

# *National Pesticide Information Center*

*- 2005 -*



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



**npic**

Environmental & Molecular Toxicology

**Oregon State**  
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*This is the tenth 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 2005 Annual Report, covers the period April 1, 2005 - March 31, 2006, corresponding to NPIC's tenth grant year.*

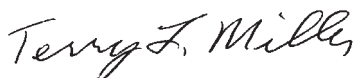
### **DISCLAIMER**

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:

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*“Pesticide Information . . .  
. . . How May We Help You?”*



***The NPIC Team***

## Executive Summary - NPIC 2005 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 “2005 Annual Report.” This report covers the NPIC grant year April 1, 2005 through March 31, 2006.

### 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 1,051,534 hits. NPIC received 906 inquiries via e-mail (Table 4.1, Graphs 4.1 - 4.6, Table 3.1).
  - NPIC updated its West Nile Virus Resource Guide, and responded to 596 inquiries related to WNV.
  - NPIC addressed more than 1,091 inquiries about mothballs, including 581 incident inquiries.
  - NPIC responded to 180 inquiries about Hartz flea and tick control products for cats and kittens.
  - NPIC responded to 11 inquiries about counterfeit pesticide pet products.
  - General and medical case profiles were developed and posted to NPIC's web site.
  - NPIC answered 24,422 inquiries during its tenth operational year. Eighty-two 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 (84.8%) were for information only (i.e., not related to an incident); 10.7% related to exposure concerns, and 2.5% concerned other non-health-related pesticide incidents (Table 7.1, Charts 7.1 and 7.2).
  - The greatest number of inquiries (30.0%) were health-related, whereas 31.0% were for information
- about pesticide usage, and 10.0% were of a regulatory nature (Table 6.1, Graph 6.1).
- Examples of “health-related” inquiries include:
    - Caller said PCO treated with Termidor 3 days ago - he drilled holes into front porch and covered them with concrete. Caller said his wife is highly concerned about risk to 2 month old infant and 3.5 year old.
    - Caller stated he had some critters in his small attic, and he threw a package of mothballs into the attic a few days ago to try to get rid of them. Caller reported that the mothball odor is now present in his house, especially his upstairs loft. Caller asked if the odor is dangerous.
    - Caller reported her husband applied a product containing carbaryl, malathion, captan, and xylene to their apple tree 3 days ago. Caller reported today her 5.5 year old daughter (60 pounds) ate about 6-7 bites of an apple from the tree, and the babysitter (“in her 50’s”) ate the rest of the apple. Will the pesticide harm them?
  - Of the 24,422 inquiries, 13.1% (3,190) involved pesticide incidents, while 35.6% (8,690) were for information about specific pesticide active ingredients or products, and 39.9% (9,733) 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:
    - Caller wanted to report an incident about Hartz product. Caller said she applied the product to her 1-2 year old short-haired female cat 3 to 4 hours ago. Caller said her cat now appeared to have tremors.
    - Caller stated she is 10 weeks pregnant and is concerned because she used about 3/4 tsp of a disulfoton product on an indoor palm plant. Caller said she can smell the odor in the room and is concerned she could be harming her unborn baby.
  - Of the 3,190 incident inquiries, 4.6% 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 (1,291) than any other active ingredient, accounting for 5.3% of all inquiries, and 14.9% of pesticide-specific inquiries. Of these, 18.0% (232) were incident inquiries and 82.0% were inquiries for information. Of the 232 permethrin incident inquiries, 7.3% were assigned a certainty index of 1 (definite) or 2 (probable) (Table 10.1, Graph 10.1).

### ● Pesticide Questions?

#### ● NPIC

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

### ● We've Got Answers!

- Naphthalene was reported to be involved in more incidents (467) than any other active ingredient; less than 0.4% (2) were assigned a certainty index of 1 or 2.
- Metaldehyde was involved in the next highest number of incidents (275), with 13.5% having a certainty index of 1 or 2. Most of the metaldehyde incidents involved animals, particularly dogs.
- Although fewer incidents were involved, 36.2% of the 138 d-phenothrin incidents and 33.8% of the 77 methoprene incidents, respectively, had a certainty index of 1 or 2. For incidents involving pyrethrins (96), piperonyl butoxide (118), and permethrin (232), 10.4%, 8.5%, and 7.3%, respectively, had a certainty index of 1 or 2.
- Besides the seven active ingredients (AI) listed above, of the 1,116 times that one of the other top 25 active ingredients was mentioned during incident inquiries, in which human or animal entities were involved, 4.4% of the cases were assigned a certainty index of 1 (definite) or 2 (probable). Most of the reported incidents (45.8%) involved humans; 40.4% involved animals (Table 11.1, Graph 11.1).
- There were 3,529 entities involved in incidents reported to NPIC - 45.3% were human, 36.4% animal, and 18.3% other (e.g., building, environment). Of the human entities, 40.5% were male, 52.3% female, 5.5% groups, and 0.6% where gender was not stated (Table 15.1 and Chart 15.1).
- Of the 1,596 humans involved in incident inquiries, information about symptoms was given for 1,416. Of these, 34.2% were symptomatic (symptoms matched those for pesticide in question), 42.4% were asymptomatic, and 23.4% reported atypical symptoms (Table 15.1, Table 16.1, Charts 16.1 and 16.2).
- Amongst the 1,596 human entities, two deaths were reported. One incident was judged to have a certainty index of 2, making it likely that the death was pesticide related. The other was assigned a certainty index of 4, making it unlikely that a pesticide was involved. Of the 1,284 animal entities, 55 deaths were reported; 13 of these incidents were assigned a certainty index of 1 or 2, indicating likely pesticide involvement (Table 15.1, Table 17.1, Chart 17.1).
- Ages were available for 1,082 of the 1,459 individual human entities. A portion (25.0%) of the entities were less than 5 years old, 5.4% between the ages of 5 - 14, 5.3% between 15 - 24, 51.4% between the ages of 25 - 64, and 12.8% over age 64 (Table 18.1, Graph 18.1).
- Of the known locations (3,103) where incidents occurred, 94.4% were the home or yard, while 1.4% were agriculturally related, and 1.5% involved an office building or school (Table 12.1).
- Most of the inquiries (89.0%; 21,733) to NPIC came from the general public, while 2.6% came from federal/state/local agencies, 2.0% from medical personnel, 1.9% 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 (52.6%; 12,844) were handled by providing verbal information/discussion to the inquirer. Other actions taken by specialists were to transfer inquirers to Oregon Poison Center or Animal Poison Control Center (1.3%) and provide discussion and contact information for EPA, state lead agencies, cooperative extension, Poison Control, Animal Poison Control, and the manufacturer. Some inquirers (6.1%) received information via mail, fax or e-mail (Table 8.1, Charts 8.1 and 8.2).
- NPIC received 23,871 (93.7%) inquiries via telephone (Table 3.1).
- For the 3 most populated states, the number of inquiries received was in the same order as the population, with the largest number of inquiries coming from California, followed by Texas, and New York. (Table 9.1, Graph 9.1). Based on population, a disproportionate number of inquiries were received from Oregon.
- By EPA region, 19.5% of the inquiries came from Region 4, 12.9% from Region 5, 11.9% from Region 9, 10.8% from Region 2, 10.8% from Region 6, and 10.7% from Region 3 (Graph 9.2).

## Organization

- NPIC hired six full-time pesticide specialists during the 2005-06 grant year. Carley Hansen Prince assumed duties of Interim Project Coordinator with the departure of Crista Chadwick. Three pesticide specialists resigned during this period. One student worker and one temporary administrative assistant were hired to assist with office support. NPIC continued recruitment efforts for other full-time specialists, and a graduate-level student. NPIC's current staff includes a full-time project coordinator, twelve full-time specialists, a full-time information resource supervisor, a full-time temporary administrative assistant, a part-time fiscal/personnel manager, and two part-time undergraduate student assistants.
- NPIC purchased a Xerox Phaser 6350DX Color Laser Printer and a new combination DVD Player/Video Cassette Recorder to replace worn and outdated equipment. A redesign of the telecommunication programming began, allowing for additional capabilities and features that address new service needs required by the renewal of the OSU/NPIC grant. All operational telephone equipment and its infrastructure were upgraded through the purchase of Avaya 6242 D+M telephones and their associated modular equipment. To aid in the conversion of paper documents to digital files, software upgrades were purchased to enhance NPIC's Optical Character Recognition capabilities. Four new bookcases were also purchased to allow for expansion of the NPIC library.



# 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 poisonings
- health and environmental effects
- toxicology
- environmental chemistry
- pesticide products.

In addition, NPIC provides referrals for:

- 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 e-mail and the WWW, 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 environ-

mental chemistry information about pesticides. The services provided by NPIC are strictly informational and have no regulatory or enforcement capability or authority.

NPIC maintains a Telephone Relay Service (TRS) 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 e-mail.
- 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.*



*Melody - 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 e-mail 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 2001.

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

## 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 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 977 pesticide AI; 60 general files that contain 308 topic sub-files of specific pesticide topic information; numerous compendia of pesticide information (e.g., *Code of Federal Regulations - 40 CFR Parts 150 - 189*; *Common Sense Pest Control*; *Crop Protection Handbook*; *Disinfection, Sterilization, and Preservation*; *Herbicide Handbook*; *Metabolic Pathways of Agrochemicals*; *Pest Control Operations*; *The Pesticide Manual*; *Toxicology - The Science of Poisons*; and the *WHO Environmental Health Criteria* series); electronic access to EXTOXNET (*EXtension TOXicology NETwork*), *CHEMBANK (HSDB, RTECS, IRIS)*, and *PESTBANK*; and on-line 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.



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# NPIC Update

## Inquiry Update

NPIC responded to 24,422 inquiries, 3,190 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 -

NPIC continued to operate under its *Mission, Goals, and Values* statement. The statement, which articulates NPIC's mission and goals, includes a set of values and attributes deemed to contribute to a positive workplace culture and promote a sustainable public service-oriented organization.

**NPIC Policies** - NPIC updated and operated with the following policies throughout this granting period: *Policy Guidance Overview; Faculty Position Descriptions, Annual Evaluations, and Salary Increases; Schedule Policy; Vacation-Leave Policy; and Sick-Leave Policy.*



**Standard Operating Procedures (SOP)** - The Executive Committee and staff worked together to enhance the NPIC SOP collection. Upon completion, NPIC posts each SOP to the NPIC Intranet (Inet) and adds each to its hard-copy collection. Master SOP collections include: *Operational/Administrative; Specialist Projects; and Student Assistants.*

NPIC developed and/or revised the following Operational/Administrative SOP: *Compilation of Quarterly into Annual Report; Computer Procedure During a Power Outage; FoxPro Tracker Phone/Backup Tallying; Processing Fax Requests; Referrals for Human Poisonings (PCC); Requests for Quotes (Expert Witness), or to Publish NPIC Information, Telephone Number, or*

*Written Material; and Transferring Spanish Speaking Callers to the Spanish Resource Specialist.*

NPIC revised and/or developed the following Specialist Project SOP: *Answering NPIC E-mail; Active Ingredients Table of Contents Updating; Adding New Documents to Active Ingredient Files; Backup Active Ingredient Database; Create New Active Ingredient Files; Creating Merge Documents/Labels; Federal Register Notice Maintenance; Manage Active Ingredient Database Backup Files; Processing Active Ingredient Strains and/or Isomers; Media Hot Topics or Media Events; News Stories; Preparing Outreach Processing Forms; Printing NPIC Brochures or Promotional Items; Proactive Outreach Mail-outs; and Responsive Outreach Mail-out Requests.*

NPIC posted the following Student Assistant SOP to the Inet as either new documents or with significant updates: *Archiving NPIC Records; Creating and Generating NPIC Routing Slip; Filing NPIC Logs; Former Employee Listing; Generating Call Histograms; How To Use the Electronic Scale; Performing the Mail Run; Maintaining Staff Directories and Station Locator; Ordering Supplies—Vendor: Office Max, IKON, Other Vendors; PC Filing; Performing Library Inventory; Preparing Show and Tell Bibliography; Posting Quarterly Achievements; Printing and Distributing NPIC Reports; Processing Library Inventory; and Responsive Outreach Mail-outs.*

Additional update and development of SOP is described in the “Pesticide Incident Database” section below.

## Project and Information Review -

**Pesticide Incident Database (PID)** - The Executive Committee and staff focused on a variety of Quality Assurance/Quality Control (QA/QC) techniques, identified and discussed in detail at weekly meetings, by conducting routine incident/information inquiry report reviews (compiled by the PID Facilitator, Dixie Jackson and/or Kelly Bahns) and through NPIC training program events. As a result of these discussions and reviews, new FoxPro programming occurred, new report structures and commenting features were incorporated, numerous new codes were added to the field choices, and new approaches were implemented in practical logging events during training to address improved quality assurance and quality control.

Application and implementation of codes and new designs for the Fox-Pro PID interface were the focus of discussions throughout the grant year. Reprogramming this interface reduced the number of QA/QC steps and reduced data entry errors by specialists at the time of log entry. Proposed changes to PID data entry fields were presented to the group, and additional feedback collected will further improve the implementation of these enhancements to the PID system and QA/QC processes.

New uses of technology made it possible for Human Incident QA/QC reports to be generated, from PID data, into user-friendly reports. This format allows for comments to be imbedded into the electronic report, increasing efficiency in reviews and electronically documenting QA/QC efforts in a more user-friendly manner. In addition, log reports for trainees and new specialists were generated in the same fashion, creating a new mechanism

with off-label use in an attempt to prevent an incident from occurring. A suspected incident may include a case where the NPIC specialist strongly suspects a pesticide exposure has occurred, however, a specific active ingredient could not be identified.

Kelly Bahns was cross-trained as the Pesticide Incident Database (PID) Facilitator. The following SOP describing QA/QC processes were developed or improved during this grant year: *NPIC Pesticide Inquiry Database (NPID) Quality Assurance/Quality Control—Project Overview of Standard Operating Procedures; NPIC Project Role Definitions; Appending Files to the Working Database; Obtaining and Combining NPID Log Files from FoxPro; Locating Missing and Removing Exact Match Duplicate Records; and Applying Log Coding Guidelines and Generating Human Incident Reports; NPID Quarterly Report; NPID Monthly Report; NPID Cases of Interest Monthly Report; NPID West Nile Virus Monthly Report; Pesticide Inquiry Database Macros.*



for sharing feedback and tracking improved application of the log coding guidelines. This provides specialists with the opportunity to improve coding decisions by having access to PID QA/QC actions and rationales for the changes.

New codes were added to assist in querying for suspected incidents and possible cases of incident prevention. Incident prevention is coded when an inquirer describes the intent to use a product in an off-label manner, and the NPIC specialist discusses the label and the law, and potential risks associated

**NPIC 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 NPIC fact sheets, other materials developed by NPIC, and 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 “one-stop shopping center” for pesticide infor-



mation. 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 the WNV Resource Guide (with specific emphasis on WNV background, state contacts, and new science), hot topics, and the Security Alerts Resource Guide.

NPIC received 1,051,534 total web hits to its website this grant year. The WNV Resource Guide received 142,967 hits.

Routine link checks were performed and maintenance on broken and/or redirected links continued throughout the year. New links were added to NPIC's *Pest Control* page to provide information about lice, spiders, and nuisance wildlife. Links on food safety and to EPA's *Frequently Asked Questions*, specific to the general public, consumers, applicators, and farm and agricultural workers, were also added to the *General Info* page. In order to provide additional information on antimicrobial pesticides, several new sections were added to

the NPIC web site on the *Regulatory*, *Pest Control*, and *General Info* pages.

NPIC revised and updated its collection of chromated copper arsenate (CCA) and permethrin-treated clothing links. A "Disaster Preparedness" web page was also designed and posted to the NPIC web site to address common questions NPIC anticipated in the aftermath of the hurricanes that impacted the nation.

