

National Pesticide Information Center

- 2001 -



**“Help keep us kids safe”
Read the Label!**

Environmental & Molecular Toxicology

OREGON STATE
U n i v e r s i t y

This is the seventh 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 and Puerto Rico and the Virgin Islands, is a cooperative project between Oregon State University and the U.S. Environmental Protection Agency. This report, the 2001 Annual Report, covers the period April 1, 2001 - March 31, 2002, corresponding to NPIC's seventh grant year.

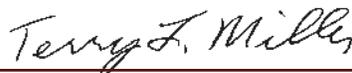
DISCLAIMER

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 this information 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. 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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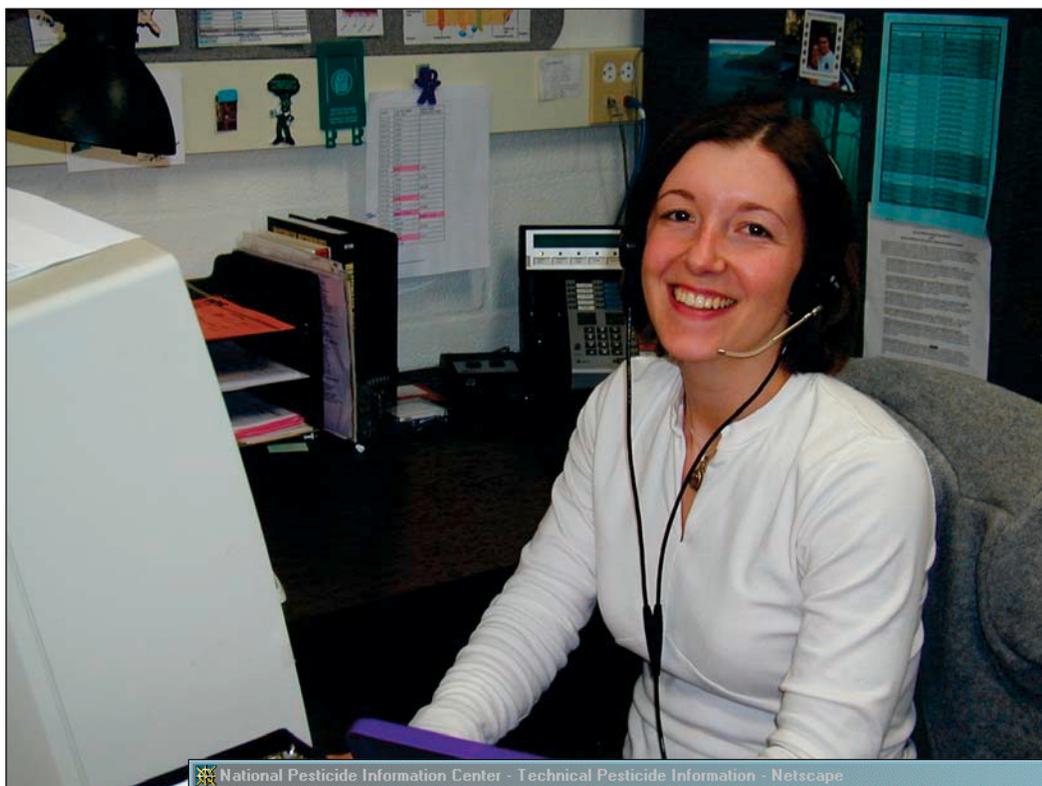
NPIC 2001 Annual Report

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“Pesticide Information How May I Help You?”



National Pesticide Information Center - Technical Pesticide Information - Netscape

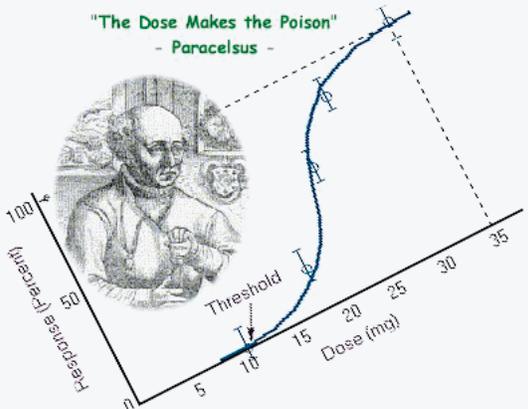
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Technical Pesticide Information -

- [Toxicology & Active Ingredient Factsheets](#)
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- [Statistics](#)
- [More Technical Info](#)

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"The Dose Makes the Poison"
- Paracelsus -

Dose (mg)	Response (percent)
0	0
5	0
10	0
15	20
20	60
25	75
30	80
35	80

Executive Summary -

NPIC 2001 Annual Report

Note: The complete record of the accomplishments of NPIC for the current operational year includes the 12 monthly reports and 4 quarterly reports (submitted earlier), in addition to this "2001 Annual Report." This report covers the NPIC grant year: April 1, 2001 through March 31, 2002.

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 437,993 hits (a 46% increase). NPIC received 620 inquiries via email (Table 4.1, Graphs 4.1 - 4.5).
- NPIC took 967 calls for information about the New York Neighbor Notification Law.
- NPIC received 489 calls about Chromated Copper Arsenate (CCA).
- NPIC greatly expanded its West Nile Virus Resource Guide.
- NPIC answered 23,511 inquiries during its seventh operational year. Eighty percent of the inquiries were received between March and October, coinciding with that part of the year when most pest pressures are the highest (Table 1.1, Graph 1.1).
- The majority of calls (91.3%) were for information only (i.e., not related to an incident); 5.8% related to exposure concerns, and 2.4% concerned other non-health-related pesticide incidents (Table 7.1, Charts 7.1 and 7.2).
- The greatest number of calls (40.4%) were health-related, whereas 29.8% were for information about pesticide usage, and 9.2% were of a regulatory nature (Table 6.1, Graph 6.1).
- Examples of "health-related" calls include:
 - Caller concerned about adverse effects of exposure to permethrin. Her town will be conducting mosquito control efforts by low volume fogging a section of town with permethrin from a truck.
 - Under NY neighbor notification law, caller received notice from neighbor's lawn care company that they would be applying 3 pesticides. Concerned about risks they posed to him and ways he could minimize exposure.
 - Caller stated that they recently purchased a swing set made from CCA treated wood. She is now highly concerned about it, secondary to media reports.
 - Caller applied termite control treatment one year ago. Concerned about adverse effects to person living in basement. Wondering if basement apartment safe to rent.
- Of the 23,511 calls, 8.2% (1,916) involved pesticide incidents, while 42.3% (9,952 calls) were for information about specific pesticide active ingredients or products, and 47.0% (11,049 calls) were for general information about pesticides and pesticide-related issues (Table 2.1, Charts 2.1 and 2.2).
- Examples of pesticide incident calls include:
 - Caller and his 7 year old son were in "mosquito territory" for several days. Caller stated that he applied a 12% DEET product to his son's skin and clothing every 4 hours (about 3-4 times daily) for about 5 days. Caller stated that his son developed a "twitch" where his head and neck would turn left then right quite quickly. Caller said that he was twitching a lot, but that it had subsided after washing him with a wash cloth that night (unable to bath/shower as still in the woods).
 - Caller stated that the facilities department at her office building recently conducted a termite treatment with a chlorpyrifos termiticide. They treated outside as well as inside by first drilling through the slab. Since the application, she and 5 other coworkers have had diarrhea, respiratory difficulties, dizziness, and numbness in extremities. She has contacted poison control, who referred her to us, but she has not yet contacted her physician.
 - Caller who is 13 weeks pregnant stated that her husband set off three automatic indoor foggers in garage yesterday to control flea problem. Did not ventilate after treatment. Caller stated she went into garage today for a few minutes and has had a headache and general nausea since.
 - Caller indicates PCO treated with product (used as a foam) this weekend and it is exuding from the wall cavity in the bedroom where applied through drill hole. She states other parts of the wall look buckled. She wanted to know about clean-up for carpet and pad which have gotten contaminated.
- Of the 1,916 incident calls, 6.9% 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).

