a certainty index of unrelated (5), 45.7% of the cases did not involve effects and so were assigned the certainty index of zero (0), information only.

Table 14.1 - Incident Inquiries by Certainty Index (CI)

CI for All Categories of Entities					Breakdown of Human Entity Incident			
Certainty Index	Humans	Animals	Other	Total	Male	Female	Groups	Gender Not Stated
Total Inquiries in Operational Year = 23,609								
Non-Incident Inquiries = 22,668								
Information Only (0)	230	321	311	862	95	114	15	6
Definite (1)	0	4	0	4	0	0	0	0
Probable (2)	66	142	3	211	31	26	8	1
Possible (3)	305	246	19	570	100	183	22	0
Unlikely (4)	165	70	6	241	68	91	6	0
Unrelated (5)	0	0	0	0	0	0	0	0
TOTAL =	766	783	339	1888	294	414	51	7

Graph 14.1 - Certainty Index for Incidents



15. Description of Entities

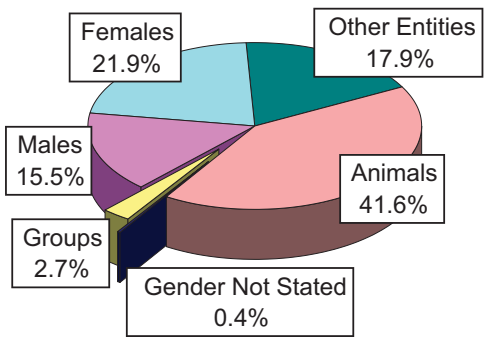
Table 15.1 and Chart 15.1 provide a more detailed summary of categories of entities discussed in incident inquiries. Of the 1,892 entities involved in incidents reported to NPIC, 40.5% were human, 41.6% animal, and 17.9% were other types of non-target entities (building or environment, for example).

Table 15.1 - Description of Entities

Description of Entities	Number of Entities[1)]				
	1999	2000	2001	2002	2003
All females -					
Female	686 (44)	692 (39)	539 (29)	416 (28)	388 (25)
Female-pregnant	24 (1)	49 (0)	34 (2)	25 (0)	26 (1)
Female suicide attempt	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)
Total all females =	710 (45)	742 (39)	573 (31)	441 (28)	414 (26)
All males -					
Male	452 (48)	445 (35)	375 (26)	345 (42)	292 (30)
Male suicide attempt	4 (0)	1 (0)	1 (1)	0 (0)	2 (1)
Total all males =	456 (48)	446 (35)	376 (27)	345 (42)	294 (31)
All groups -					
Family	138 (12)	98 (3)	58 (5)	68 (7)	38 (4)
Non-family group	27 (1)	40 (4)	22 (3)	13 (1)	13 (4)
Total all groups =	165 (13)	138 (7)	80 (8)	81 (8)	51 (8)
Gender not stated -					
Child - sex unknown	9 (0)	1 (0)	7 (0)	4 (0)	6 (0)
Adult - sex unknown	1 (0)	1 (1)	0 (0)	0 (0)	0 (0)
Other - sex unknown	15 (1)	6 (1)	0 (0)	1 (0)	1 (1)
Total gender not stated =	25 (1)	8 (2)	7 (0)	5 (0)	7 (1)
Total all humans =	1356 (107)	1334 (83)	1036 (66)	872 (78)	766 (66)
All animals -					
Single animal	371 (53)	513 (53)	563 (69)	715 (130)	717 (136)
Group of animals	70 (16)	70 (16)	38 (6)	44 (7)	60 (11)
Wildlife	3 (0)	4 (1)	7 (1)	7 (0)	10 (0)
Total all animals =	444 (69)	587 (70)	608 (76)	766 (137)	787 (147)
Other entities:					
Building-home/office	123 (1)	155 (0)	167 (1)	127 (0)	128 (2)
Other places	161 (0)	282 (1)	270 (1)	242 (1)	211 (1)
Total other entities =	284 (1)	437 (1)	437 (2)	369 (1)	339 (3)
Total all entities =	2084 (177)	2358 (154)	2081 (144)	2007 (216)	1892 (216)

[1)] First number represents the total of purported incidents regardless of certainty index - numbers in parentheses indicate the total of incidents with certainty index of 1 (definite) or 2 (probable).