NPIC updated its West Nile Virus Resource Guide to reflect the 2005 WNV season. Insect repellent links were rearranged to allow users more efficient access to information about using and choosing insect repellents.

**InfoBase** - NPIC further developed the InfoBase, an electronic repository of pesticide-related information. A major goal of the InfoBase project is to provide a user-friendly, powerful interface to pesticide information available from a variety of sources. The InfoBase is made available to the public and others through an interface on the NPIC website, and allows an

inquirer to: search by specific word or phrase, as well as more sophisticated search methods; customize searches; "drill down" or narrow the search within a search-results set; and browse search results.

The InfoBase makes use of Convera RetrievalWare Enterprise search software and development kit. RetrievalWare indexes electronic documents of various types, and places them in user-defined "libraries". These libraries can be searched using RetrievalWare's sophisticated searching features (e.g., concept, pattern, and Boolean). NPIC also used the RetrievalWare Spider, which retrieves documents from specified websites and passes them to RetrievalWare for indexing. These documents can then be searched and retrieved by RetrievalWare.

NPIC uses RetrievalWare and the spider to index several pesticide-related websites, to create pesticide libraries for: 40CFR and e-CFR, OPP Federal Register Notices, FFDCA, OPP, NPIC, OPP E-dockets at [www.regulations.gov](http://www.regulations.gov), and some extension sites. NPIC's efforts in development of RetrievalWare Spider libraries and custom search interfaces have been recognized by Convera as some of the best in the industry. NPIC was invited to speak at the National RetrievalWare User's Group Annual Meeting to showcase the InfoBase and the custom features in use and under development.

To convert hard-copy resources to electronic files in the form of PDF, NPIC implemented PrimeOCR (Prime Recognition Systems) to do optical character recognition (OCR). Resulting PDF files were indexed by RetrievalWare. NPIC designed document separator pages and a batch processing workflow that incorporates zone recognition of relevant metadata (to be associated with the scanned file).



*Clayton - Pesticide Specialist*



**Active Ingredient Files** - NPIC added 59 new active ingredient (AI) files to its collection, totaling 977 files at the conclusion of the grant year. The AI committee updated all 40 of its Top 40 AI files (including bendiocarb, chlorfenapyr, creosote, disulfoton, IBA, mancozeb, MCPA, and propoxur) by adding new and relevant data. NPIC acquired and indexed 1,260 new documents for addition into the AI file collections this year, including all relevant FQPA Risk Assessments, EPA Fact Sheets, and Reregistration Eligibility Decisions and Tolerance Reregistration Eligibility Decisions (RED/TRED).

Matt Sunseri was cross-trained as the AI Project Facilitator. Melody Roth began cross-training on AI maintenance activities. The AI committee performed a comprehensive inventory to ensure all 977 active ingredient files were present and in alphabetical order. Active ingredients with more than one common name were identified and provided “leaders” within the file cabinets to direct a specialist to the correct location of the AI file. Master files were also reorganized and redistributed within the file cabinets.

**Foreign Language Active Ingredient Files** - The Foreign Language Active Ingredient project began during the second quarter of this granting period. Sebastian Carrasco was cross-trained as the Foreign Language AI Project Facilitator. This project collects and maintains publications containing toxicological data on various active ingredients in Spanish and other languages besides English when available. Over the course of the year, 86 foreign language active ingredient files were added and maintained.

**General Files** - NPIC maintains 60 general files that contain 308 topic sub-files of specific pesticide topic information. Kelly Bahns continues to lead the general file project and updates NPIC’s collection routinely. NPIC uses a general file database to index acquired documents. This database mirrors the NPIC AI file processes and contains all publication bibliographical information obtained, both in hard-copy and electronically. Hard-copy files are similar in organization to the AI projects; specific source materials are placed on colored backers for easy accessibility by

specialists. At the conclusion of the grant year, NPIC had restructured and entered 38 general topic sub-files, and added 441 documents into the new database.

The General File Table of Contents was updated during the reorganization and was posted to the Inet for easy access by specialists. In addition, draft SOP were developed for these new activities and to assist in continued QA/QC efforts for other information resource collections.

**Foreign Language General Files** - Following the same design and procedures as with other NPIC information resource collections, the Foreign Language General Files project continued to be developed. NPIC opened and maintained new topic files containing documents on pesticide-related topics, some written in languages other than English (including Spanish, Korean, and Russian), within its collection, for a total of 49 Foreign Language General Files.

**“Other” Ingredient Files** - NPIC continues to update its inert or other ingredient files by addition of NTP, ATSDR, WHO, and other relevant scientific hard-copy documents.

**Intranet (Inet)** - NPIC’s internal web pages, referred to as the Inet, continued to receive updates on a weekly basis and included schedules, calendars, meeting notes, staff directories, and project-related materials. Human Incident Reports were a notable addition to the Inet, allowing specialists access to PID QA/QC actions and their justifications.

**Desktop Resources** - NPIC enhanced and updated the “Resource Book” throughout the year. Sections within this hard-copy resource provide specialists quick access to frequently requested information, including contact information for



health departments, educational resources, and local, state, and federal agencies.

NPIC maintained and added to its manufacturer database containing contact information for 348 manufacturers with current addresses, telephone numbers, and web sites. This database was then used to generate NPIC's manufacturer contact list for the resource book and for posting to the NPIC website.

**Case Profiles** - NPIC presents general and medical case profiles on its website to provide an educational opportunity to the NPIC audience. During this granting period NPIC posted the following general case profiles: *Rodents Gnawing on your Nerves?*; *Be Discreet When Using DEET*; and *Bombs Away!* NPIC posted the medical case profile *Using DEET Safely*, developed by Dr. Sudakin, to the NPIC web site this year.

NPIC continued developing its case profile guidance documents, and added a status tracking database and report generator for documenting all case profile activity.

## Training and Continuing Education -

**Training** - The NPIC Training Manual Review and Revision team continued to focus on QA/QC measures during this grant period. Updates to the NPIC training manual were on-going throughout the grant year, with an emphasis on revisions to resources, facilitated exercises, and additional assessment of training progress. A recording device was also employed for use during practice calls to allow trainees an additional learning experience prior to taking calls from the public.

**Specialists** - One specialist began and five specialists completed the training program during this period. Five specialists attended, and will continue to attend, university lecture courses as part of a three-term series in graduate-level toxicology: Fundamentals of Toxicology, Target Organ Toxicity, and Environmental Toxicology and Risk Assessment. All six specialists will complete the series in the 2006-07 grant year.

**Graduate Students** - Recruitment continued for a graduate-level stu-

dent to assist NPIC with its active ingredient project.

**Student Assistants** - One student successfully completed the student assistant training program and continues to support administrative tasks that assist in NPIC's operation.

**Continuing Education** - Each week the NPIC staff meets to further their knowledge of pesticide-related topics; to discuss administrative matters, including coding consistency and QA/QC activities; and to further improve the service our organization provides to the public. Internal seminars were scheduled during many of those weekly sessions. The university also provides additional opportunities for continued learning, including seminars, lectures, and conferences.

NPIC staff benefitted from the following guest presentations this year: Kaci Agle, a former NPIC specialist and current Pesticide Investigator for the Oregon Department of Agriculture, gave a presentation on November 10, 2005 entitled *Multiple Chemical Sensitivities (MCS): Definition, Current Research, Regulation, and What Can We Do?* The presentation addressed the difficulties in defining MCS, and how this compounds the difficulties for those individuals seeking treatment. Ms. Agle also discussed the Pesticide Analytical and Response Center (PARC), for which she is the coordinator. PARC coordinates the efforts of multiple member agencies involved in pesticide emergency management and public, individual, and environmental health; and gathers data collected regarding incidents. The Oregon Pesticide Use Reporting System (PURS) was also discussed. This presentation provided valuable insight to specialists about MCS, as well as the operations of Oregon Department of Agriculture and other agencies.



*Katie - Pesticide Specialist*



Glenn Fisher, OSU Extension Entomologist, presented information about slug biology and control measures on February 9, 2006 to NPIC faculty. Dr. Fisher discussed slug habitat and identification, how slugs damage crops, and farming techniques that can lead to increased slug populations. Various types of chemical baits were discussed, including both active ingredients and cereal bases meant to further attract slugs. Variables such as pellet size and weathering were discussed. Research was presented comparing the efficacy of various baits for reducing slug populations and preventing crop damage. The presentation provided a useful overview of slug biology and the crop damage slugs are capable of inflicting. Dr. Fisher also discussed with the group some of the cultural practices that might lead to a slug infestation, and the use of baits as part of a complete strategy for controlling slugs.

David Spink, OSU Master Gardener volunteer and former NPIC specialist, gave a presentation on residential pesticide applications and the OSU master gardener program on March 23, 2006. The types of pesticide application equipment that the public uses to apply pesticides were presented and discussed, including sprayers, spreaders, and dusters. The growth stages of fruit tree buds were illustrated and explained. Mr. Spink also described the history and scope of the master gardener program in Oregon, including how individuals are trained and the typical questions asked.

NPIC staff and directors gave presentations on various topics throughout the year. The following staff discussions occurred during this grant period: On April 14, 2005, Dr. Daniel Sudakin presented *Mothballs*. Specialists learned about the differences in toxicity among old and current mothball active ingredients (camphor, paradichlorobenzene, and naphthalene). Dr. Sudakin focused on the potential

adverse effects that may result from exposure, and discussed special considerations for children who may have ingested a mothball product.

Specialists presented staff development-related topics to the group during the grant year, including: Amy Smoker led three (3) training segments in June 2005 in preparation for responding to antimicrobial inquiries. The presentations covered the following topics: Pathogen Basics and Microbiology Terminology, Active Ingredients, General Topics, and Regulations. Sunny Jones and Kelly Bahns assisted in preparations for each training segment, and further developed appropriate hard-copy and electronic antimicrobial resources for use by pesticide specialists in the future.

The video *For Your Protection: The OSHA Regulations on Bloodborne Pathogens*, developed by the American Medical Association, was shown on August 4, 2005. The video reinforced previously presented information about the Bloodborne Pathogen Standard and provided a visual picture of the health care settings in which antimicrobials are used, enabling specialists to better discuss these issues with inquirers.

On October 20, 2005, an episode from the TV series *House* depicting organophosphate poisoning was presented. In the *Poison* episode, multiple active ingredients and exposure scenarios were hypothesized as the cause of the victims' symptoms, until it was discovered that the teenage boys had purchased blue jeans contaminated with mevinphos. Both during and after the presentation, specialists participated in analyzing the exposure details and adverse

effects depicted. This prompted a detailed discussion of the symptoms of organophosphate poisoning and how media portrayal of pesticide poisonings might influence public attitudes toward pesticides.



A tutorial explaining how to manage extraneous code in WordPerfect was presented by Kelly Bahns on January 26, 2006, including how to find, recognize, and eliminate extraneous code while maintaining outline formatting.



NPIC personnel also attended several off-site conferences, meetings, and/or seminars during the 2005-06 grant period, including: All NPIC faculty members attended the OSU-sponsored workshop *Conversational Skills for Convening People and Influencing Decisions* on May 16 and 23, 2005. The program focused on providing leverage to enhance personal effectiveness and productivity within the work environment. A strong emphasis was placed on creating relationships, managing conversations, and working in groups.

Polly Wegner and Bonnie Tam attended the Chemical Applicator's Short Course in Portland, Oregon in January 2006. Topics of interest included: *Mode of Action of Herbicides used in Landscapes; Oregon's Pesticide Use Reporting System (PURS); Right-of-Way Pesticide Use and Associated Risks; Exposure and Dose: What's my risk?; Learning from Pesticide Violations; Understanding the Impacts of Meteorological Conditions on Aerial Application of Pesticides; Minimizing Drift with Aerial Applications; and Regional and Long-range Atmospheric Transport of Pesticides to High Elevation Ecosystems.*

Carley Hansen Prince, Sebastian Carrasco, Bonnie Tam, Polly Wegner, and Dr. Terry Miller attended the annual Association of American Pest Control Officials (AAPCO) meeting held in Arlington, Virginia, on March 6-8, 2006. Topics of interest included: *EPA's Role in the Avian Influenza, Hurricane Katrina Impacts, Drift and Other Topics of EPA Interest, Worker Safety Issues, Container Recycling, OECA and OPP Updates, Endangered Species, NPIRS Update, PPDC Consumer Labeling Workgroup, Top 10 Labeling Issues, State Reciprocity, and Mold Control.*

From March 8 through March 10, 2006, Carley Hansen Prince, Sebastian Carrasco, Bonnie Tam, Polly

Wegner, Dr. Daniel Sudakin, Dr. Jeff Jenkins, and Dr. Terry Miller met with the Office of Pesticide Programs (OPP) staff in Arlington, Virginia. On March 8<sup>th</sup>, a meeting was held with the NPIC Oversight and Monitoring Committee, which consists of representatives from the nine OPP divisions who act as EPA liaisons for NPIC staff. NPIC staff discussed outreach opportunities and explored new ideas for reaching out to the public with FEAD-CSB. NPIC further met with Arnold Layne and Rob Forrest to discuss current topics of interest at NPIC.

On March 9<sup>th</sup>, NPIC presented an overview of its services at an OPP Open Dialogue Meeting attended by many EPA OPP employees, during which searching capabilities of NPIC's InfoBase were highlighted. Later that afternoon, Dr. Miller gave a presentation to Jim Jones, Anne Lindsay, Lois Rossi, Janet Anderson, Rob Forrest, and Frank Davido on the status of NPIC. During the three day visit, NPIC also: met with Dr. Kit Farwell about animal incident data; discussed Federal Register Notice data and PestBank questions with Linda Arrington; learned about a dermal allergy statement being considered for pyrethrins labels with Cathryn O'Connell; met with Dennis Edwards from the Antimicrobial Division to discuss topics involved with NPIC's transition to taking antimicrobial pesticide inquiries; and learned more about OPPIN/PRISM by talking with Robert Schultz.

### Of Special Interest -

Topics of high interest this grant period included questions or concerns related to mothball products (1,091), West Nile virus (596), metaldehyde products (477), Hartz Pet Care products (278), chromated copper arsenate treated wood (123), hurricane-related questions (45), and counterfeit products (11).

*Mothball Products* - During the year NPIC received 1,091 inquiries regarding the use of mothballs. Of these inquiries, 581 were mothball-related incidents, including 397 reports of misapplication. Inquiries primarily involved off-label use of mothballs to repel cats, rats, squirrels, and snakes in and around the home. One hundred thirty-seven (137) inquiries were coded as "incident prevention," whereby the inquirer describes the intent to use mothballs for an off-label use and NPIC provided information in an attempt to avert the inappropriate application.

Both naphthalene and paradichlorobenzene, the active ingredients currently found in mothballs, made the *Top 25 Active Ingredients* table for *All Inquiries* and the *Top 25 Active Ingredient* table for *All Incident Inquiries*.

WNV - West Nile virus continued to be a topic of public interest, and generated 596 inquiries. States with the highest number of calls included: California (171), New York (47), Florida (35), and Illinois (29). The most frequent topics discussed were: health effects (211); mosquito control (110); reporting dead birds or breeding sites (99); pesticide use or regulation (87); and inquiries about spray schedules (63).

*Metaldehyde* - NPIC received 477 inquiries related to slug and snail baits containing metaldehyde. Two



hundred and seventy-five (275) of these inquiries were incidents, with 38 requiring a transfer to the Animal Poison Control Center (APCC).

*Hartz Pet Care Products* - During the grant period, NPIC continued to receive incident reports about the use of Hartz flea and tick products. One hundred and eighty (180) incident reports were taken during this year on Hartz products.

*CCA* - NPIC received 123 inquiries related to chromated copper arsenate (CCA) treated wood. Questions included safety of existing wood structures, current permissible uses of CCA treated wood, and potential sources of information on alternative wood preservatives.