- The active ingredient permethrin generated more inquiries (1,275) (corresponding to 5.4% of all calls, and 10.7% of pesticide-specific calls) than any other single active ingredient. Of these, 12.7% (162) were incident calls and 87.3% were inquiries for information. Of the 162 permethrin incident calls, 7.4% were assigned a certainty index of 1 (definite) or 2 (probable) (Table 10.1, Graph 10.1).
- For the remaining active ingredients (in the top 25) involved in incidents, there were a total of 1,532 incidents, with 8.8% of them assigned a certainty index of 1 or 2. It is interesting to note that the proportion of permethrin incidents assigned a certainty index of 1 or 2 was less than for the remaining top 24 pesticides taken as a group. Most of the reported incidents involved humans (51.6%); 29.5% involved animals (Table 11.1, Graph 11.1).
- There were 2,078 entities involved in the incidents reported to NPIC - 49.9% were human, 29.1% animal, and 20.1% other (e.g., building, environment). Of the human entities, 36.3% were male, 55.3% female, 7.7% groups, and 0.7% where gender was not stated (Tables 14.1 and 15.1, Graph 14.1 and Chart 15.1).
- Of the 1,036 humans involved in incident calls, information about symptoms was given for 921. Of these, 51.8% were symptomatic (symptoms matched those for pesticide in question), 26.3% were asymptomatic, and 21.9% reported atypical symptoms (Table 16.1, Charts 16.1 and 16.2).
- Amongst the 1,036 human entities, 2 deaths were reported - these incidents were judged to not have a certainty index of 1 or 2, making it unlikely that the deaths were a result of pesticide exposure. Of the 607 animal entities, there were 64 deaths,

with 16 of the incidents assigned a certainty index of 1 or 2, indicating likely pesticide involvement (Table 17.1, Chart 17.1).

- Ages were available for 668 of the 1,036 human entities. A portion (11.4%) of the entities were less than 5 years old, 5.4% were between the ages of 5 - 14, 5.5% were between 15 - 24, 62.9% were between the ages of 25 - 64, and 14.8% over age 64 (Table 18.1, Graph 18.1).
- Of the known locations (1,751) where incidents occurred, 88.1% were the home or yard, while 3.9% were agriculturally related and 3.4% involved an office building or school (Table 12.1).
- Most of the calls (86.6%; 20,351) to NPIC came from the general public, while 4.7% calls came from federal/state/local agencies, 2.5% from medical personnel, 2.1% from information providers, and 3.0% from consumer users (Table 5.1, Graph 5.1 and Chart 5.1).
- Most of the calls to NPIC (90.1%; 21,318) were handled by providing verbal information to the caller. Other actions taken by Pesticide Specialists were to refer callers to EPA and SLA (2.6%), County Extension Service (0.6%), Oregon Poison Center (0.3%), National Animal Poison Control Center (0.5%), National Antimicrobial Information Network (0.9%), and other organizations (1.3%). Some callers (3.3%) received information via mail, Fax or email (Table 8.1, Charts 8.1 and 8.2).
- NPIC received 22,823 inquiries via telephone (Table 3.1).
- The largest number of calls originated from New York, California, and Texas - states ranked 2, 3, and 1 respectively, in terms of population (Table 9.1, Graph 9.1).

- By EPA region, 15.7% of the calls came from Region 2, 12.4% from Region 9, 14.7% from Region 4, 11.2% from Region 5, and 11.0% from Region 6 (Graph 9.2).

Organization

- Dr. Dan Sudakin, MD, MPH, of the Department of Environmental and Molecular Toxicology, assumed the role previously held by Dr. Sheldon Wagner (recently retired) as co-investigator on the cooperative agreement supporting NPIC. NPIC thanks Dr. Wagner for his support and dedicated efforts in the NPIC project.

NPIC hired three full-time Pesticide Specialists and an information resources supervisor during the 2001 grant year. Two Specialists resigned during this period. NPIC continued recruitment for a full-time Specialist. NPIC employs 13 full-time Specialists, including the Project Coordinator.

- New fact sheets posted on the NPIC web site were: *Boric Acid - Technical*; *Boric Acid - General*; *Dicamba - Technical*; *Dicamba - General*; *Potassium Salts of Fatty Acids - Technical*; *Potassium Salts of Fatty Acids - General*; *Pesticides in Indoor Air of Homes - Technical*; and, *Pesticides in Indoor Air of Homes - General*.

Fact sheet development occurred on the following topic and active ingredient fact sheets: *Bendiocarb*; *Captan*; *Carbaryl*; *DEET*; *Esfenvalerate*; *Hydramethylnon*; *Metaldehyde*; *Naled*; *d-Phenothrin*; *Triclopyr*; *Ecotoxicology Tables*; *Endocrine Disruptors*; *Integrated Pest Management*; *Pesticide Facts*; *Boric Acid - Spanish Translation*; *Chlordane - Spanish Translation*; *DDT - Spanish Translation*; *Glyphosate - Spanish Translation*; *Permethrin - Spanish Translation*; *Signal Words - Spanish Translation*.

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:

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

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

In addition, NPIC provides referrals for:

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

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

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

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

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

Objectives

The objectives of NPIC are:

- 1) To operate a toll-free telephone service to callers in the United States, Puerto Rico, and the Virgin Islands. A recording device is provided to capture off-hour calls.
- 2) To serve as a source of factual, unbiased information on pesticide chemistry, toxicology, and environmental fate to all who call, including industry, government, medical, and agricultural personnel, as well as the general public.
- 3) To provide the medical community with diagnostic and crisis management assistance involving

pesticide incidents in situations pertaining to both human and animal patients.