Chart 15.1 - Description of Entities



16. Entity Symptoms

Of the 766 human entities discussed in incident inquiries to NPIC, symptoms, or absence of symptoms, were reported for 725 entities (Table 16.1). Of these entities, 47.6% reported symptomatic health effects (effects that are consistent with a significant exposure to the pesticide in question), 30.8% reported asymptomatic health effects, and 21.7% reported atypical health effects (Chart 16.1). Table 16.1 and Chart 16.2 provide this and similar information for animal entities.

Chart 16.1 - Symptoms - Humans

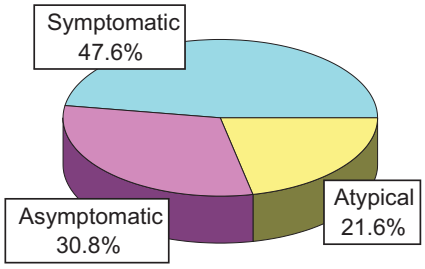


Chart 16.2 - Symptoms - Animals

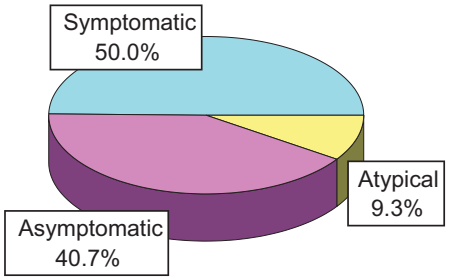


Table 16.1 - Reported Symptoms of Entities

Reported Symptoms	Number of Entities[1)]				
	1999	2000	2001	2002	2003
Human symptoms -					
Symptomatic	843 (188)	751 (160)	480 (116)	462 (107)	345 (97)
Asymptomatic	240 (15)	255 (30)	244 (28)	225 (23)	223 (19)
Atypical	178 (15)	184 (26)	203 (19)	145 (14)	157 (19)
Total humans =	1261 (218)	1190 (216)	927 (163)	832 (144)	725 (135)
Animal symptoms -					
Symptomatic	201 (81)	273 (91)	252 (101)	376 (160)	391 (174)
Asymptomatic	196 (1)	241 (13)	273 (23)	275 (15)	319 (15)
Atypical	44 (4)	48 (7)	65 (7)	72 (12)	73 (11)
Total animals =	441 (86)	562 (111)	590 (131)	723 (187)	783 (200)
Total symptoms =	1702 (304)	1752 (327)	1517 (294)	1555 (331)	1508 (335)

[1)] First number represents the total of purported incidents regardless of certainty index - numbers in parentheses indicate the total of incidents with certainty index of 1 (definite) or 2 (probable).

17. Deaths and Other Outcomes

Amongst the 766 human entities, no deaths were reported (Table 17.1).

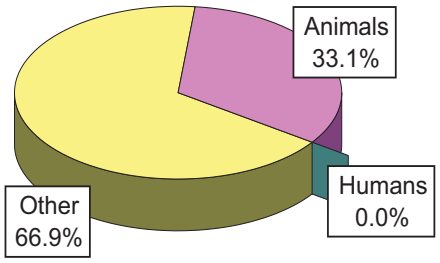
Of the 787 animal victims, there were 47 deaths, with 14 of the cases assigned a certainty index of 1 or 2, indicating likely pesticide involvement. Table 17.1 and Chart 17.1 summarize this information and also list the number of entities associated with life threatening conditions or interesting or strange circumstances.