*Hurricanes* - As a result of Hurricanes Katrina and Rita in August and September 2005, NPIC received 45 hurricane-related calls. Many of the inquiries from the affected areas were about mold control.

*Counterfeit Products* - During the year, NPIC received 11 inquiries regarding counterfeit pet products. Inquiries were the result of an EPA consumer alert of a stop sale, use, and removal order issued for retailers and distributors of counterfeit Advantage and Frontline pet products for flea and tick control.

*Telecommunications* - NPIC worked with OSU Telecommunications during the year to prepare its phone system for handling PRIA inquiries. Extensive logic and equipment enhancements were made to the NPIC telephone system, so as to eventually accommodate the addition of the new service for farmworkers. The changes were required in order to provide for redirection of non-PRIA inquiries after 4:30 p.m. to a voicemail box, while allowing inquiries which fit the "PRIA-related service" classification to be passed through to a NPIC specialist. The new phone system is ready

to activate once NPIC coordinates with EPA the final implementation of this service.

## Publicity -

*Logo and Brochures* - Due to the popularity of the NPIC full-color brochures, a re-order of 100,000 brochures occurred this year. NPIC continues to increase the capabilities of its outreach program and brand its logo.

*NPIC Outreach Efforts* - The NPIC Outreach program defines its activities 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 43,045 brochures to its clientele. NPIC further defined "outreach audiences" of interest and continued to focus outreach to important groups targeting public health interests, children, elderly, tribal, and underserved populations.

Polly Wegner was cross-trained as the Outreach Project Facilitator. Outreach administrative project structures and standard operating procedures (SOP) continued to be improved to address consistency in data collection, and to streamline processing of outreach processing forms (OPF), tracking, sorting, and reporting capabilities.

During the first quarter, a business reply card was developed to allow individuals or organizations to request free NPIC brochures via mail. A new tracking number, the OPF number, was printed on NPIC brochures and business reply cards in an effort to track the outcome of specific outreach ef-

forts. The OPF number identifies a particular proactive outreach event, which is tracked in a database. As a result of the above outreach activities, NPIC received 101 inquiries and disseminated 18,900 NPIC brochures.

*Outreach Audience Definitions* - Audience definitions assist NPIC in identifying and defining NPIC outreach categories, which enhances NPIC's ability to evaluate the quality and quantity of NPIC outreach efforts. Each audience is assigned a code which can be referenced in outreach status reports for ease in tracking, sorting, and reviewing progress for a given audience. See the audience definition table on page 13.

*Proactive Outreach* - Outreach initiated by NPIC is considered proac-





tive, and can be conducted through four methods: 1) conferences and events, 2) mail-outs, 3) publications and editorials, or 4) other means. NPIC proactively provided 7,940 NPIC brochures during this grant year.

A summary of the number of proactive outreach activities performed with a particular audience, number of activities, and number of NPIC brochures provided by NPIC, is shown on page 14.

*Responsive Outreach* - Responsive outreach relates to inquiries to NPIC by telephone, web comment, or e-mail, which result in requests for NPIC outreach materials. NPIC provided 35,105 NPIC brochures in response to requests this year.

A summary of the number of inquiries received from a particular audience, number of inquiries and number of NPIC brochures provided by NPIC is shown on page 14.

In addition, NPIC mailed 19 brochures to individual households not identified or affiliated with an organization.

*Special Projects* - The Colorado Bee Keeper's Association reprinted an article written by NPIC, and previously published by the American Mosquito Control Association in their yearly publication "*Wing-Beats*". As a result of the above outreach activities, NPIC has received numerous inquiries and disseminated NPIC brochures to beekeepers within Colorado.

The magazine *Oregon's Agricultural Progress* published a story on West Nile virus and the use of DEET in its Summer 2005 edition. Dr. Daniel Sudakin was interviewed and quoted in the article. NPIC contact information was provided as a resource for people with questions about DEET. In its Fall 2005 edition, Dr. Sudakin was interviewed and quoted in another

article, illustrating his roles as NPIC co-principal investigator, NPMMP principal investigator, and OSU faculty member. NPIC services were described in the article.

NPIC services were highlighted by the Oregon Department of Agriculture and CH2M Hill at the OSU Extension Service workshop titled *The Chemical Applicator's Short Course* on January 10-11, 2006 in

## 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 distributors 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.

### **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.

### **Other (OTH)**

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



Portland, OR. NPIC brochures were also disseminated to attendees during the workshop.

Presentations were given by all three Executive Committee members at the Pesticide Chemistry, Toxicology, and Policy Short Course February 7-8, 2006 in Eugene, Oregon. Dr. Miller presented *Pesticide Information on the Internet*; Dr. Daniel Sudakin discussed *Pesticides and Effects on Humans*; and Dr. Jeff Jenkins gave presentations on *Pesticide Toxicology and Risk Assessment*, *Pesticides and Water Quality*, and *Right of Way Pesticide Use: What are the Risks?*

ish speaking radio station, *Paraiso*, 88.3 FM in Miami.

NPIC was contacted by Radio Bilingual, and relayed to EPA Headquarters CSB the request for an on-air interview, to be included in a week long series addressing farm worker safety issues.

Dr. Ruth Allen, NHANES Analysis Team Leader and OPPTS Principal Collaborator for AHS, included NPIC brochures with the APHA Epidemiology exhibit for dissemination at the American Public Health Association Annual Meeting in Philadelphia, PA.

poster would present a few teaser questions, and then present contact information for NPIC as a source for answering these questions.

NPIC is working with Dr. Adrian Enache (EPA Region 2) on the Fertilizer/Pesticide Campaign to include NPIC contact information on *Train Talk* metro posters.

Outreach efforts to the Chicago Botanic Garden resulted in NPIC brochures being provided to the attendees of the 4<sup>th</sup> National Conference on Non-point Source and Storm Water Pollution Education Programs, cosponsored by EPA Region 5.

NPIC provided brochures to the attendees of EPA Region 2, WPS Pesticide Regulatory Education Program (PREP) course to inform of and promote NPIC services and pesticide resources.

### Resources

NPIC acquired many books, reports, and other documents to supplement the organization's library, which serves as a resource for specialists in responding to pesticide inquiries.

Books acquired or purchased during the 2005 grant year include: *The 17 Indisputable Laws of Teamwork*, J.

Proactive Outreach		
Audience Name	Number of activities	Number of brochures
Animal Caretakers	1	53
Emergency Services	2	123
Environmental Agencies and Municipal Offices	3	159
Environmental Protection Agency	1	50
Farmers, Workers, and Applicators	9	1675
Gardeners	3	548
General Public	3	700
Other	8	1655
Physicians	4	900
Public Health Information Services	5	384
State Pesticide Agencies	4	281
Tribes	4	807
Underserved	10	605

**Efforts with OPP** - NPIC was involved in several outreach efforts with EPA throughout the grant year. EPA's OPP continues to include NPIC contact information on daily press advisories and, as updates are made to OPP's various web pages, NPIC is featured as a source for additional information.

In April 2005, the Communications Service Branch updated its *Protecting Pets* web page listing NPIC as an emergency contact, as well as a source for reporting adverse reactions or incidents with pet care products.

EPA promoted NPIC in outreach to *Telemundo*, a Spanish language television station, and to a Span-

ish News Story on its website on March 28, 2006 describing the expansion of NPIC service now responding to antimicrobial pesticide-related inquiries. The advisory included NPIC hours of operation and phone number.

**Efforts with EPA Regions** - NPIC is working with Heather Anhalt from EPA Region 5 on an outreach poster for retail chains that would be displayed in pesticide product aisles. This

On March 1, 2006 the EPA Antimicrobial Division hotline terminated its services and directed callers to contact NPIC for antimicrobial pesticide information by providing NPIC's toll-free phone number. Subsequently, EPA released a Pesticide

Responsive Outreach		
Audience Name	Number of activities	Number of brochures
Animal Caretakers	13	1195
Emergency Services	9	1775
Environmental Agencies and Municipal Offices	3	500
Environmental Protection Agency	3	1400
Farmers, Workers, and Applicators	24	5011
Gardeners	30	7580
General Public	14	1920
Industry	4	200
Other	5	795
Parents and Children	2	50
Physicians	7	965
Public Health Information Services	13	3725
State Pesticide Agencies	26	5275
Tribes	25	2875
Underserved	17	1820

Maxwell, 2001; *The 17 Indisputable Laws of Teamwork: Workbook*, J. Maxwell, 2003; *2003 PNW Weed Management Handbook*, Oregon State University, Washington State University, and the University of Idaho, 2003; *The Biocides Business: Regulation, Safety and Applications*, Wiley-VCH, 2002; *Casarett & Doull's Essentials of Toxicology*, C. Klaassen and J. Watkins III, 2003; *Code of Federal Regulations Parts 150-189*, National Archives and Records Admin., July 1, 2005; *Disinfection, Sterilization, and Preservation*, S. Block, 2001; *The Dispossessed: Living with Multiple Chemical Sensitivities*, R. Zwillinger, 1997; *Essays on the Future of Environmental Health Research: A Tribute to Dr. Kenneth Olden*, Environmental Health Perspectives and the National Institute of Environmental Health Sciences, 2005; *Forging A Poison Prevention and Control System*, Institute of Medicine, 2004; *Harper Collins Spanish Unabridged Dictionary*, L. Knight, 2005; *Herbicide Handbook*, Weed Science Society of America, 8<sup>th</sup> ed., 2002; *Managing Scientists, Leadership Strategies in Scientific Research*, A. Sapienza, 2004; *The Manual of Biocontrol Agents*, British Crop Protection Council, 2004; *Merck Index, Thirteenth Edition*, Merck & Co., Inc., 2001; *NIOSH Pocket Guide to Chemical Hazards*, Dept. Of Health and Human Services (NIOSH), September 2005; *Oxford Spanish Dictionary*, C. Carvajal and J. Horwood, 2003; *Pesticide Residues in Food and Drinking Water: Human Exposure and Risks*, J. Wiley & Sons, 2004; *Pesticide Toxicology and International Regulation*, J. Wiley & Sons, 2004; *Pflanzenschutz Nachrichten Bayer*, M. Safferling, 2005; *The Practical Application of Disinfection and Sterilization in Health Care Facilities*, J. Cokendolpher and J. Haukos, 1996; *Third National Report on Human Exposure to Environmental Chemicals*, National Center for Environmental Health, Division of Laboratory Sciences,

2005; *Toxicology and Carcinogenesis: Studies of Trans-Cinnamaldehyde*, US Dept. Of Health and Human Services, February 2004; *Water Recreation and Disease*, K. Pond, 2005.

NPIC obtained the following EPA publications: *Contaminant Candidate List Preliminary Regulatory Determination Support Document for Naphthalene*, November 2001; *Health Effects Support Document for Naphthalene, External Review Draft*, April 2002; *How to Comply With the Worker Protection Stan-*

September 2002 Revision; *Suspended, Cancelled, and Restricted Pesticides*, February 1990.

NPIC acquired the following US EPA, Office of Pesticide Programs, Reregistration Eligibility Decision documents: *1,2-Benzisothiazolin-3-one (BIT) (RED)*, September 2005; *2,4-D (RED)*, June 2005; *4-T-Amylphenol (RED)*, January 2005; *Ametryn (RED)*, September 2005; *Azadioxabicyclooctane (RED)*, September 2005; *Bitertanol (TRED)*, November 2005; *Bromine (TRED)*, September 2005; *Chloroneb (RED)*,



**Brent - Pesticide Specialist**

*Standard For Agricultural Pesticides: What Employers Need to Know*, September 2005; *Microbial and Disinfection Byproduct Rules Simultaneous Compliance Guidance Manual*, August 1999; *National Archives and Records Administration*, 2005; *National Management Measures to Control Non-Point Source Pollution from Urban Areas*, November 2005; *Pesticide Fact Book*, June 1986; *Pesticide Reregistration Progress Report*, May 1991; *Pesticide Reregistration Progress Report*, October 1991; *Protect Yourself From Pesticides: Safety Training for Agriculture Workers*, July 1993; *¡Socorro! ¡Una Cucaracha!*,

September 2005; *Chlorsulfuron (RED)*, May 2005; *Cyhexatin (TRED)*, June 2005; *Dimethipin (RED)*, August 2005; *Dodine (RED)*, September 2005; *Endothall (RED)*, September 2005; *Erioglau-cine (RED)*, September 2005; *Ethofumesate (RED)*, September 2005; *Ferbam (RED)*, September 2005; *Fluazifop-P-butyl (TRED)*, September 2005; *Flumiclorac pentyl (TRED)*, August 2005; *Imazaquin (TRED)*, December 2005; *Maleic Hydrazide (TRED)*, September 2005; *Mancozeb (RED)*, September 2005; *Maneb (RED)*, August 2005; *Metiram (RED)*, September 2005; *Napropamide (RED)*, September



2005; *Nitrapyrin (RED)*, April 2005; *Oleic Acid Sulfonates (RED)*, August 2005; *Oxydemeton-methyl (IRED)*, September 2005; *Oxydemeton-methyl (Amended IRED)*, September 2005; *Phenmedipham (RED)*, March 2005; *PHMB (RED)*, September 2005; *Procymidone (TRED)*, July 2005; *Propargite (Amended RED)*, December 2005; *Propoxur (RED)*, August 1997; *Pyrazon (RED)*, September 2005; *Sethoxydim (RED)*, September 2005; *Tartrazine (RED)*, September 2005; *Tau-fluvalinate (RED)*, September 2005; *Thidiazuron (RED)*, September 2005; *Trichloromelamine (RED)*, September 2005; *Tridemorph (TRED)*, January 2006; *Triethylene Glycol (RED)*, September 2005; *Trifluralin (TRED)*, August 2004; and *Xylene (RED)*, September 2005.

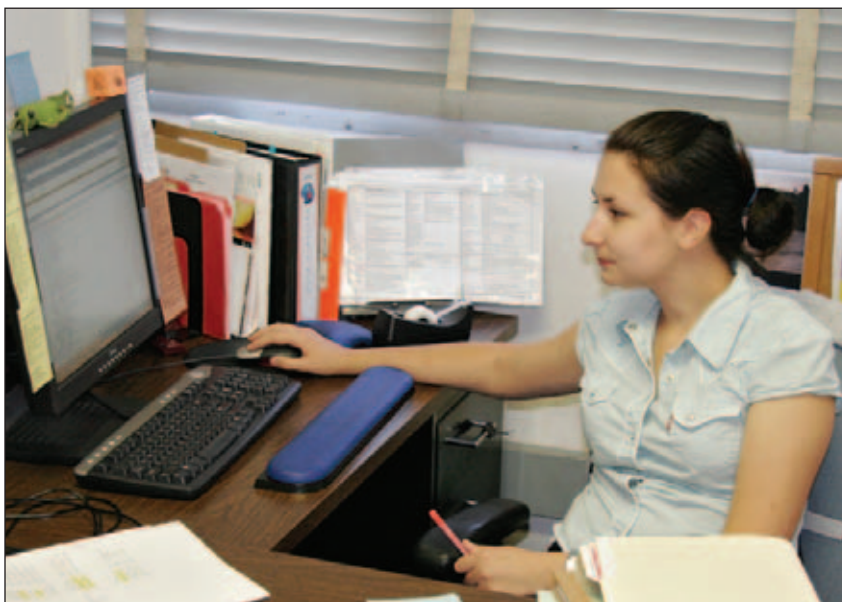
NPIC added the following publications from DHHS/ATSDR to its library this year: *Pesticide Data Program, Annual Summary Calendar Year 2003*, 2003; *Toxicological Profile for Acrolein (Update)*, September 2005; *Toxicological Profile for Arsenic (Update)*, September 2005; *Toxicological Profile for Barium (Update)*, September 2005; *Toxicological Profile for Benzene (Update)*, September 2005; *Toxicological Profile for Heptachlor and Heptachlor Epoxide (Update)*, September 2005; *Toxicological Profile for Bromoform (Update)*, August 2005; *Toxicological Profile for Carbon Tetrachloride (Update)*, August 2005; *Toxicological Profile for Hexachlorocyclohexanes (Update)*, August 2005; *Toxicological Profile for Lead (Update)*, September 2005; *Toxicological Profile for Naphthalene (Update)*, August 2005; *Toxicological Profile*

*for Nickel (Update)*, August 2005; *Toxicological Profile for Perchlorates*, September 2005; *Toxicological Profile for Tin (Update)*, August 2005; *Toxicological Profile for Tungsten*, August 2005; *Toxicological Profile for Xylenes (Update)*, September 2005; *Toxicological Profile for Zinc (Update)*, August 2005; and *ToxProfiles*, 2005.