- 4) To acquire accurate and complete information on all calls considered to be pesticide incidents.
- 5) To computerize all call information as well as pesticide incident data for easy retrieval.

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

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 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. To more accurately reflect the nature of its service, NPTN was renamed National Pesticide Information Center (NPIC) in 2002.

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 implica-

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

tions 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 Pesticide Specialists in answering inquiries. Included in this collection are: NPIC's Active Ingredient (AI) file containing information on about 700 pesticide AIs; numerous compendia of pesticide information (e.g., Handbook of Pesticide Toxicology, Code of Federal Regulations - 40 CFR Parts 150 - 189, Pest Control Operations, Toxicology - The Science of Poi-

sons, Farm Chemicals Handbook, WHO Environmental Health Criteria series, Herbicide Handbook, The Pesticide Manual, Common-Sense Pest Control, pesticide product labels - to name but a few); electronic access to EXTOXNET (EXtension TOXicology NETwork), CHEMBANK (HSDB, RTECS, IRIS), and PESTBANK; and on-line literature searching capabilities (e.g., Medline, Toxline).

Associated Projects

In addition to its basic service described above, NPIC administers a related sub-project - NAIN (National Antimicrobial Information Network). NAIN, previously known as ACS (Antimicrobial Complaint Service), provides information (via its own toll-free telephone line and a World Wide Web site) to medical professionals and the public on disinfectants, sanitizers, and sterilants, each classified as pesticides by the U.S. EPA.

Funding

Funding for NPIC and NAIN 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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Open minds. Open doors.™

NPIC Update

Call Update

NPIC responded to 23,511 inquiries, 1,916 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 calls are reviewed by Dr. Daniel Sudakin and/or a senior Pesticide Specialist. On the basis of information provided by the caller, and with reference to established criteria, all incident calls 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 caller reported an exposure, accident, or odor, but no health effects, a certainty index of zero (0) is assigned.

Achievements

Resources

NPIC acquired many books, reports, and other documents to supplement the NPIC library that serves as a resource for specialists for responding to pesticide inquiries.

Books acquired or purchased during the 2001 grant year include: "Spanish in the Field: Practical Spanish for Ranchers, Farmers or Vintners," by C. Clough, J. Comegys and J. Saddler, 1990; "A Supplement to Spanish in the Field: Farm and Agribusiness Dictionary, English-Spanish/Spanish-English," by C. Clough, J. Comegys and J. Saddler, 1990; "Agricultural Chem-

icals: Book I - Insecticides," by W.T. Thomson, 2001 Ed.; "NIOSH Pocket Guide to Chemical Hazards," US Department of Health and Human Services, June 1997; "2001 Redbook: A Comprehensive Guide to the Pest Management Industry," Pest Control Magazine, 2001; "2001 TLVs and BEIs: Threshold Limit Values and Biological Exposure Indices," American

Committee on Indoor Air Quality, March 1999; "Pesticide Reregistration Rejection Rate Analysis - Toxicology," July 1993; "Summary of the Workshop on Information Needs to Address Children's Cancer Risk," December 2000; "Help! It's a Roach! Roach Prevention Activity Book for Kids"; "Summary of the Report of the Technical Workshop Associated with Considering Devel-

opmental Changes in Behavior and Anatomy When Assessing Exposure to Children," December 2000; "Contaminants and Remedial Options at Pesticide Sites," November 1994; "Road Map to Understanding Innovative Technology Options for Brownfields Investigation and Cleanup," 3rd Ed., September 2001.



Conference of Governmental Industrial Hygienists, 2001; "TOXNET Self-Help: A Reference Manual for Using Toxicology and Environmental Health Databases," National Library of Medicine, April 2001; "The Consumer Action Handbook, 2001 Ed.," GSA Federal Consumer Information Center; "Thomson's English/Spanish, Spanish/English Illustrated Agricultural Dictionary," Robert P. Rice, Jr., Thomson Publishing Co., 1993; "Catalog of Teratogenic Agents," 10th Ed, Thomas H. Shepard, Johns Hopkins University Press, 2001.

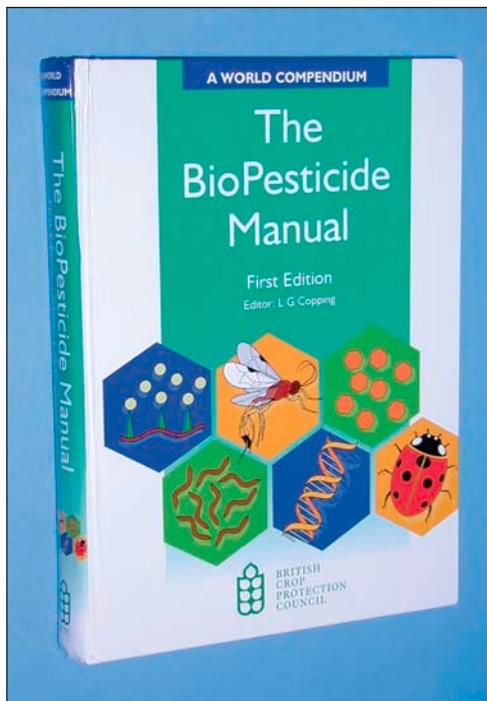
NPIC obtained the following EPA publications: "Catalogue of EPA Environmental Education Materials and Resources," EPA-171-B-98-003; "Current Federal Indoor Air Quality Activities," Interagency

The following US EPA, Office of Pesticide Programs Reregistration Eligibility Decision documents were obtained: "Guidance for the Reregistration of Pesticide Products Containing Azinphos-Methyl as the Active Ingredient," September 1986; "Acephate (IRED)," September 2001; "Azinphos-Methyl (IRED)," October 2001; "Chlorpyrifos (IRED)," September 2001; "Report on FQPA Tolerance Reassessment Progress and Risk Management Decision (TRED) for Chlorpyrifos Methyl," January 2001; "Report on FQPA Tolerance Reassessment Progress and Interim Risk Management Decision (TRED) for Trichlorfon," September 2001; "2-[(Hydroxymethyl) amino]ethanol, or Ethanolamine," December 1993; "Agrobacterium Radiobacter," June 1995; "Alkyl