Table 17.1 - Additional Outcomes for Entities

Additional Outcomes	Number of Entities[1)]				
	1999	2000	2001	2002	2003
Human deaths -					
Male	4 (0)	1 (0)	2 (0)	1 (1)	0 (0)
Female	1 (0)	0 (0)	0 (0)	1 (1)	0 (0)
Total human deaths =	5 (0)	1 (0)	2 (0)	2 (2)	0 (0)
Animal deaths -					
Single animal	22 (11)	27 (7)	45 (10)	45 (25)	33 (11)
Group of animals	25 (10)	20 (6)	12 (5)	9 (4)	10 (3)
Wildlife	2 (0)	2 (1)	7 (1)	7 (0)	4 (0)
Total animal deaths =	49 (21)	49 (14)	64 (16)	61 (29)	47 (14)
Other -					
Life threatening	4 (4)	6 (3)	2 (1)	0 (0)	0 (0)
Interesting/strange	79 (21)	141 (26)	88 (17)	116 (21)	95 (21)
Total other =	83 (25)	147 (29)	90 (18)	116 (21)	95 (21)
Total additional outcomes =	137 (46)	197 (43)	156 (34)	179 (52)	142 (35)

1) First number represents the total of purported incidents regardless of certainty index - numbers in parentheses indicate the total of incidents with certainty index of 1 (definite) or 2 (probable).

Chart 17.1 - Deaths and Other Outcomes



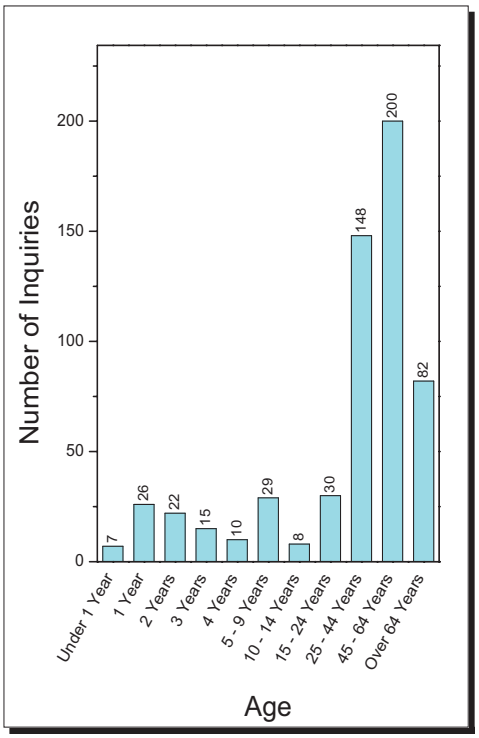
18. Entity Age

Entity ages were available for 577 of the 766 human entities. Table 18.1 and Graph 18.1 summarize information about the ages of human entities discussed in incident inquiries to NPIC. Of these 577 entities, 13.9% were less than 5 years of age, 6.4% were between the ages of 5 and 14, 5.2% were between the ages of 15 and 24, 60.3% were between the ages of 25 and 64, and 14.2% were over age 64.

Table 18.1 - Reported Ages of Human Entities

Age Category	Number of Entities				
	1999	2000	2001	2002	2003
Under 1 Year	39	6	14	9	7
1 Year	25	22	12	23	26
2 Years	42	16	20	24	22
3 Years	18	15	20	15	15
4 Years	13	9	10	10	10
5 - 9 Years	55	25	21	14	29
10 - 14 Years	30	17	15	10	8
15 - 24 Years	45	32	37	20	30
25 - 44 Years	200	269	217	156	148
45 - 64 Years	184	216	203	182	200
Over 64 Years	78	99	99	106	82

Graph 18.1 - Age of Human Entities



Report on Subcontracts

Oregon Poison Center

NPIC Specialists transferred 71 inquiries to the Oregon Poison Center. These inquiries were transferred to the Center because the Specialists deemed that the inquirer's situation represented an acute poisoning emergency. The NPIC Quarterly Reports present information for the inquiries transferred in that quarter.

National Animal Poison Control Center

In the current year, 97 inquiries were transferred to the National Animal Poison Control Center (NAPCC). The situation presented in each inquiry was considered to be an emergency; therefore, the inquiry was transferred to NAPCC. The nature of the inquiries transferred is detailed in the NPIC Quarterly Reports.