World Health Organization International Programme on Chemical Safety publications received by NPIC include: *Chemical-Specific Adjustment Factors for Interspecies Differences and Human Variability*,

Other World Health Organization publications received by NPIC include: *Journal of Water and Health*, Vol. 3, No. 1, March 2005; *Journal of Water and Health*, Vol. 3, No. 2, June 2005; *Journal of Water and Health*, Volume 3, Number 3, December 2005; *Journal of Water and Health*, Volume 3, Number 4, December 2005; *Journal of Water and Health*, Volume 4, Supplement 1, 2006; *Water for Life: Making it Happen*, 2005.

Other publications received by NPIC include: *21 Code of Federal Regulations: Food and Drugs, Parts 170 to 199*, National Archives and Records Administration, 2005; *Dept. Of Agriculture Appropriations for 1965, 1964; Environmental Impact Report on Caltrans' Vegetation Control Program: Appendix I-Risk Assessment for the Draft*, 1991; *Environmental Impact Report on Caltrans' Vegetation Control Pro-*



**Masa - Pesticide Specialist**

2005; *Concise International Chemical Assessment Document 66: 2,4,6-Tribromophenol and Other Simple Brominated Phenols*, 2005; *Concise International Chemical Assessment Document 64: Butyl Acetates*, 2005; *Concise International Chemical Assessment Document 65: Tin and Inorganic Tin Compounds*, 2005; *Ecosystems and Human Well-Being: Health Synthesis*, 2005; *Environmental Health Criteria 231: Bentonite, Kaolin, and Selected Clay Minerals*, 2005; *Pesticide Residues in Food*, 2003; and *The WHO Recommended Classifications of Pesticides By Hazards and Guidelines to Classification*, 2004.

*gram*, 1992; *Federal Environmental Pesticide Control Act*, 1971; *Federal Register Part IV*, February 11, 1994; *Gempler's 2006 Green Industry Master Catalog*, 2005; *The Health Risks of Herbicides in Forestry: A Review of the Scientific Record*, 1984; *The Merck Index 13.4 [CD-ROM]*, Cambridge Soft, 2005; *Pesticide Background Statements Volume I. Herbicides (Supplement)*, 1986; *Pesticide Background Statements Volume III: Nursery Pesticides*, 1987; *Pesticide Handlers and the Worker Protection Standard [Video]*, Michigan State University, June 1994; *Living Well Today and Tomorrow*, 2005; *Oregon Field*



*Guide: A Celebration of Oregon's Natural Environment*, OPB, 1995; *The Practical Application of Disinfection and Sterilization in Health Care Facilities*, 1996; *Report of the Secretary's Commission on Pesticides and Their Relationships to Environmental Health*, 1969; *Summary of Registered Agriculture Pesticide Chemical Uses*, 1969; *Top Choice: Fire Ant Control. Once. And for all.* [Video], Bayer Environmental Science; *Toxaphene Use Patterns and Environmental Aspects*, 1970; and *U.S. Fish and Wildlife Service Biological Opinion on Selected Pesticides*, US Fish & Wildlife, 1989.

Foreign language resources acquired by NPIC this grant year include the *Harper Collins Spanish Unabridged Dictionary*, 2005, and the *Oxford Spanish Dictionary*, 2003.

Foreign language EPA publications include: *Clear Your Home of Asthma Triggers, Your Children Will Breathe Easier* (Chinese, Korean, Vietnamese), September 1999; *Environmental Justice for All* (Spanish), 2004; *Fact Sheet: Effective Control of Household Pests* (Chinese, 2004; Russian, 2005; Spanish, 2005); *Help! It's a Roach!* (Spanish, 2003 Revision); *Protecting Endangered Species: Interim Measures* (Spanish), September 1993; *Should I Eat the Fish I Catch?* (Chinese, Korean, Vietnamese), April 2001.

## Personnel Update

NPIC hired six full-time pesticide specialists during the 2005-06 grant year. Carley Hansen Prince assumed duties of Interim Project Coordinator with the departure of Crista Chadwick. Three pesticide specialists resigned during this period. One student worker and one temporary administrative assistant were hired to assist with office support. NPIC continued recruitment efforts for other full-time specialists.

assistant, a part-time fiscal/personnel manager, and two part-time undergraduate student assistants. All specialists have at least a bachelor's degree in a scientific field; many have advanced degrees. Specialists come from a variety of scientific disciplines including, but not limited to, toxicology, chemistry, biology, plant pathology, environmental science, biochemistry, microbiology, and soil science.

## Facilities

NPIC purchased a Xerox Phaser 6350DX Color Laser Printer and a new combination DVD Player/Video Cassette Recorder to replace worn and outdated equipment. A redesign of the telecommunication programing began, allowing for additional capabilities and features that address new service needs required by the renewal of the OSU/NPIC grant. All operational telephone equipment and its infrastructure were upgraded through the purchase of Avaya 6242 D+M telephones and their associated modular equipment. To aid in the conversion of paper documents to digital files, software upgrades were purchased to enhance NPIC's Optical Character Recognition capabilities. Four new bookcases were also purchased to allow for expansion of the NPIC library.

**npic**  
NATIONAL PESTICIDE INFORMATION CENTER

**OSU**  
Oregon State UNIVERSITY

**POSITION ANNOUNCEMENT**  
Faculty Research Assistant  
National Pesticide Information Center  
Department of Environmental & Molecular Toxicology

**Position** – The National Pesticide Information Center (NPIC) invites applications for one or more full-time Faculty Research Assistant positions for the 2005-2006 academic year. These are 12 month, fixed-term appointments, with reappointment at the discretion of the NPIC Director.

**National Pesticide Information Center** – The only service of its kind in the US, NPIC's mission is to deliver objective, science-based information about a variety of pesticide-related issues to the public and professionals, with a goal of promoting informed decision-making. NPIC, a cooperative effort between OSU and the US Environmental Protection Agency, serves the US and its territories via an 800-telephone number (seven days per week), email, and the World Wide Web (<http://npic.orst.edu>).

NPIC provides its staff with many opportunities for professional- and self-development, including: Public service experience; coordination of projects; working in a dynamic learning atmosphere; and continuing education (e.g., taking occasional classes at OSU at reduced tuition rates - some restrictions apply).

**Responsibilities and Duties** – Provide objective, science-based information on a variety of pesticide-related topics, including: Pesticide chemistry, toxicology, and environmental fate, to the public and professionals; participate in the development of fact sheets that promote a broader understanding of issues related to pesticide use and their potential impact on human health and the environment; respond to telephone inquiries and help maintain a pesticide incident database; develop and maintain knowledge of pesticides and pesticide-related issues; contribute to other areas as needed for NPIC to fulfill its mission.

**Qualifications** – Position requires a minimum of a B.S. degree – an M.S. is preferred – in toxicology, environmental chemistry, biotechnology, agricultural sciences, public health, or closely related area (degree must include coursework in biochemistry, physiology, or equivalent). Also required are knowledge and experience in one or more of the following - Pesticide toxicology, environmental chemistry, regulations, and use practices; ability to provide unbiased information on pesticide issues to both the public and professionals.

Candidates also will be judged on their knowledge, ability, and experience in these areas: Strongly preferred - Dealing with the public on controversial issues, by risk communication and crisis management; Demonstrated writing ability; effective use of computers in word processing; database management. Highly desirable - Fluent in Spanish. Position requires a demonstrable commitment to promoting and enhancing diversity.

**University & Community** – OSU is one of only two American universities to hold the Land Grant, Sea Grant, Sun Grant, and Space Grant designation and is a Carnegie Doctoral/Research-Extensive university. OSU is located in Corvallis, a community of 53,000 people situated in the Willamette Valley between Portland and Eugene. Ocean beaches, lakes, rivers, forests, high desert, the rugged Cascade and Coastal Ranges, and the urban amenities of the Portland metropolitan area are all within a 100-mile drive of Corvallis.

**Application** – Send a letter of application (describing your qualifications, experience, and reasons for interest in this position), curriculum vitae, and names and addresses of three references, to:

Search Committee  
National Pesticide Information Center  
333 Weniger Hall  
Oregon State University, EMT Department  
Corvallis, OR 97331-6502

Review of applications begins as positions become available.  
OSU is an Affirmative Action/Equal Opportunity Employer.

NPIC's current staff includes a full-time project coordinator, twelve full-time specialists, a full-time information resource supervisor, a full-time temporary administrative





# Traffic Report

## Traffic Report Summary

There are three main means of inquiry to NPIC: telephone, e-mail, 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 e-mail to contact NPIC. Unless otherwise specified, inquiries to NPIC via the WWW are referred to as “hits”.

NPIC answered 24,422 inquiries received via phone and/or e-mail during its tenth year of operation (April 2005 - March 2006) 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 occurred 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.

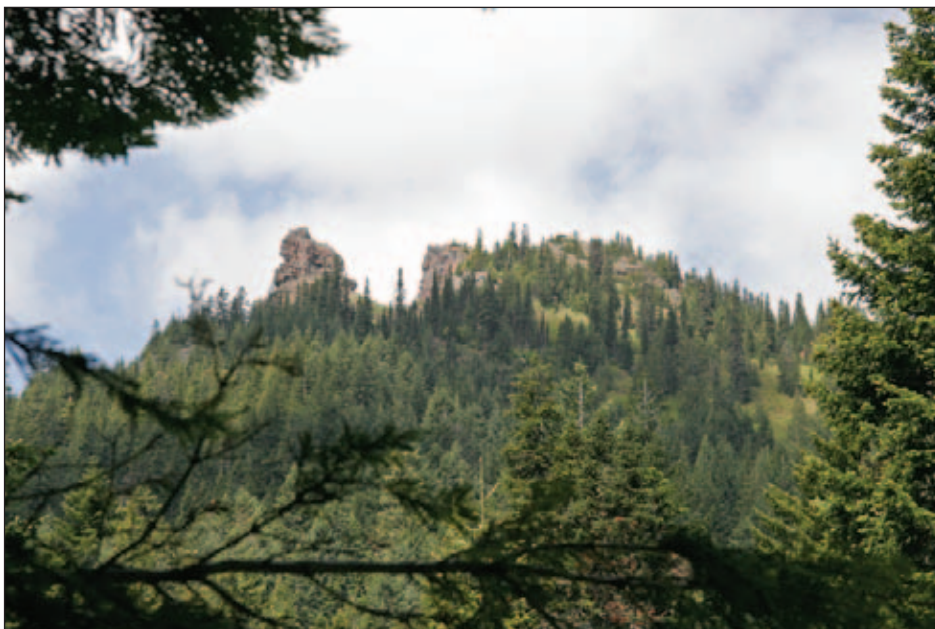
The means by which people contact NPIC is shown in Table 3.1. The telephone was by far the most important verbal contact route. However, many people accessed NPIC through its World Wide Web site (Table 4.1 and Graphs 4.1 - 4.8).

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 a small percentage of the inquiries were 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. 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 e-mail. This information is entered into the NPIC Pesticide Inquiry 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. Details of an inquiry, including what the inquirer told or asked the specialist, and how the specialist responded to the inquirer, are recorded as a narrative statement in the PID.

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 2005 NPIC operational year:

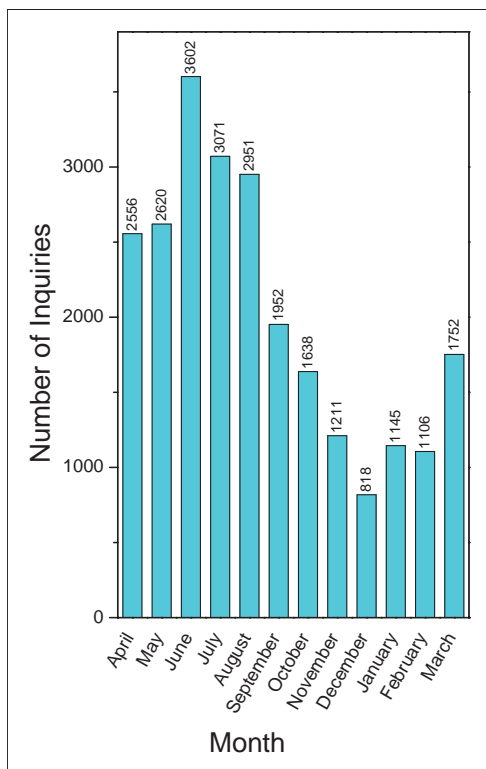


Suzanne - Pesticide Specialist

## 1. Monthly Inquiries

NPIC received 24,422 inquiries via telephone and/or e-mail during the 2005 grant year. Graph 1.1 shows the number of inquiries received for each month. Eighty-two 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.

**Graph 1.1 - Monthly Telephone Inquiries**



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

**Table 1.1 - Monthly Telephone Inquiries**

Month	Number of Inquiries				
	2001	2002	2003	2004	2005
April	2358	2650	2328	2519	2556
May	3118	2942	2891	2826	2620
June	3097	3060	3267	3386	3602
July	3045	3154	3143	3136	3071
August	2676	3326	2747	2792	2951
September	1642	2187	2026	2142	1952
October	1621	1664	1597	1821	1638
November	1171	1030	1032	1193	1211
December	825	839	796	886	818
January	1142	1050	969	1065	1145
February	1224	1067	1077	1172	1106
March	1592	1580	1736	1827	1752
Calendar <sup>1)</sup> Yr Tot	23105	24810	23524	24483	24484
Grant <sup>2)</sup> Yr Tot	23511	24549	23609	24765	24422

1) January 1 through December 31.  
2) April 1 through March 31.



## 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 (21,613 or 88.5%) 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 8,690 (35.6%) information inquiries about specific pesticides - for example: a) Caller seeking health risk information on termite treatment with Termidor. She is concerned about possible risk to her 7 month old baby; and b) Caller seeking health

information on “phosphine for gophers”. Caller reports her dog ate a dead gopher, and she is concerned with secondary poisoning.

NPIC responded to 9,733 (39.9%) inquiries relating to pesticides in general, for example: a) Caller asked if there are any regulations regarding how close a farmer can spray pesticides near private residences; and b) Caller said veterinarian recommended applying mothballs to section of yard where he wants to keep his dog away from. Caller wanted to know if this is okay.

NPIC responded to 3,190 (13.1%) 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, regard-

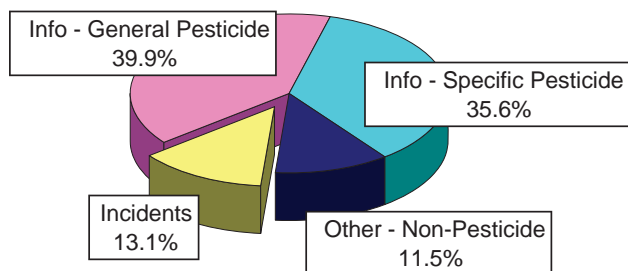
less of injury. The majority of incident inquiries involved human and animal entities (Chart 2.2). Of the 3,190 incident inquiries, 1,477 (46.3%) involved a human entity, 1,250 (39.2%) involved an animal entity, and 462 (14.5%) involved damage to a building such as a home or office.