Amine HCl," August 1992; "*Allium sativum, or Garlic*," June 1992; "*Amitraz*," March 1995; "*Biobor*," June 1993; "*Capsaicin*," June 1992; "*Carbon and Carbon Dioxide*," October 1991; "*Citric Acid*," June 1992; "*Daminozide*," September 1993; "*Dried Blood*," October 1991; "*Ethephon*," December 1994; "*Ethion*," September 2001; "*Ethylene*," September 1992; "*Flower and Vegetable Oils*," December 1993; "*Heptachlor*," March 1992; "*Hexadecadienol Acetates*," April 1994; "*Inorganic Halides*," October 1993; "*3-Iodo-2-propynyl Butylcarbamate (IPBC)*," December 1996; "*Lauryl Sulfate Salts (Sodium Lauryl Sulfate)*," October 1993; "*Limonene*," September 1994; "*Maleic Hydrazide*," June 1994; "*m-Cresol and Xylenol*," March 1996; "*Nosema locustae*," September 1992; "*O-Benzyl-Chlorophenol*," September 1995; "*Oryzalin*," September 1994; "*Oxalic Acid*," December 1992; "*Periplanone B*," April 1994; "*Polyhedral Inclusion Bodies (NPV) of Gypsy Moth and Douglas Fir Tussock Moth*," September 1996; "*Propionic Acid*," December 1992; "*Putrescent Whole Egg Solids*," June 1992; "*Soap Salts*," September 1992; "*Sodium Cyanide*," September 1994; "*Sodium Diacetate*," September 1991; "*Sodium Hydroxide*," September 1992; "*Streptomycin*," September 1992; "*Sulfotepp*," September 1999; "*Sulfur*," May 1991; "*Tebuthiuron*," April 1994; "*Temephos*," July 2001; "*Thymol*," September 1993; "*Triallate*," March 2001; "*Zinc Salts*," August 1992.

The following Toxicological Profile publications were received from ATSDR, Department of Health and Human Services, during the year: "*Malathion - Draft for Public Comment*," September 2001; "*Atrazine - Draft for Public Comment*," September 2001; "*Selenium - Draft for Public Comment (Update)*," Sep-

tember 2001; "*Mustard Gas - Draft for Public Comment (Update)*," September 2001; "*Fluorides - Draft for Public Comment (Update)*," September 2001; "*1,2 Dichloroethane (Update)*," September 2001; "*Pentachlorophenol (Update)*," September 2001; "*Di-N-Butyl Phthalate (Update)*," September 2001; "*Methyl Parathion (Update)*," September 2001; "*Benzidine (Update)*," September 2001;



"*Asbestos (Update)*," September 2001; "*Iodine - Draft for Public Comment (Update)*," September 2001; "*Cobalt - Draft for Public Comment (Update)*," September 2001.

World Health Organization International Programme on Chemical Safety publications received by NPIC include: "*Pesticide Residues in Food - 2000, Joint FAO/WHO Meeting on Pesticide Residues. Evaluations 2000, Part II - Toxicological*," September 2000; "*Neurotoxicity Risk Assessment for Human Health: Principles and Approaches*," International Health Criteria No. 223; "*Concise International Chemical Assessment Document: No. 23 - 2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)*"; "*Concise*

International Chemical Assessment Document: No. 24 - Crystalline Silica, Quartz"; "*Concise International Chemical Assessment Document: No. 25 - Chloral Hydrate*"; "*Concise International Chemical Assessment Document: No. 26 - Benzoic Acid and Sodium Benzoate*"; "*Principles for Evaluating Health Risks to Reproduction Associated with Exposure to Chemicals*," International Health Criteria No. 225, 2001; "*Vanadium Pentoxide and other Inorganic Vanadium Compounds*," Concise International Chemical Assessment Document No. 29, 2001; "*1,3-Butadiene: Human Health Aspects*," Concise International Chemical Assessment Document No. 30, 2001; "*N,N-Dimethylformamide*," Concise International Chemical Assessment Document No. 31, 2001; "*Beryllium and Beryllium Compounds*," Concise International Chemical Assessment Document No. 32, 2001; "*Water Quality: Guidelines, Standards and Health*," L. Fewtrell and J. Bartram, eds., 2001.

Project and Information Review

Fact Sheets - The following pesticide topic and active ingredient fact sheets were posted on the NPIC web site: *Boric Acid - Technical*; *Boric Acid - General*; *Dicamba - Technical*; *Dicamba - General*; *Potassium Salts of Fatty Acids - Technical*; *Potassium Salts of Fatty Acids - General*; *Pesticides in Indoor Air of Homes - Technical*; and *Pesticides in Indoor Air of Homes - General*.

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tion; DDT - Spanish Translation; Glyphosate - Spanish Translation; Permethrin - Spanish Translation; Signal Words - Spanish Translation.

Active Ingredient Files -

Efforts continue to expand, update and maintain hard copy active ingredient (AI) files. NPIC maintains approximately 765 active ingredient files. To date, all 765 AI files have been restructured; 293 were completed in this grant year. Complete search history updates have occurred on 685 of the 765 files. There were 64 new active ingredient files added in this grant year. These hard copy files include regulatory material, toxicity and other data from a variety of resources, scientific journal articles and product information.

“Other” Ingredient Files -

NPIC continues to compile federal register notices, NTP, ATSDR, WHO and other scientific documents related to inert or “other” ingredients.

NPIC Web Site - Newly updated and reformatted NPIC West Nile Virus (WNV) Resource Guide web pages were completed and placed on the NPIC web site for the 2001 mosquito season, reflecting comprehensive federal, state, and international resources. Many more links are included this year, with expanded information on WNV background, mosquitoes, pesticides, health, regulatory information and statistics. The page also includes a “Comment Form” for feedback from users.

A “Security Alerts Resource Guide” page was also added to the NPIC web site following the September 11, 2001 terrorist attacks. NPIC received several calls from citizens with concerns about security regarding chemical and biological weapons, and the security of mosquito control vehicles and aircraft. The page includes links to several health

and regulatory resources, to provide information related to such concerns.

A “Comment Form” was added to the NPIC home page, so that NPIC can receive user comments/suggestions about the web site.

Training and Continuing Education

Weekly NPIC group meetings, a primary training and QA/QC activity for Pesticide Specialists, continued throughout the year. Internal training seminars were scheduled during many of these weekly sessions.

The NPIC *Hot Topics* notebook was updated, with new chapters on the following topics generating a high degree of interest: the New York Neighbor Notification Law, Illegal Pesticides (Tres Positos

and Chinese Chalk), CCA Treated Wood, and Terrorism. The Train-the-Trainer manual was developed, tested and implemented. Sarah Peskin was cross-trained as an NPIC trainer. New trainee support documents were created, tested and implemented for facilitated trainee exercises. Sarah Peskin facilitated Pesticide Specialist training of Amy Smoker and Jose Valerio-Soto, with the assistance of Crista Chadwick.

Four Specialists completed the training program and one individual was moving toward completion during this reporting period. Six Specialists attended university lecture courses as part of a 3-term series in graduate-level toxicology, including: Fundamentals of Toxicology, Target Organ Toxicology, and Environmental Toxicology and Risk Assessment. Three of those Specialists will complete the 9-credit series in grant year 2002-3.

The University provides additional opportunities for continued learning including seminars, lectures and conferences. NPIC staff benefitted from the following presentations this year: Dr. Jack DeAngelis from the Entomology Department at OSU made a presentation on structural pests, their identification, habits and control; Gail Andrews from Home-A-Syst (OSU Extension Service) gave a presentation describing their Hazard Assessment System, and emphasizing storage and handling of pesticides to minimize risks to groundwater; Wade Trevathan presented a summary of a seminar he attended at OSU entitled Environmental Risk Assessment for GMOs: Scientific and Ethical Questions Nested in Space and Time, by Paul Jepson, Professor of Entomology, Associate Director of Integrated Plant Protection Center, OSU; Wade Trevathan presented a summary of a workshop he attended at OSU on Public Involvement and Risk Communication, by Captain Alvin Chun, US Public Health Service, Senior Environmental Health Policy Advisor, US EPA Region 9, focusing on perceptions of the public, spoken and unspoken messages, active listening, and ways to establish credibility and reputation with the public; Wanda Parrot from the OSU Department of Environmental and Molecular Toxicology, who assists NPIC in the production of NPIC Fact Sheets, presented a Grammar Chat on grammar, spelling, word usage, clear writing, and reference use and citation. In addition, Dr. Art Craigmill, toxicologist with the University of California Extension Service, delivered a presentation to NPIC on Selective Toxicity and Chemical Pest Control.

NPIC staff and Directors give continuing education presentations

to the full NPIC staff on matters of their particular interest or expertise. This year these included: a presentation by Dr. Sheldon Wagner on the history of pesticide regulations and the significance of the Food Quality Protection Act. (July 12, 2001); discussions led by Dr. Dan



Sudakin of epidemiological studies of High Pesticide Exposure Events, research on Parkinsonism and occupational exposure to pesticides, and cases regarding possible exposure to CCA treated wood; David Spink gave a presentation to NPIC entitled "Garden Chemicals Revealed," discussing application equipment available to homeowners, definition and classification of weeds, and terminology of fruit tree foliage and blossom development; Isabela Mackey gave a presentation to the group on "NPIC Spanish Tool Phrases" designed to help specialists have an initial exchange with Spanish speaking callers, including recording telephone numbers, and transferring them appropriately;

Lorena Barck presented "Regulatory Spotlight" sessions on topics including the New York pesticide notification laws governing schools and daycare facilities, federal agency jurisdiction over pest control devices, FIFRA 6(a)(2) Reporting Requirements, and the Delaney Amendment. The staff also reviewed a video of a segment of a PBS special on the criminal mind, focusing on a case in which the defendant claimed that exposure to pesticides made him commit murder.

Conferences attended by NPIC personnel this year include: Terry Miller, Matt Hamman, Cheri Malley, Isabela Mackey attended the Oregon State University Extension Service "2002 Chemical Applicators Short Course" in Portland, Oregon; Crista Chadwick attended and presented information about NPIC at the 68th Annual American Mosquito Control Association Meeting in Denver, Colorado, February 2002, at two conference sessions: Security of Equipment and Chemicals for Mosquito Control and Education, Legislative, and Public Relations; Tracie Caslin attended and presented "Pets, People, and Pesticides" at the Pesticide Applicators Short Course in February 2002, held as part of the Oregon State University Extension "PNW Agricultural Chemistry, Toxicology, and Policy Short Course", in Eugene, Oregon; Terry Miller, Jeff Jenkins, Tracie Caslin, Dixie Slatter and Matt Hamman attended the Association of American Pest Control Officials annual meeting in Arlington, VA, March 11-13, 2002.

Publicity

NPIC Outreach Efforts - Efforts included updates to 14 outreach contact databases. NPIC information packets were mailed to the following organizations during

this reporting period: State Offices of Rural Health (SORH) and State Rural Health Associations (SRHA) nationwide; the National Tribal Environmental Council offices nationwide; U.S. EPA Regional Offices; National Association of City and County Healthcare Officials (NACCHO); California County Agricultural Commissioners; Master Gardener Coordinators; New York



Department of Environmental Conservation; Office of Minority Health Resource Center, Regional Minority Health Consultants; Office of Minority Health Resource Center, State Minority Health Consultants; Pesticide Applicator Training Coordinators; Poison Control Centers; Regional EPA Tribal Programs; State Departments of Agriculture; Veterinary Medical Association directors and officers.

NPIC also developed new outreach materials, including: plastic tote-bags (9x12 inch) with NPIC contact information to distribute at conferences and other public outreach opportunities; and new flyers to be used for outreach. The brochures are "bookmark" flyers, a single sheet the size of a folded brochure, printed in color. Specific themes, including West Nile virus, Urban Pest Management, and gardening, are emphasized. Flyers with veterinary and food safety themes are in development.

NPIC staff also participated in outreach efforts off-site as follows:

Tracie Caslin and Dixie Slatter provided and staffed an NPIC exhibit and attended the International Master Gardener Conference and Trade Show trade show in Lake Buena Vista, Florida in May 2001; NPIC specialists participated in the SMILE Program (Science and Math Investigative Learning Experience), an OSU outreach program for minority and rural students in Oregon which helps high school students develop skills through the use of environmental health science scenarios. Specialists assisted project organizers and participants, serving as experts in a curriculum unit called The Pesticide Spill.

NPIC brochures were provided to a variety of conferences and organizations including: Lee County 4-H Fair, in

Amboy, IL; Organization for Safety & Asepsis Procedures Comprehensive Dental Infection Control Course, Bethesda, MD; 13th Annual Conference of the Master Gardener Association of Wayne County, MI; Oregon Public Health Association Annual Conference, Beaverton, OR; Harvest Fiesta, Cloverdale, CA; Oregon Child Development Coalition (OCDC), Health Division Meeting, Hood River, OR; Texas A&M University, College Station, TX; Children's Environmental Health Network; Sumter County Cooperative Extension Service, FL; Food and Drug Administration (FDA), Pharr, TX; Suffolk County Health Department Environmental Outreach Program, NY; KinderCare Learning Centers; Environmental and Occupational Epidemiology office at the Oregon Health Division; New York Department of Environmental Conservation, Pesticides Division; Washington State Department of Agriculture; Family Health Center, Okanogan, WA; Oregon State Department of Agriculture, Pesticide

Division, Salem, OR; Nassau Communities Hospital, Nassau County, NY; Scoops Construction, Bay City, MI; Suffolk County Department of Health Services, Office of Water Resources, Hauppauge, NY.

Outreach Projects with EPA - NPIC worked with EPA Regions and Headquarters on a number of outreach events this year: NPIC provided 5,000 NPIC "urban" flyers to EPA Region 4 for a mailout to schools in the Atlanta, GA, urban area; Spanish and English NPIC brochures were mailed to the Public Environmental Resource Center in EPA Region 10; Spanish and English NPIC brochures were mailed to Linda Falk of EPA Region 6 to provide at the Pesticide Bingo events.