NPIC also took 2,809 (11.5%) inquiries that were not related to pesticides, for example: a) Caller reported she is traveling to Africa and was told to get malaria pills. Where she can get malaria pills?; and 2) Caller stated her neighbor’s property is not maintained. Caller stated the neighbors live elsewhere now and the field needs to be mowed.

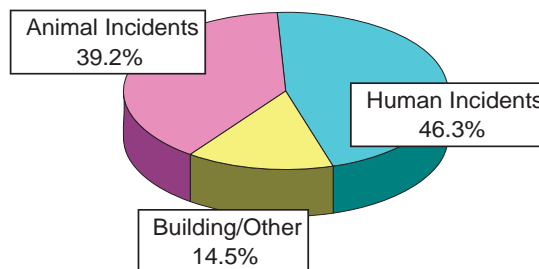
**Table 2.1 - Type of Inquiry**

Type of Inquiry	Number of Inquiries				
	2001	2002	2003	2004	2005
Information - Specific Pesticide	9952	10831	9907	9900	8690
Information - General Pesticide	11049	11152	11056	10547	9733
Incidents	1916	1884	1777	2455	3190
Human Incidents	952	826	718	1089	1477
Animal Incidents	583	740	763	984	1250
Building/Other	381	318	296	382	462
Other - Non-Pesticide	593	682	869	1863	2809
Grant Year Total =	23511	24549	23609	24765	24422

**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 24,422 inquiries, 22,871 (93.7%) were received by telephone, 521 (2.1%) were recorded by a voice mail system, 121 (0.5%) were received by postal mail, 2 were walk-in inquiries, and 906 (3.7%) were by e-mail.

**Table 3.1 -  
Origin of Inquiry**

Origin of Inquiry	Number of Inquiries				
	2001	2002	2003	2004	2005
Telephone	22163	23094	21999	23242	22871
Voice Mail	660	607	671	598	521
Mail	46	45	24	19	121
Walk In	6	2	12	8	2
E-Mail	620	795	901	897	906
Other	16	6	2	1	1
Grant Year Total =	23511	24549	23609	24765	24422

## Read the Label *First!*



**READ ENTIRE LABEL *FIRST!***

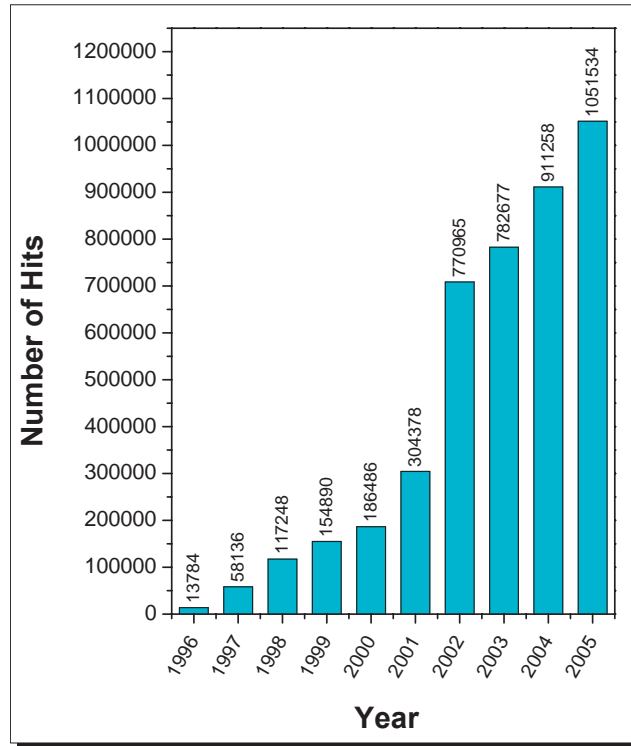
**- BEFORE YOU *BUY, USE,*  
OR STORE A PESTICIDE.**

## 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 1,051,534 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 (142,967) 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 (>174,000 hits). Web hits are a major form of inquiry to NPIC, in addition to telephone and e-mail. The NPIC InfoBase received 55,700 hits this year.

**Graph 4.1 - NPIC Total Hits per Year**



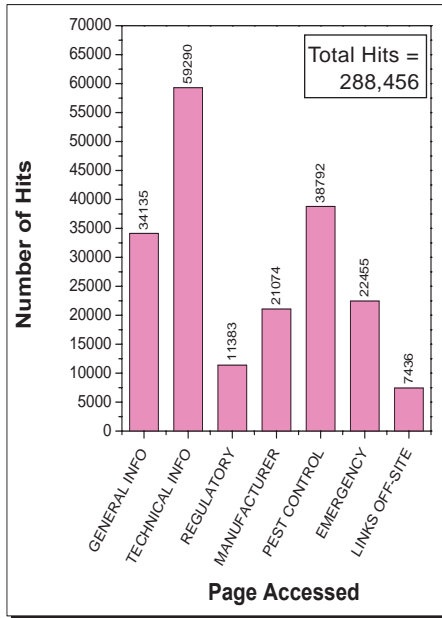
### Feedback from Web Site Comment Form -

*“This website and the phone bank are a great information resource. The person helping me was very helpful. The concept and operation of this program is a great service to our society. Thank you, ...”*

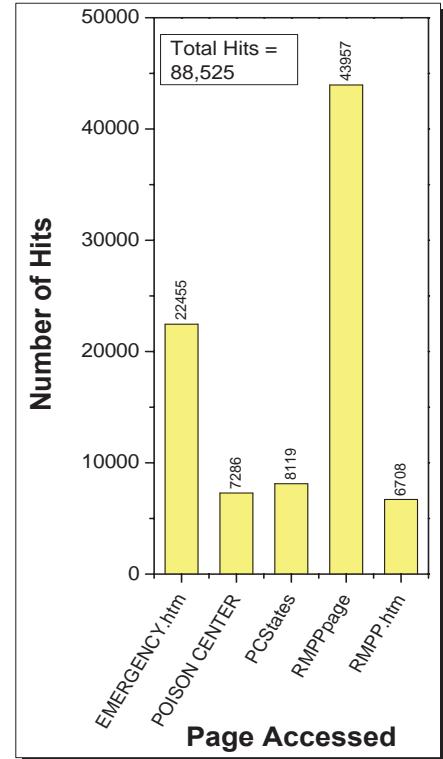
**Table 4.1 - Selected Web Hits**

Page Accessed	# of Hits NPIC
General Information	34135
Technical Information	59290
Fact Sheets	174126
State Regulatory Agencies	30155
Recognition & Management of Pesticide Poisoning	50665
Manufacturer Info	50093

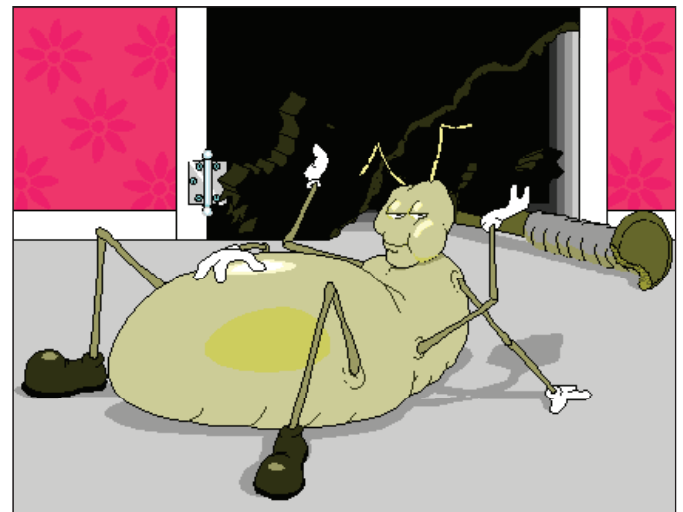
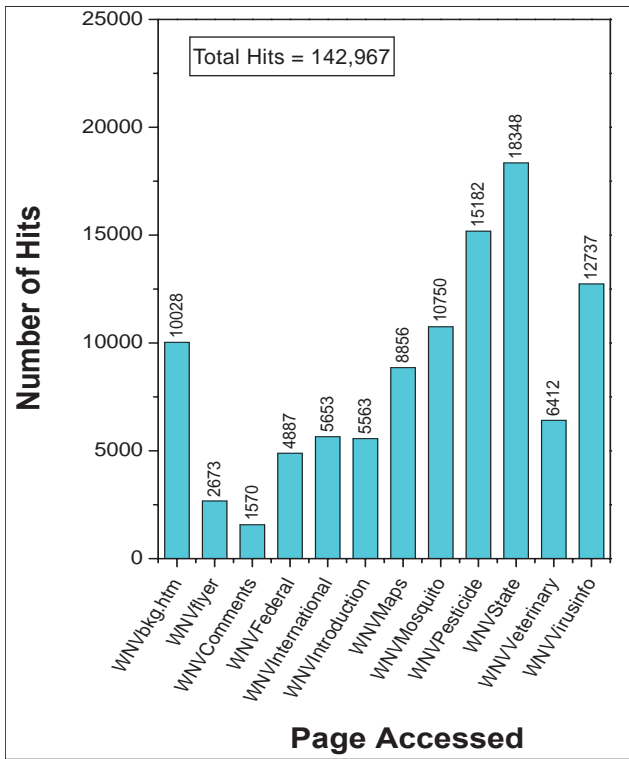
**Graph 4.2 - Hits to NPIC Main Web Pages**



**Graph 4.3 - Hits to Emergency Information Pages**



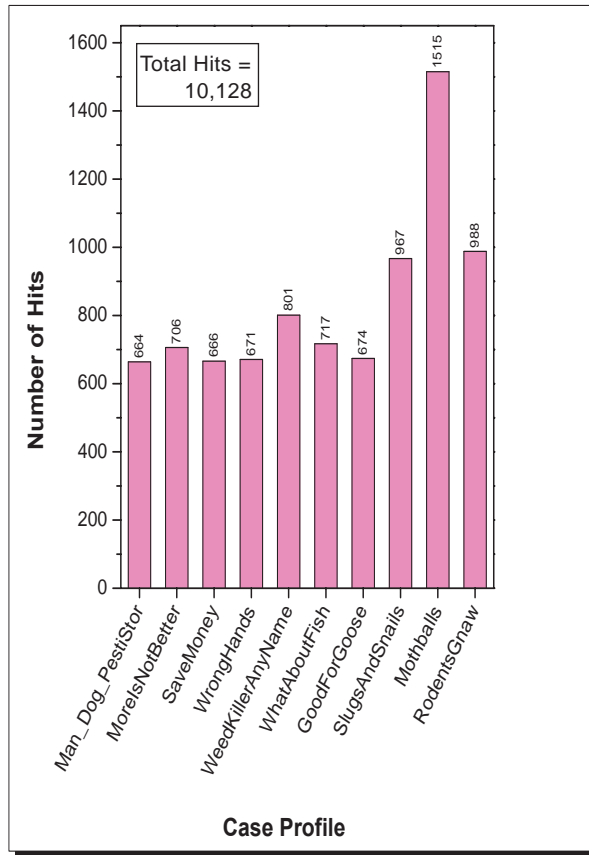
**Graph 4.4 - Hits to WNV Pages**



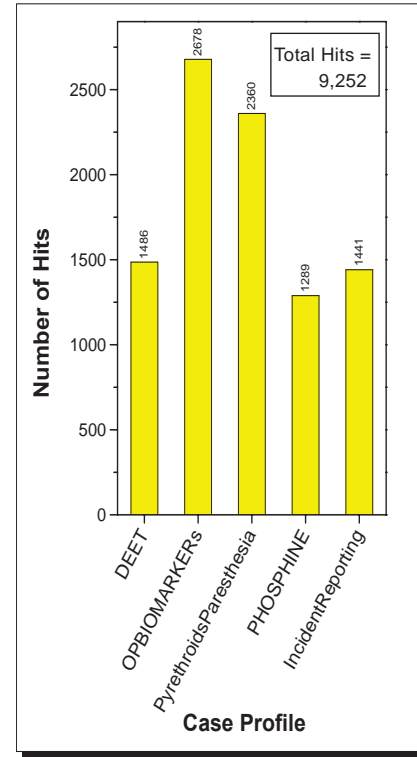
*Termitis Relaxus*



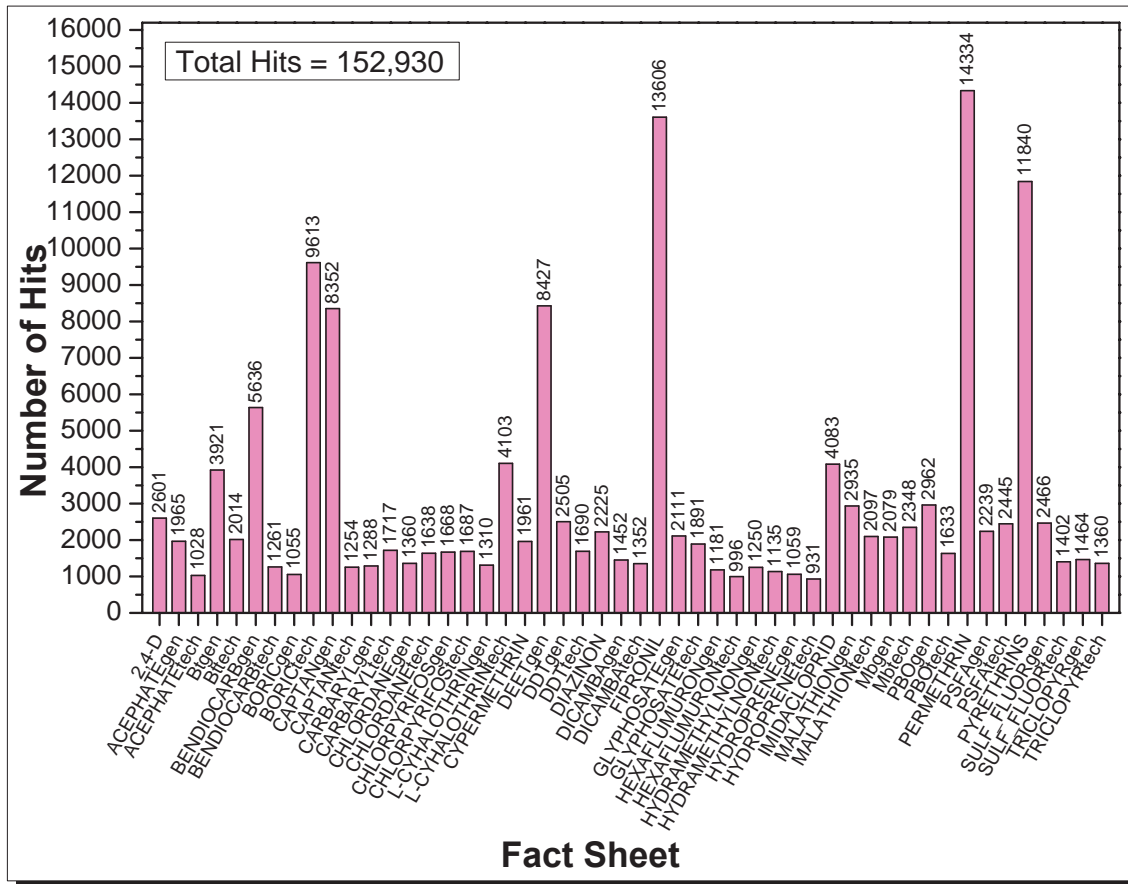
**Graph 4.5 - Hits to Case Profiles**



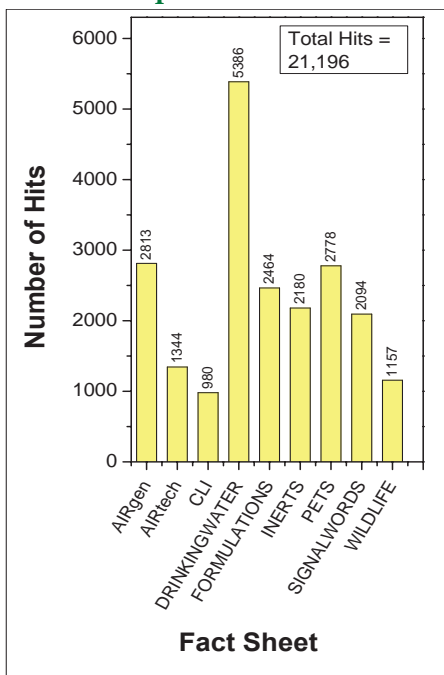
**Graph 4.6 - Hits to Medical Case Profiles**