Several EPA regional campaigns have included NPIC material and/or phone number on their publications, including the Illegal Pesticide Campaign in Region 2 and the Atlanta Urban Campaign in Region 4. NPIC was also mentioned in the November 2001 Monthly EPA Regional Report under Region 4's Atlanta Safe Pesticide Use Campaign: Urban Initiative.

Magazine Publicity - NPIC staff develop and submit pesti-

cide-related articles to popular magazines and journals. An article entitled "Bug Off," featuring NPIC services, was published in the American Youth Soccer Association Fall AYSO Soccer Now magazine circulated to approximately 425,000 households with an expected readership of over 1 million. In another project, NPIC staff identified articles on pesticide topics in popular magazines and sent a letter, along with outreach materials, to both the author and the editor, suggesting NPIC as a resource for both the editorial staff and their readers.

Spanish Outreach - NPIC has strengthened its efforts to outreach to the Spanish-speaking community to make NPIC and its services more widely known to an ethnically diverse audience. NPIC is compiling a body of informational publications and websites in Spanish related to pesticides and pesticide-related issues. Four NPIC active ingredient fact sheets and one pesticide topic fact sheet have been translated into Spanish. The Spanish version of the NPIC brochure also has been refined. NPIC is currently developing databases of minority and Spanish-speaking community groups for use in future mailouts.

Efforts with OPP - Efforts on behalf of NPIC by the EPA's Office of Communications (Office of Communications, Education and Media Relations) and Communications Services Branch within the Office of Pesticide Programs included Radio Public Service Announcements and the use of truck-side advertising campaigns throughout the nation.

Other

Visit to OPP Headquarters - Tracie Caslin, Dixie Slatter, Matt Hamman, Jeff Jenkins, and Terry Miller attended the *Association of American Pest Control Officials* annual meeting in Arlington, Virginia

by Sandra Uesugi

Bug Off!

All About Pesticides

As a defender throughout my early soccer years in AYSO, I often picked dandelions and pondered life while waiting for the action to roll back over to my side of the field. I don't know which struck greater fear into my little heart: an offensive stampede charging down the field towards me or the bees and wasps flying around me, crazed by the scent of oranges on my hands.

Hands sticky from juicy half-time oranges. Trash cans full of wrappers from those sugary post-game treats. Soccer fields can be a smorgasbord for ants, bees and wasps. Gophers can burrow under fields, feeding on the roots of the grass. Early evening games can bring out those annoying mosquitoes. And that lush green field can quickly succumb to rampant weeds and other insect problems.

How are these pesky problems controlled? One solution can be through the use of pesticides. "On my playground?" you ask. Yes, pest control is sometimes used to manage unwanted weeds, bugs and other pests around soccer fields.

To help protect people and the environment, pesticides are registered with the US Environmental Protection Agency (EPA), against standards requiring that

there should be a "reasonable certainty of no harm" if the product is used and applied in accordance with instructions (the pesticide product label). Another protective measure which can be taken is to simply minimize your exposure to pesticides. In the case of soccer fields, this might involve avoiding contact with areas just treated with pesticides, until they have had a chance to dry, as most pesticides are more easily transferred to skin or clothing when they are wet. It can take about four to six hours for pesticides to dry, although drying time varies depending on the temperature and humidity.

Regardless of where you live, it's always a good idea to know what's going on regarding pesticide treatment in your area. If after reading this you have questions or health concerns about pesticide products or active ingredients, please contact the National Pesticide Telecommunications Network (NPTN). You can use the network's toll-free information service at 1-800-858-7378 or visit its website at <http://nptn.orst.edu>. Through this service, you can get information on how to minimize your exposure to pesticides or get the name and number of contacts in your state. ■

This article was provided by the NPTN, which is a joint project between Oregon State University and the US EPA. The Network provides objective, science-based information, and its goal is to promote informed decision-making. Pesticide specialists are available to answer questions and talk about your concerns seven days a week between 6:30 am and 4:30 pm PST, excluding holidays.

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in March, 2002. They, along with Dr. Dan Sudakin, also met during the same week with EPA/OPP personnel at OPP headquarters in Arlington. Meetings during the visit were held with: the NPIC Project Officer, Frank Davido; the NPIC Oversight and Monitoring Committee; and representatives of other EPA/OPP divisions, including: Information Resources and Services, Field and External Affairs, Antimicrobial, Biopesticides and Pollution Prevention; and Health Effects. The NPIC delegation also met with OPP Office Director, Marcia Mulkey, and other OPP personnel.

Site Visit - Frank Davido (NPIC Project Officer) and Venus Eagle

(SRRD), from the EPA Office of Pesticide Programs, conducted the annual EPA site visit to NPIC, in October.

Issues - NPIC addressed various pesticide related issues with the public during the reporting period, including: the New York Neighbor Notification Law (937 calls), Chromated Copper Arsenate treated wood (489 calls), and questions related to pesticide security and bioterrorism (75 calls).

The *West Nile* virus prompted 275 calls to NPIC from the public. The highest number of calls came from the following states: Maryland (63); New York (46); Florida (30);

Pennsylvania (18); New Jersey (14); and Georgia (14). The most frequent topics discussed were: health effects (56); product and/or chemical information (35); inquiries about spray schedules (33); concerns about encephalitis (43); mosquito control (57); and report dead birds (59).

Organophosphate Revised Risk Assessment questions and concerns generated 270 calls. Common questions focused on the regulatory status, health effects, precautions for use, and alternatives to the assessed active ingredient.

Personnel Update

Dr. Dan Sudakin, MD, MPH, of the Department of Environmental and Molecular Toxicology, has assumed the role previously held by Dr. Sheldon Wagner (recently retired) as co-investigator on the cooperative agreement supporting NPIC. NPIC thanks Dr. Wagner for his support of and involvement in the NPIC project.

NPIC hired three full-time pesticide specialists during the 2001 grant year, as well as a full-time information resources supervisor. Additionally, one of the NAIN specialists received NPIC training and began working as a pesticide specialist at NPIC. Two pesticide specialists resigned during this period.

NPIC's current staff includes thirteen full-time specialists, including the Project Coordinator, a full-time information resources supervisor, two undergraduate student helpers and two part-time graduate students. All Specialists have at least a bachelors degree in a scientific field; many have advanced degrees. Specialists come from the fields of toxicology, plant pathology, environmental science, biotechnology, horticulture, botany, ecology, soil science, among others.

Facilities

NPIC is fully integrated into the new space acquired and remodeled last year. One of the new rooms houses a conference area, mailboxes, printers and copier with associated work area. Another room houses eight pesticide specialists and hard copy resources, including active ingredient master files needed as resources. The third room contains the library, administrative files, and work areas for graduate and undergraduate students.

The backup capacity of NPIC's UNIX system was enhanced by the addition of a ADIC FastStor 22 tape

18GB disk; and, an SBUS 100Mb ethernet card. NPIC has added a Cisco 3640 Router to its network.

Eight Dell Precision 340 workstations were purchased, as were APC SmartUPS 700 power supplies.