**Graph 4.7 -  
Hits to Active Ingredient Fact Sheets**



**Graph 4.8 -  
Hits to Topic Fact Sheets**



*Dapperitus Roachii*



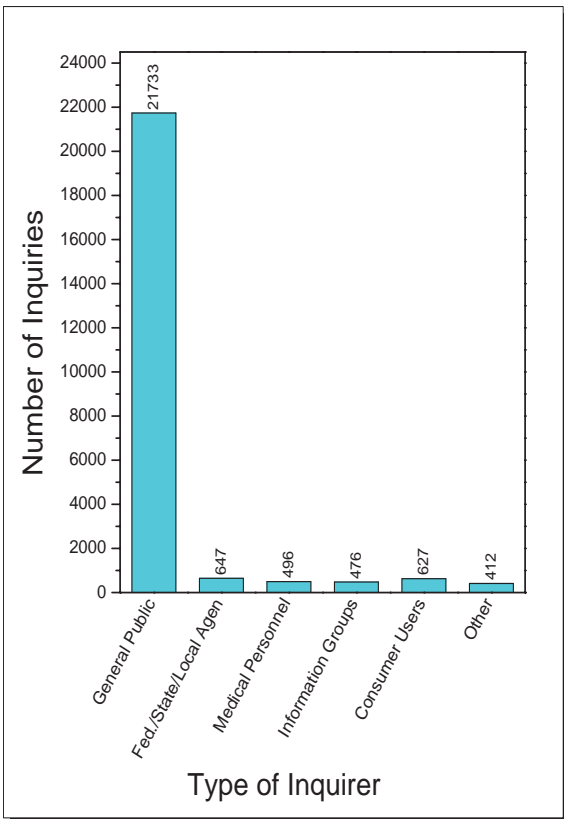
## 5. Type of Inquirer

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 24,422 inquiries received, there were 21,733 (89.0%) from the

general public; 647 (2.6%) from federal, state, or local government agencies; 496 (2.0%) from human and animal medical personnel; 476 (1.9%) from information groups including the media, unions, environmental organizations and pesticide manufacturing or marketing companies; 627 (2.6%) from consumer

users including legal or insurance representatives, laboratory or consulting personnel, pest control operators, retail store personnel, or farm personnel; and 412 (1.7%) inquiries from other professions/occupations.

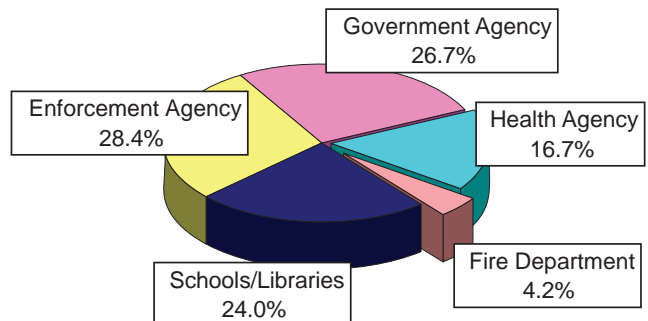
**Graph 5.1 - Type of Inquirer**



**Table 5.1 - Type of Inquirer**

Type of Inquirer	Number of Inquiries				
	2001	2002	2003	2004	2005
General Public	20351	21537	20443	21334	21733
Federal/State/Local Agency					
Health Agency	86	133	116	118	108
Government Agency	611	519	221	225	173
Enforcement Agency	23	111	387	292	184
Schools/Libraries	336	241	165	174	155
Fire Department	39	33	32	31	27
Medical Personnel					
Human Medical	315	333	315	290	250
Animal Vet./Clinic	268	230	238	292	238
Migrant Clinic	8	7	10	8	8
Information Groups					
Media	111	145	121	101	79
Unions/Info. Service	75	72	180	147	121
Environmental Org.	100	102	82	114	97
Pesticide Mfg./Mktg. Co.	173	174	202	198	179
Consumer Users					
Lawyer/Insurance	98	72	62	50	46
Lab./Consulting	80	65	56	106	62
Pest Control	183	196	161	183	163
Retail Store	286	257	308	384	302
Farm	63	58	37	71	54
Other	270	233	435	621	412
Grant Year Total =	23511	24549	23606	24765	24422

**Chart 5.1 - Inquiries - Governmental Agencies**



## 6. Type of Question

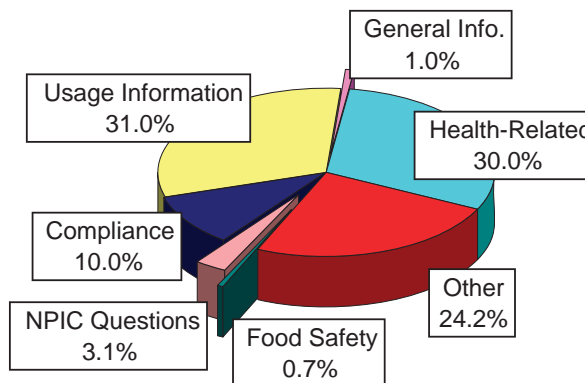
The types of questions received at NPIC are most often related to health effects of pesticides (Chart 6.1 and Table 6.1). NPIC responded to 7,335 (30.0%) inquiries related to health effects of pesticides, including inquiries about general health, treatment and testing, and laboratory questions. In addition, there were 7,574 (31.0%) 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, preharvest intervals, and lawn care usage.

NPIC also responded to 2,445 (10.0%) inquiries involving compliance questions, including questions about regulations, disposal, and complaints. Lastly, there were 166 (0.7%) inquiries about other food safety issues, 250 (1.0%) inquiries involving general pesticide questions, 749 (3.1%) inquiries involving questions about NPIC, and 5,903 (24.2%) inquiries not classified according to type of question.

**Table 6.1 -  
Type of Question**

Type of Question	Number of Inquiries				
	2001	2002	2003	2004	2005
Health Related					
Health	9283	9287	7850	7891	6655
Treatment	125	125	159	278	470
Testing Lab.	97	86	169	188	210
Usage Information					
Pest/Crop	1732	2292	1918	2007	1764
Chemical	2342	2252	824	697	799
Pros and Cons	65	67	75	69	43
Safety/Application	2446	2885	3559	3760	4430
Cleanup	290	274	255	296	362
Harvest Intervals	111	88	123	162	154
Lawn Care	18	12	40	28	22
Compliance					
Regulations	1587	1565	1597	1484	1365
Complaints	390	506	492	747	879
Disposal	178	165	134	164	201
Food Safety	234	237	227	184	166
General	325	201	323	325	250
NPIC Questions	1139	1125	1042	847	749
Non-Pesticide Related	1	6	3	0	3
Other	3129	3376	5045	5638	5900
Grant Year Total =	23511	24549	23608	24765	24422

**Chart 6.1 -  
Type of Question**



*"I have a question as to what can happen to someone who has breathed bug foggers repellent used to remove bugs such as roaches in repeated incidents. What are the dangers? What are some possible effects to this?"*

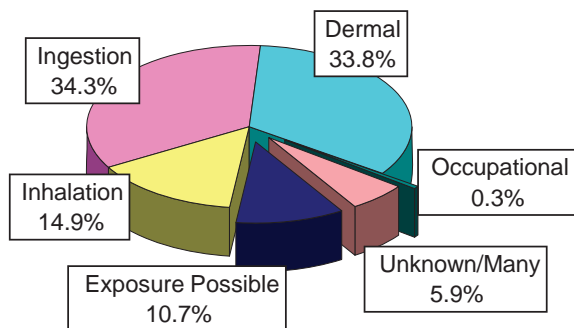
## 7. Reason for Inquiry

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 3,219 inquiries for which a reason was available, there were 2,615 (81.2%) about pesticide exposure, and 524 (16.3%) about accidents. There were 67 (2.1%) inquiries about odor only, and 13 (0.4%) inquiries for other reasons. The reason for all other (non-pesticide) inquiries is N/A–Unknown.

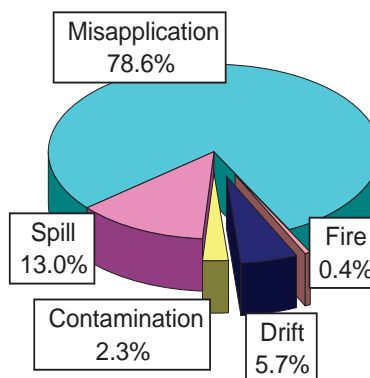
**Table 7.1 - Reason for Inquiry**

Reason for Inquiry	Number of Inquiries				
	2001	2002	2003	2004	2005
Information Inquiries					
Concern/Knowledge	21465	22586	21476	20988	19019
Incident Inquiries					
Exposures					
Dermal - Acute	315	496	482	655	863
Dermal - Chronic	10	10	12	18	21
Ingestion - Acute	359	400	443	647	885
Ingestion - Chronic	3	6	7	3	12
Inhalation - Acute	153	140	115	227	296
Inhalation - Chronic	18	12	20	61	94
Exposure Possible	215	150	127	163	281
Unknown/Many	268	219	176	181	154
Occupational	26	20	7	14	9
Accidents					
Misapplic. - Homeowner	198	172	165	229	337
Misapplic. - PCO	59	41	37	42	39
Misapplic. - Other	31	17	24	29	36
Spill - Indoor	102	74	59	44	54
Spill - Outdoor	25	19	10	16	14
Contamination - Home	2	3	3	5	5
Contamination - Other	7	2	2	7	7
Drift	48	49	33	37	30
Fire - Home	1	0	0	0	1
Fire - Other	1	0	1	0	1
Industrial Accident	0	0	0	0	0
Odor Only	55	32	24	42	67
Testing Laboratory	1	0	0	0	0
Other	27	22	30	33	13
N/A-Unknown	122	79	356	1324	2184
Grant Year Total =	23511	24549	23609	24765	24422

**Chart 7.1 - Pesticide Exposures**



**Chart 7.2 - Pesticide Accidents**





## 8. Action Taken

NPIC specialists respond to inquiries in many ways, including the provision of verbal information, transfer to poison control, discussion and contact information for other agencies or organizations, and information sent by e-mail, mail, or fax. Actions taken by specialists in response to inquiries are summarized in Table 8.1, and Charts 8.1 and 8.2. Most inquiries (12,844; 52.6%) were answered by providing

discussion and verbal information to the inquirer.

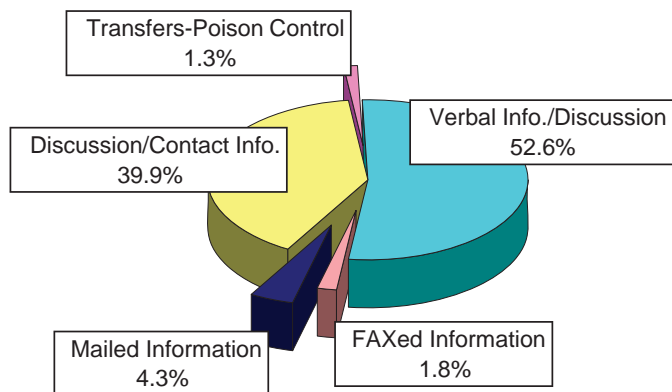
Some inquiries (325; 1.3%), where the specialist determined a need, were transferred to Oregon Poison Control, Animal Poison Control Center, or the National Pesticide Medical Monitoring Program, as appropriate. For other inquiries, information in addition to that provided by NPIC was required to meet the needs of the inquirer - for those inquiries, NPIC provided

discussion and contact information for other agencies or organizations (9,744; 39.9%). Common NPIC referrals were to the EPA (1.6%); state lead agencies (3.4%); to cooperative/county extension service (8.0%); to Poison Control (2.4%) and Animal Poison Control (1.0%); and the manufacturer/registrant (23.6%). Some inquirers received information via mail or e-mail (1,047; 4.3%) or fax (451; 1.8%).

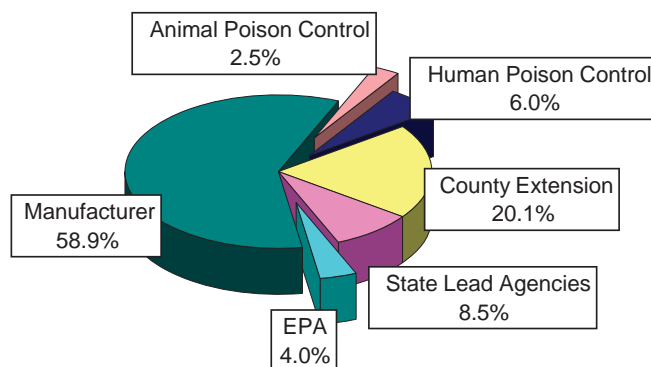
**Table 8.1 - Action Taken**

Action Taken	Number of Inquiries				
	2001	2002	2003	2004	2005
Provided Verbal Information/Discussion	16300	17304	16703	15335	12844
Provide Transfer to:					
Oregon Poison Center	77	59	71	70	99
Animal Poison Control Center	111	87	95	51	98
National Pesticide Medical Monitoring Program	614	407	209	193	128
Provide Discussion and Contact Information for:					
EPA HQ or Regional Office	231	365	337	515	389
State Lead Agencies	632	746	544	757	825
Cooperative/County Extension	1336	1461	1171	1624	1946
Human Poison Control	55	81	74	315	578
Animal Poison Control	135	110	104	115	244
Manufacturer/Registrant	2939	2743	2803	4199	5762
e-Mail, Mailed Information, Brochure, Publication	664	822	1018	994	1047
Other/FAXED Information	101	251	454	587	451
Grant Year Total =	23511	24549	23609	24765	24422

**Chart 8.1 - Action Taken**



**Chart 8.1 - Discussion/Contact Information**



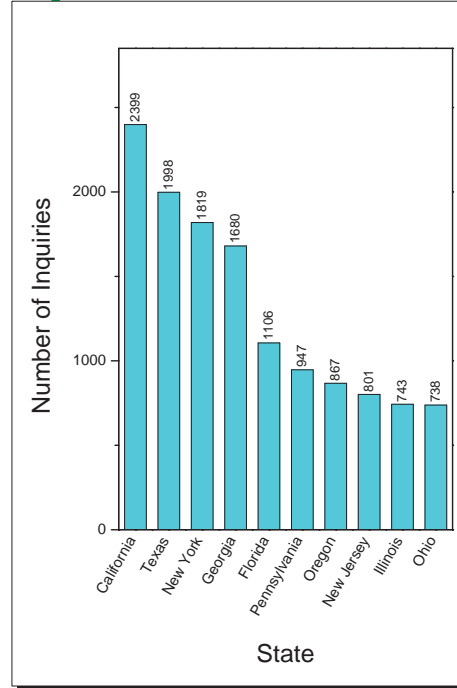
## 9. Inquiries by State

Table 9.1 lists the number of inquiries received by NPIC from each state. The largest number of inquiries came from California, followed by Texas, and New York, following the same order as the population (Graph 9.1). The fourth largest number of inquiries was from Georgia - this was an anomaly in that a fairly large portion of the Georgia inquiries resulted from NPIC's telephone number being wrongly associated with the passport information service. Based on population, a disproportionate number of inquiries were received from Oregon.

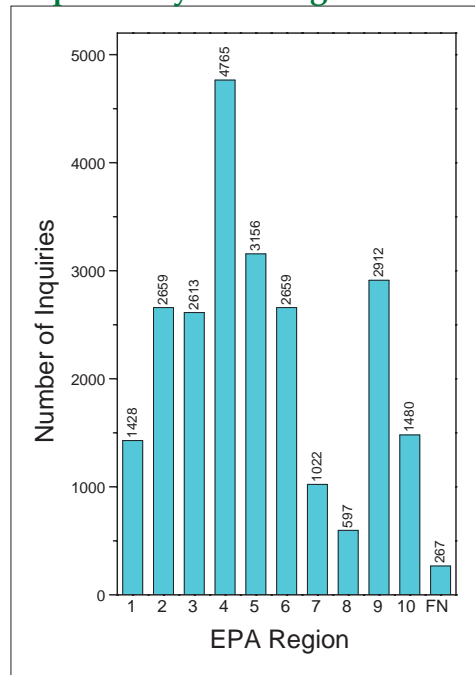
Graph 9.2 summarizes inquiries by EPA region. NPIC received 19.5% of inquiries from Region 4, 12.9% from Region 5, 11.9% from Region 9, 10.8% from Region 2, 10.8% from Region 6, and 10.7% from Region 3.



**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
0		Not recorded	386
10	AK	Alaska	36
4	AL	Alabama	290
6	AR	Arkansas	152
9	AZ	Arizona	340
9	CA	California	2399
FN	CN	Canada	111
8	CO	Colorado	285
1	CT	Connecticut	336
3	DC	DC	152
3	DE	Delaware	68
4	FL	Florida	1106
FN	FN	Foreign	156
4	GA	Georgia	1680
9	HI	Hawaii	54
7	IA	Iowa	245
10	ID	Idaho	93
5	IL	Illinois	743
5	IN	Indiana	327
7	KS	Kansas	181
4	KY	Kentucky	284
6	LA	Louisiana	208
1	MA	Massachusetts	722
3	MD	Maryland	661
1	ME	Maine	111
5	MI	Michigan	736
5	MN	Minnesota	299
7	MO	Missouri	418
4	MS	Mississippi	140
8	MT	Montana	68
4	NC	North Carolina	613
8	ND	North Dakota	48
7	NE	Nebraska	178
1	NH	New Hampshire	108
2	NJ	New Jersey	801
6	NM	New Mexico	110
9	NV	Nevada	119
2	NY	New York	1819
5	OH	Ohio	738
6	OK	Oklahoma	191
10	OR	Oregon	867
3	PA	Pennsylvania	947
2	PR	Puerto Rico	32
1	RI	Rhode Island	100
4	SC	South Carolina	260
8	SD	South Dakota	39
4	TN	Tennessee	389
6	TX	Texas	1998
8	UT	Utah	123
3	VA	Virginia	654
2	VI	Virgin Islands	7
1	VT	Vermont	51
10	WA	Washington	484
5	WI	Wisconsin	313
3	WV	West Virginia	130
8	WY	Wyoming	34
		Total =	24422

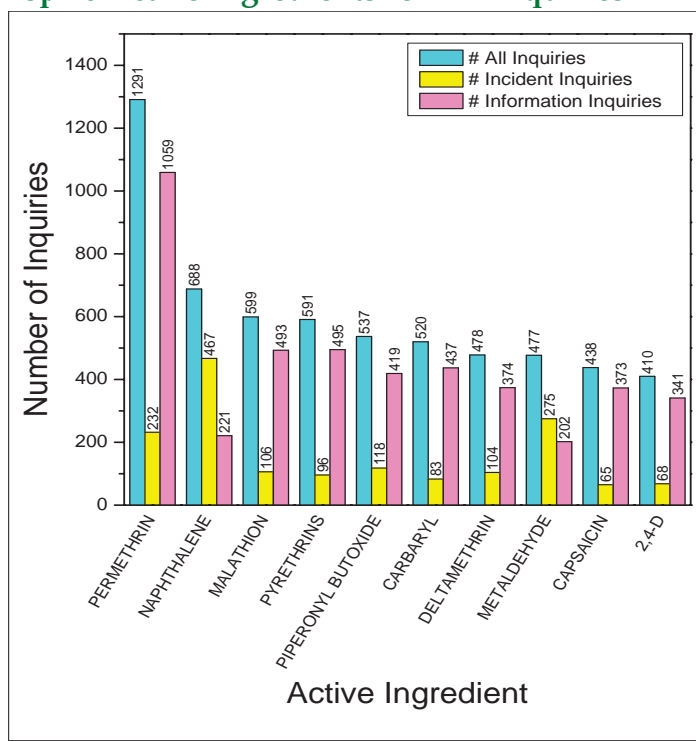
## 10. Top 10 Active Ingredients for All Inquiries

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 Inquiry Database. The active ingredient permethrin was discussed in more inquiries than any other single active ingredient (Table 10.1, Graph 10.1). Of the 1,291 inquiries involving permethrin, 232 (18.0%) were incident inquiries and 1,059

(82.0%) 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 definite-

ly (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 232 times that permethrin was mentioned during incident inquiries in which effects were reported, 7.3% of the cases were assigned a certainty index of 1 (definite) or 2 (probable).

**Graph 10.1 -  
Top 10 Active Ingredients for All Inquiries**



**Table 10.1 -  
Top 25 Active Ingredients  
for All Inquiries**

Active Ingredient	Total Inquiries	Incident <sup>1)</sup> Inquiries	Information Inquiries
PERMETHRIN	1291	232 (17)	1059
NAPHTHALENE	688	467 (2)	221
MALATHION	599	106 (2)	493
PYRETHRINS	591	96 (10)	495
PIPERONYL BUTOXIDE	537	118 (10)	419
CARBARYL	520	83 (5)	437
DELTAMETHRIN	478	104 (3)	374
METALDEHYDE	477	275 (37)	202
CAPSAICIN	438	65 (2)	373
2,4-D	410	68 (0)	341
POTASSIUM SALTS OF FATTY ACIDS	387	103 (0)	284
CAPTAN	368	39 (2)	329
FIPRONIL	366	57 (1)	309
PETROLEUM HYDROCARBONS	341	39 (2)	302
BORIC ACID	337	93 (1)	244
BACILLUS THURINGIENSIS	335	30 (0)	305
XYLENE	305	34 (2)	271
PARADICHLOROBENZENE	304	127 (1)	177
DICAMBA	288	49 (0)	239
ZINC PHOSPHIDE	258	89 (3)	169
GLYPHOSATE	253	51 (1)	202
MECOPROP	253	41 (0)	213
D-PHENOTHRIN	233	138 (50)	94
DEET	221	14 (0)	207
BIFENTHRIN	208	40 (2)	168
Total - Above Pesticides	10486	2558 (153)	7927

<sup>1)</sup> 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).



### 11. Top 10 Active Ingredients for Incident Inquiries

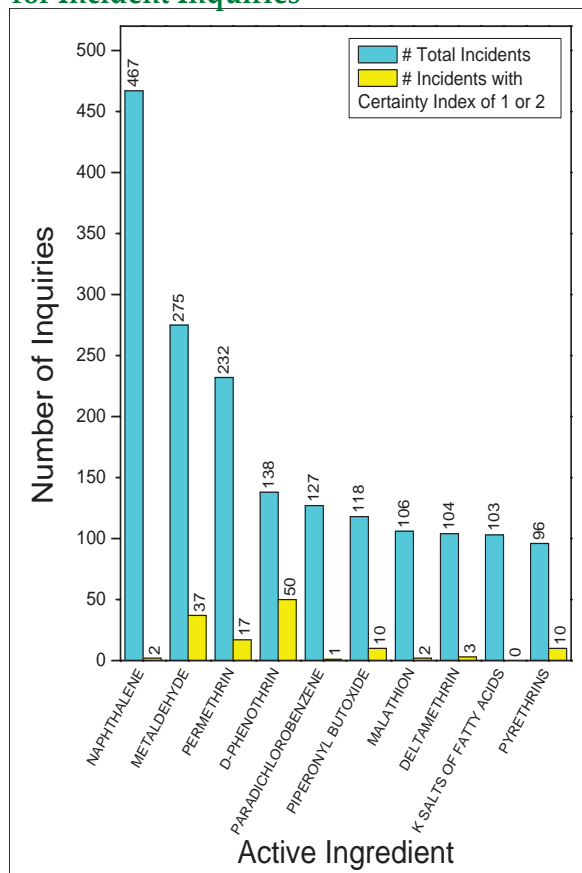
The most common active ingredients reported during incident inquiries are listed in Table 11.1 and Graph 11.1. Also, Table 11.1 summarizes the number of reported incidents involving human and animal entities exposed to specific active ingredients. Naphthalene was reported to be involved in more incidents (467) than any other active ingredient - less than 0.4% of these incidents had a certainty index of 1 or 2. Metaldehyde was involved in the second largest number (275) of incidents - 13.5% of the incidents (275) had a certainty index of 1 or 2.

Although fewer incidents were involved, 36.2% of the 138 D-phenothrin incidents and 33.8% of the 77 methoprene incidents, respectively, had a certainty index of 1 or 2. Pyrethrins, piperonyl butoxide, and permethrin also had a relatively high proportion of incidents with a certainty index of 1 or 2 - 10.4% of 96 incidents, 8.5% of 118 incidents, and 7.3% of 232 incidents, respectively.

Besides the seven AI listed above, of the 1,116 times that one of the other top 25 active ingredients was mentioned during incident inquiries, in which human or animal entities were

involved, 4.4% 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 <sup>1)</sup>	Human Incidents	Animal Incidents	Other Incidents	Information Inquiries
NAPHTHALENE	467 (2)	304 (2)	63 (0)	100 (0)	221
METALDEHYDE	275 (37)	61 (0)	199 (37)	15 (0)	202
PERMETHRIN	232 (17)	100 (3)	93 (14)	39 (0)	1059
D-PHENOTHRIN	138 (50)	23 (1)	113 (49)	2 (0)	94
PARADICHLOROBENZENE	127 (1)	81 (1)	10 (0)	36 (0)	177
PIPERONYL BUTOXIDE	118 (10)	75 (2)	35 (8)	8 (0)	419
MALATHION	106 (2)	63 (2)	7 (0)	36 (0)	493
DELTAMETHRIN	104 (3)	64 (1)	29 (2)	11 (0)	374
POTASSIUM SALTS OF FATTY ACIDS	103 (0)	57 (0)	35 (0)	11 (0)	284
PYRETHRINS	96 (10)	58 (2)	32 (8)	6 (0)	495
BORIC ACID	93 (1)	58 (1)	29 (0)	6 (0)	244
ZINC PHOSPHIDE	89 (3)	8 (0)	74 (3)	7 (0)	169
CARBARYL	83 (5)	34 (2)	21 (3)	28 (0)	437
BROMADIOLONE	77 (0)	10 (0)	65 (0)	2 (0)	91
METHOPRENE	77 (26)	16 (1)	60 (25)	1 (0)	75
2,4-D	68 (0)	37 (0)	12 (0)	19 (0)	341
CAPSAICIN	65 (2)	36 (1)	21 (1)	8 (0)	373
FIPRONIL	57 (1)	23 (1)	27 (0)	7 (0)	309
INDOLE-3-BUTYRIC ACID	53 (0)	26 (0)	25 (0)	2 (0)	31
DIPHACINONE	52 (0)	8 (0)	44 (0)	0 (0)	51
GLYPHOSATE	51 (1)	25 (1)	15 (0)	11 (0)	202
PYRIPROXYFEN	51 (6)	10 (0)	41 (6)	0 (0)	37
DICAMBA	49 (0)	28 (0)	9 (0)	12 (0)	239
SULFUR	47 (1)	33 (1)	13 (0)	1 (0)	159
IMIDACLOPRID	44 (2)	10 (0)	28 (2)	6 (0)	140
Total - Above Pesticides	2722 (180)	1248 (22)	1100 (158)	374 (0)	6716

<sup>1)</sup> 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).

*D-Phenothrin and methoprene were named in the highest percentage of incident inquiries with a certainty index of 1 or 2, 36.2% and 33.8%, respectively. Naphthalene and metaldehyde were involved in the highest number of incidents, 467 and 275, respectively, with 0.4% and 13.5% of the incidents with 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 3,103 known locations where incidents occurred, 94.4% occurred in the home or yard, 1.4% occurred in an agricultural setting, and 1.5% occurred in an office building or school (Table 12.1).

**Table 12.1 -  
Location of Pesticide Incident**

Location	Number of Incident <sup>1)</sup> Inquiries				
	2001	2002	2003	2004	2005
Unclear/Unknown	83 (8)	47 (3)	50 (5)	27 (6)	33 (2)
Home or Yard	1543 (107)	1622 (178)	1556 (174)	2207 (248)	2929 (136)
Agriculturally Related	68 (4)	59 (11)	35 (3)	50 (5)	42 (4)
Industrially Related	10 (2)	7 (1)	4 (0)	6 (0)	11 (0)
Office Building, School	59 (2)	37 (1)	23 (1)	29 (5)	46 (0)
Pond, Lake, Stream Related	7 (1)	8 (0)	7 (0)	5 (1)	4 (0)
Nursery, Greenhouse	6 (0)	9 (0)	8 (1)	8 (1)	8 (0)
Food Service/Restaurants	5 (1)	3 (2)	4 (1)	4 (0)	10 (0)
Retail Store/Business	27 (2)	15 (2)	16 (2)	21 (3)	29 (2)
Roadside/Right-of-Way	20 (1)	4 (1)	10 (1)	13 (1)	19 (0)
Park/Golf Course	6 (0)	9 (0)	3 (0)	18 (2)	5 (1)
Other	82 (5)	64 (7)	60 (14)	67 (9)	54 (3)
Total =	1916 (133)	1884 (206)	1776 (202)	2455 (281)	3190 (148)

<sup>1)</sup> 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 525 times that a specific environmental impact was reported, 2.1% 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 <sup>1)</sup> Inquiries				
	2001	2002	2003	2004	2005
Air	29 (0)	17 (2)	18 (2)	48 (5)	42 (2)
Water	21 (2)	14 (1)	8 (0)	8 (1)	10 (0)
Soil	18 (0)	8 (0)	9 (0)	24 (0)	12 (0)
Food Crops/Process	78 (0)	64 (0)	85 (1)	85 (0)	120 (1)
Property	209 (9)	168 (11)	168 (6)	261 (21)	284 (7)
Poultry/Livestock	11 (0)	6 (2)	4 (1)	5 (1)	6 (1)
Plants/Trees	65 (1)	65 (0)	43 (0)	88 (1)	51 (0)
Not Applicable	1463 (120)	1527 (190)	1423 (189)	1926 (252)	2654 (136)
Other	22 (1)	15 (0)	19 (3)	10 (0)	11 (1)
Total =	1916 (133)	1884 (206)	1777 (202)	2455 (281)	3190 (148)

<sup>1)</sup> 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 the certainty index for all incident inquiries received by NPIC. Inquiries are sorted according to the type of entity; human entities are further sorted according to gender and groups of entities. Multiple entities may be discussed in one incident inquiry;