Computer software acquired by NPIC includes: Oracle 8i Database; Sophos AntiVirus for Windows and Solaris; Sun Solaris 8; and, an upgrade to Legato Networker (i.e., server upgrade to version 6.1.1; 32-slot Legato Networker jukebox license to support the new FastStor 22; Legato Networker Module for Oracle; and, 20 additional Networker client licenses).



jukebox with DLT8000 tape drive (80GB per tape capacity = 1.76TB active tape storage). DLTIV tapes were purchased to give a 3.52TB total new tape capacity).

NPIC acquired a new SunFire 280R Server, including: 750 MHz UltraSpark III processor; 72GB disk; and 1GB RAM. Upgrades to NPIC's main UNIX server included: 1GB RAM (now 2GB total); nine 36GB drives (324 GB total); RAID controller; and, 8-bay internal disk backplane. Upgrades to NPIC's developmental UNIX server included:

Traffic Report

Traffic Report Summary

NPIC answered 23,511 inquiries during its sixth year of operation (April 2001 - March 2002) at Oregon State University. Most of the calls received by NPIC are quite sophisticated, requiring extensive expertise on the part of the Pesticide Specialists to be able to provide answers which are objective, science-based, and, at the same time, are presented in an understandable way to the caller.

A summary of the number of calls 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 calls by calendar year. Most calls occurred during the period March to October.

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

The means by which people contact NPIC is shown in Table 3.1. The telephone was by far the most important verbal contact route. However, many people accessed NPIC through its World Wide Web site - during this year, the web site received 437,993 hits. (Table 4.1 and Graphs 4.1 - 4.5). In addition, there were 620 direct inquiries to NPIC via email.

The variety of callers to NPIC is shown in Table 5.1 and Chart 5.1.

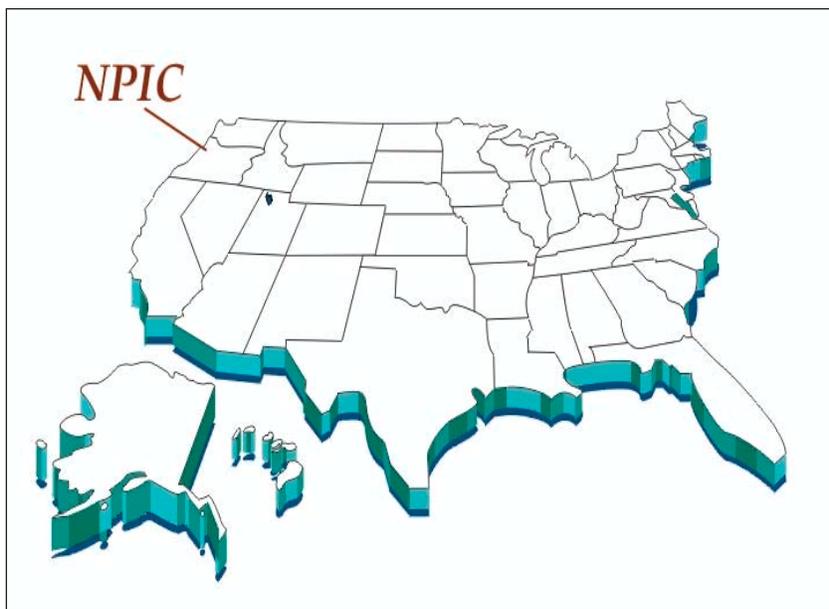
The predominant number of calls received by NPIC were from the general public.

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

Most of these information calls, and others listed in Table 6.1, were prompted by concern/knowledge of the caller (Table 7.1 and Charts 7.1 and 7.2). Only about 8.2% of the calls are to report a pesticide incident.

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

The total number of calls, as well as the number of information and incident calls, for the 25 most asked



about pesticide active ingredients are presented in Table 10.1. For incident calls, 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 calls are presented in Graph 10.1. The 25 active ingredients most frequently mentioned in incident calls are

Most callers received information verbally from a Pesticide Specialist (Table 8.1 and Charts 8.1 and 8.2). Some callers also requested and received written information. In addition, many calls 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 the Department of Agriculture).

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

The locations where pesticide exposures were purported to have taken place are shown in Table 12.1. Of those calls 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 calls are further categorized by whether the incident involved a human, animal, or building/other (Table 14.1 and Graph 14.1). The incident calls 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 0 reflects those calls where the caller 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 callers ranged from symptomatic, to asymptomatic, to 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

Pesticide Specialists record pertinent information for every call received at NPIC. This information

is entered into the NPIC Pesticide Incident Database (PID), an electronic database used to record information for all inquiries to NPIC. Broadly speaking, there are two types of calls received by NPIC - those for general or specific information about pesticides and pesticide-related issues and calls about pesticide incidents. For



example, a caller might ask a question about 'pesticides in foods' (a general information call) or about the toxicity of a particular pesticide (a pesticide-specific information call). A call to report an exposure to a pesticide is an example of an incident call. The type and amount of information entered into the PID depends on whether the call was for general information or to report a pesticide incident.

Information collected and entered into the PID for general information calls 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 calls), and action required (e.g., verbal information, referral, or mailed information). If a specific pesticide product or active ingredient is discussed, the product and/or active ingredient is entered into the database.

When incidents are reported, more detailed and specific information is recorded, including: type of incident (e.g., exposure, spill, drift), location of the incident and information about the entity, including age, gender, nature of the exposure, and reported symptoms. For incidents involving reported human or animal health effects, and for environmental incidents, a certainty index is assigned. The certainty index is an estimate by NPIC (based on information provided by the caller) 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 2001 NPIC operational year.

1. Monthly Calls

NPIC received 23,511 inquiries during the 2001 grant year. Graph 1.1 shows the number of calls received for each month. Eighty-one percent of the inquiries were received between March and October, coinciding with that part of the year when most pest pressures are highest. Total calls received during previous grant and calendar years is provided for comparison in Table 1.1.