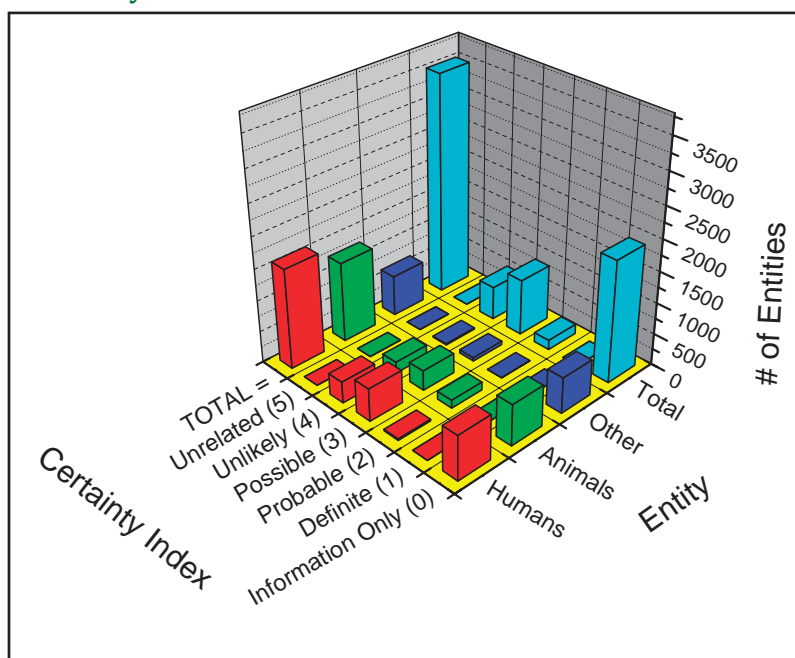
thus totals reflect the number of entities (as opposed to number of incidents) discussed during the course of incident inquiries to NPIC. Of the total number of entities discussed in incident inquiries to NPIC (3,519), 0% of the cases were assigned a certainty index of definite (1), 4.4% of the cases were assigned a certainty index of probable (2), 25.4% of the cases were assigned

a certainty index of possible (3), 15.2% of the cases were assigned a certainty index of unlikely (4), 0% of the cases were assigned a certainty index of unrelated (5), 55.0% 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 = 24422								
Information Only (0)	709	655	570	1934	288	360	51	10
Definite (1)	0	0	0	0	0	0	0	0
Probable (2)	26	127	2	155	10	11	5	0
Possible (3)	521	317	56	894	209	272	40	0
Unlikely (4)	338	178	20	536	140	190	8	0
Unrelated (5)	0	0	0	0	0	0	0	0
TOTAL =	1594	1277	648	3519	647	833	104	10

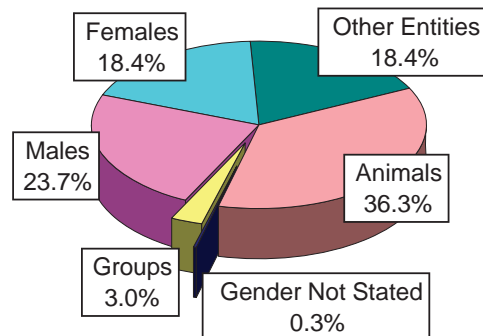
**Graph 14.1 - Certainty Index for Incidents**



## 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 3,529 entities involved in incidents reported to NPIC, 45.3% were human, 36.4% animal, and 18.3% were other types of non-target entities (building or environment, for example).

**Chart 15.1 -  
Description of Entities**



**Table 15.1 -  
Description of Entities**

Description of Entities	Number of Entities <sup>1)</sup>				
	2001	2002	2003	2004	2005
<b>All females -</b>					
Female	539 (29)	416 (28)	388 (25)	599 (58)	805 (10)
Female-pregnant	34 (2)	25 (0)	26 (1)	22 (1)	28 (0)
Female suicide attempt	0 (0)	0 (0)	0 (0)	2 (2)	1 (1)
Total all females =	573 (31)	441 (28)	414 (26)	623 (61)	834 (11)
<b>All males -</b>					
Male	375 (26)	345 (42)	292 (30)	452 (47)	643 (9)
Male suicide attempt	1 (1)	0 (0)	2 (1)	2 (0)	4 (1)
Total all males =	376 (27)	345 (42)	294 (31)	454 (47)	647 (10)
<b>All groups -</b>					
Family	58 (5)	68 (7)	38 (4)	75 (8)	75 (8)
Non-family group	22 (3)	13 (1)	13 (4)	12 (5)	12 (5)
Total all groups =	80 (8)	81 (8)	51 (8)	87 (13)	87 (13)
<b>Gender not stated -</b>					
Child - sex unknown	7 (0)	4 (0)	6 (0)	2 (0)	10 (0)
Adult - sex unknown	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Other - sex unknown	0 (0)	1 (0)	1 (1)	1 (0)	0 (0)
Total gender not stated =	7 (0)	5 (0)	7 (1)	3 (0)	10 (0)
Total all humans =	1036 (66)	872 (78)	766 (66)	1167 (121)	1596 (27)
<b>All animals -</b>					
Single animal	563 (69)	715 (130)	717 (136)	954 (169)	1199 (120)
Group of animals	38 (6)	44 (7)	60 (11)	54 (9)	81 (10)
Wildlife	7 (1)	7 (0)	10 (0)	6 (1)	4 (2)
Total all animals =	608 (76)	766 (137)	787 (147)	1014 (179)	1284 (132)
<b>Other entities:</b>					
Building-home/office	167 (1)	127 (0)	128 (2)	234 (7)	316 (0)
Other places	270 (1)	242 (1)	211 (1)	298 (2)	333 (2)
Total other entities =	437 (2)	369 (1)	339 (3)	532 (9)	649 (2)
Total all entities =	2081 (144)	2007 (216)	1892 (216)	2713 (309)	3529 (161)

<sup>1)</sup> 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).

## 16. Entity Symptoms

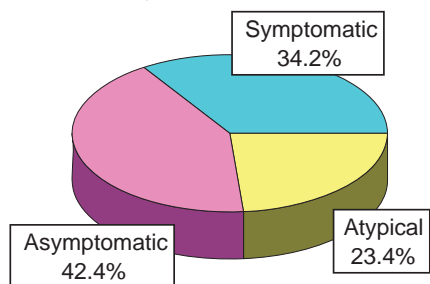
Of the 1,596 human entities discussed in incident inquiries to NPIC, symptoms, or absence of symptoms, were reported for 1,416 entities (Table 16.1). Of these entities, 34.2% reported symptomatic health effects (effects that are consistent with a significant exposure to the pesticide in question), 42.4% reported asymptomatic health effects, and 23.4% reported atypical health effects (Chart 16.1). Table 16.1 and Chart 16.2 provide this and similar information for animal entities.

**Table 16.1 - Reported Symptoms of Entities**

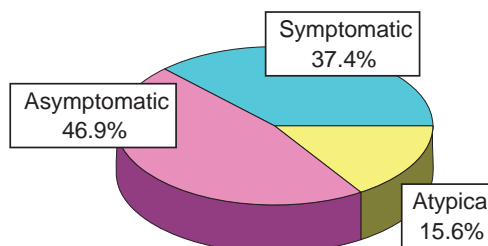
Reported Symptoms	Number of Entities <sup>1)</sup>				
	2001	2002	2003	2004	2005
Human symptoms -					
Symptomatic	480 (116)	462 (107)	345 (97)	542 (172)	484 (81)
Asymptomatic	244 (28)	225 (23)	223 (19)	344 (31)	600 (61)
Atypical	203 (19)	145 (14)	157 (19)	226 (17)	332 (39)
Total humans =	927 (163)	832 (144)	725 (135)	1112 (220)	1416 (181)
Animal symptoms -					
Symptomatic	252 (101)	376 (160)	391 (174)	456 (207)	446 (155)
Asymptomatic	273 (23)	275 (15)	319 (15)	446 (33)	559 (40)
Atypical	65 (7)	72 (12)	73 (11)	121 (13)	186 (17)
Total animals =	590 (131)	723 (187)	783 (200)	1023 (253)	1191 (212)
Total symptoms =	1517 (294)	1555 (331)	1508 (335)	2135 (473)	2607 (393)

<sup>1)</sup> 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 16.1 - Symptoms - Humans**



**Chart 16.2 - Symptoms - Animals**





## 17. Deaths and Other Outcomes

Amongst the 1,596 human entities, two deaths were reported (Table 17.1). Based on information provided by the inquirer, one of the incidents was assigned a certainty index of 2, making it likely that the death was a result of pesticide exposure. The other incident was assigned a certainty index of 4, making it unlikely that the death was caused by a pesticide.

The number of animal and human deaths and other outcomes has been fairly constant over the last 5 years. For the current year, of the 1,284 animal victims, there were 55 deaths, with 13 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/strange circumstances.

Table 17.2 shows the active ingredients involved in the majority of the animal deaths. D-Phenothrin, methoprene, piperonyl butoxide, fipronil, permethrin, pyrethrins, imidacloprid, and pyriproxyfen were reported to be associated with the largest number of deaths.

**Table 17.1 - Additional Outcomes for Entities**

Additional Outcomes	Number of Entities <sup>1)</sup>				
	2001	2002	2003	2004	2005
Human deaths -					
Male	2 (0)	1 (1)	0 (0)	0 (0)	2 (1)
Female	0 (0)	1 (1)	0 (0)	1 (1)	0 (0)
Total human deaths =	2 (0)	2 (2)	0 (0)	1 (1)	2 (1)
Animal deaths -					
Single animal	45 (10)	45 (25)	33 (11)	55 (24)	38 (9)
Group of animals	12 (5)	9 (4)	10 (3)	10 (2)	15 (2)
Wildlife	7 (1)	7 (0)	4 (0)	2 (1)	2 (2)
Total animal deaths =	64 (16)	61 (29)	47 (14)	67 (27)	55 (13)
Other -					
Life threatening	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)
Interesting/strange	88 (17)	116 (21)	95 (21)	107 (26)	109 (9)
Total other =	90 (18)	116 (21)	95 (21)	107 (26)	109 (9)
Total additional outcomes =	156 (34)	179 (52)	142 (35)	175 (54)	166 (23)

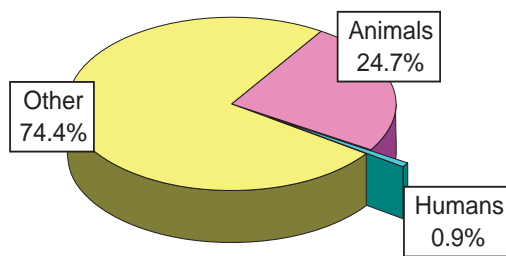
<sup>1)</sup> First number represents the total of purported incidents regardless of certainty index - numbers in parentheses indicate the total of incidents with certainty index of 1 (definite) or 2 (probable).

**Table 17.2 - Active Ingredients Involved in Animal Deaths**

Active Ingredient <sup>1)</sup>	Number of Deaths
D-PHENOTHRIN	8
METHOPRENE	8
PIPERONYL BUTOXIDE	8
FIPRONIL	7
PERMETHRIN	6
PYRETHRINS	6
IMIDACLOPRID	5
PYRIPROXYFEN	5
METALDEHYDE	4
N-OCTYL BICYCLOHEPTENE DICARBOXIMIDE	4
TETRACHLORVINPHOS	4
2,4-D	2
BORIC ACID	2
CARBARYL	2
ETHOFENPROX	2
MECOPROP	2

<sup>1)</sup> Note that a pesticide product may contain more than one active ingredient.

**Chart 17.1 - Deaths and Other Outcomes**



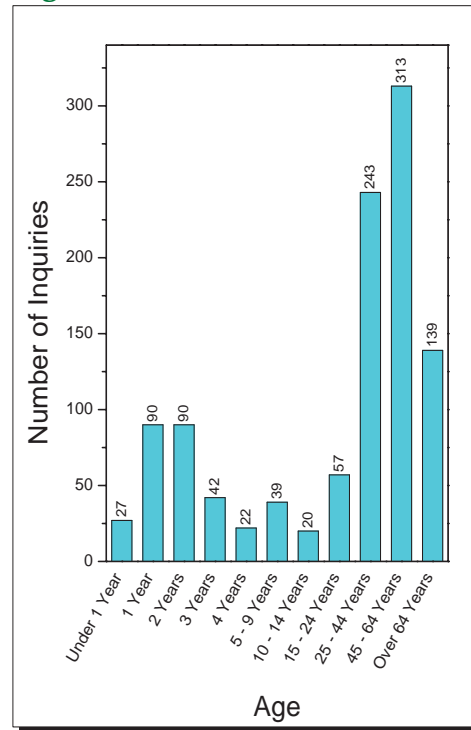
## 18. Entity Age

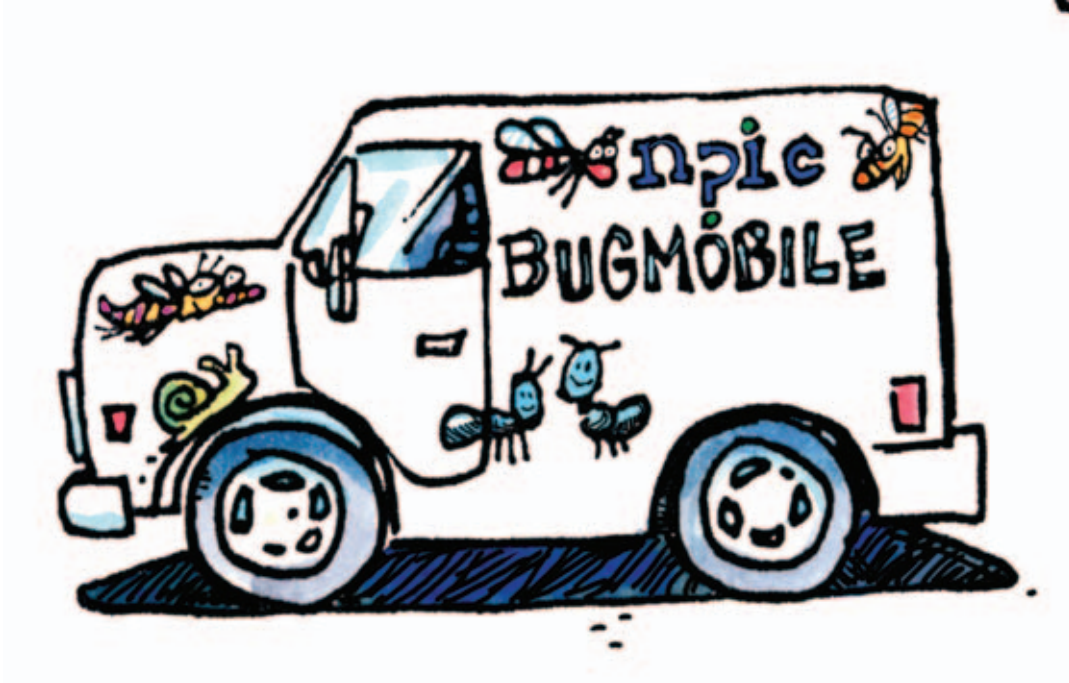
Entity ages were available for 1,082 (74.2%) of the 1,459 individual human entities for which NPIC attempted to obtain ages. Table 18.1 and Graph 18.1 summarize information about the ages of human entities discussed in incident inquiries to NPIC. Of these 1,082 entities, 25.0% were less than 5 years of age, 5.4% were between the ages of 5 and 14, 5.3% were between the ages of 15 and 24, 51.4% were between the ages of 25 and 64, and 12.8% were over age 64.

**Table 18.1 - Reported Ages of Human Entities**

Age Category	Number of Entities				
	2001	2002	2003	2004	2005
Under 1 Year	14	9	7	12	27
1 Year	12	23	26	42	90
2 Years	20	24	22	50	90
3 Years	20	15	15	24	42
4 Years	10	10	10	11	22
5 - 9 Years	21	14	29	32	39
10 - 14 Years	15	10	8	15	20
15 - 24 Years	37	20	30	41	57
25 - 44 Years	217	156	148	228	243
45 - 64 Years	203	182	200	273	313
Over 64 Years	99	106	82	125	139

**Graph 18.1 - Age of Human Entities**







# Report on Subcontracts

## *Oregon Poison Center*

NPIC specialists transferred 99 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, 98 inquiries were transferred to the Animal Poison Control Center (APCC). The situation presented in each inquiry was considered to be an emergency; therefore, the inquiry was transferred to APCC. The nature of the inquiries transferred is detailed in the NPIC quarterly reports.