Graph 1.1 - Monthly Telephone Calls

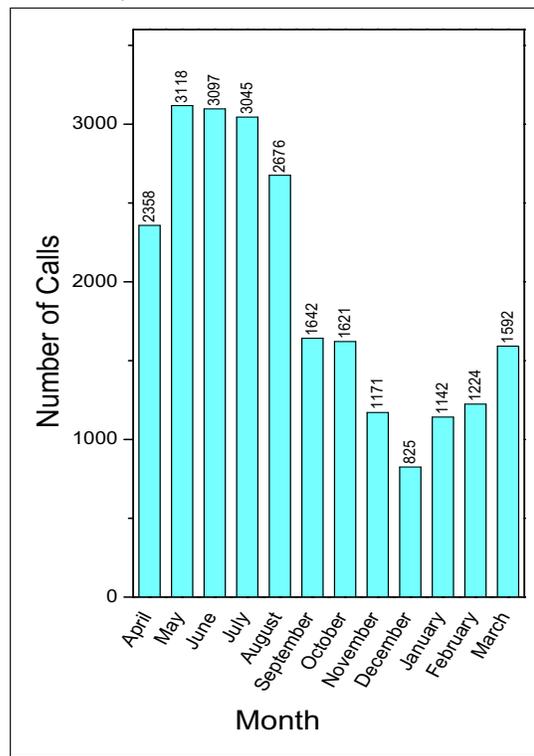


Table 1.1 - Monthly Telephone Calls

Month	Number of Calls				
	1997	1998	1999	2000	2001
April	2129	2181	2266	2121	2358
May	2199	2486	2520	2680	3118
June	2441	2891	2693	3296	3097
July	2536	2608	2629	2901	3045
August	2282	2188	2342	2770	2676
September	1904	1790	2141	2059	1642
October	1712	1544	1671	1696	1621
November	1131	1132	1232	1177	1171
December	1060	938	817	795	825
January	1153	1047	1137	983	1142
February	1353	1214	1393	997	1224
March	1937	1698	1880	1572	1592
Calendar ¹⁾ Yr Tot	21328	22206	22275	23911	23105
Grant ²⁾ Yr Tot	21837	21717	22721	23047	23511

¹⁾ April 1 through December 31 for 1995; January 1 through December 31, other years.

²⁾ April 1 through March 31.

"I've been told that my home needs to be treated with pesticides to kill termites. I am pregnant, and I am wondering if the chemicals will hurt my unborn baby? What about my other children?"

2. Types of Calls

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

The majority of calls (21,101 or 89.3%) to NPIC were information calls in which the caller requested information about pesticides or pesticide-related matters (Chart 2.1). Information calls may involve a discussion of a specific pesticide, or of pesticides in general. NPIC responded to 9,952 (42.3%) information calls about specific pesticides, for example: a) Caller reports that her husband applied slug and snail pellets (metaldehyde) to an area where her dog runs - wanted to know how long the product would last out in the weather, and b) Caller wanted to know if insecticidal soap (potassium salts of fatty acids) would harm birds. NPIC responded to 11,493 (47.0%) calls relating to pesticides in general, for example: Caller who has 7-month-old child feels she needs to treat for spiders and cockroaches, wanted information about low toxicity products.

NPIC responded to 1,916 (8.2%) calls about pesticide incidents. A pesticide incident is a spill, a misapplication, a contamination of a non-target entity, or any purported exposure to a pesticide, regardless of injury. The majority of incident calls involved human and animal entities (Chart 2.2). Of the 1,916 incident calls, 952 (49.7%) involved a human entity, 583 (30.4%) involved an animal entity,

and 381 (19.9%) involved damage to a building such as a home or office.

NPIC also took 593 (2.5%) calls that were not related to pesticides, for example: a) Caller demanded that we call up a small town in California that has a rodent problem and tell the city administration to use cats not poisons to control the rodents, and b) Caller states elderly friend dropped a thermometer on the floor and wants to know how to clean it up.

Table 2.1 - Types of Calls

Type of Call	Number of Calls				
	1997	1998	1999	2000	2001
Information - Specific Pesticide	8953	8235	8595	9941	9952
Information - General Pesticide	10482	10621	10951	10093	11049
Incidents	1559	1562	1962	2193	1916
Human Incidents	1026	939	1258	1215	952
Animal Incidents	311	352	426	561	583
Building/Other	221	271	278	416	381
Other - Non-Pesticide	843	1299	1213	820	593
Grant Year Total =	21837	21717	22721	23047	23511

Chart 2.1 - Types of Calls

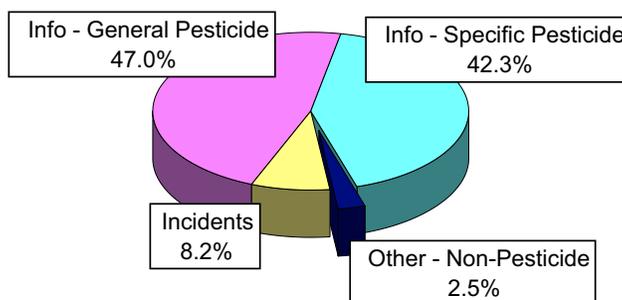
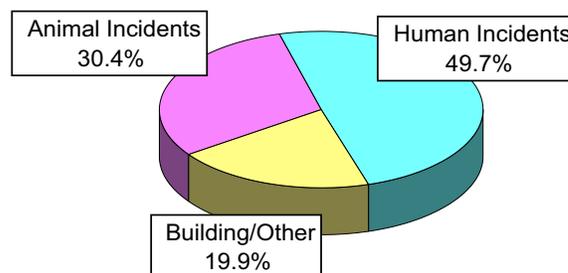


Chart 2.2 - Incidents



3. Origin of Calls

Table 3.1 summarizes the origin of inquiries received by NPIC. Most inquiries are received by telephone. Of the 23,511 inquiries, 22,163 (94.3%) were received by telephone, 660 (2.8%) were recorded by a voice mail system, 46 (0.2%) were received by postal mail, 6 were walk-in inquires, and 620 (2.7%) were by email.



Table 3.1 - Origin of Calls

Origin of Call	Number of Calls				
	1997	1998	1999	2000	2001
Telephone	21005	20950	21769	21838	22163
Voice Mail	542	470	483	615	660
Mail	126	40	73	48	46
Walk In	6	4	7	2	6
E-Mail	-	215	380	544	620
Other	158	38	9	0	16
Grant Year Total =	21837	21717	22721	23047	23511



“KEEP OUT OF REACH OF CHILDREN”

Read the Label!

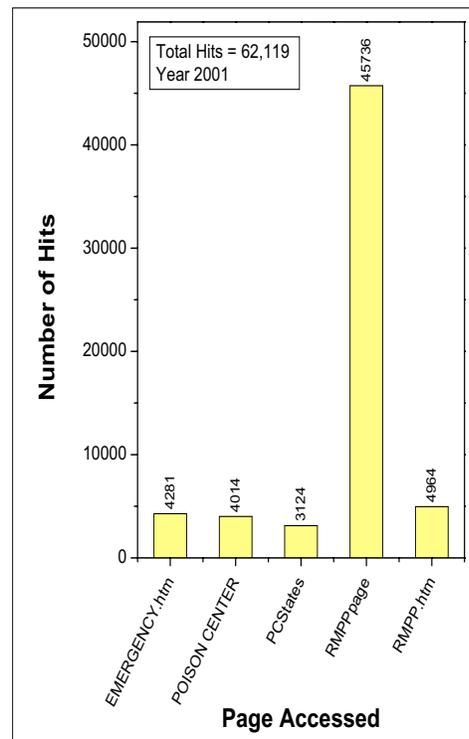
4. Web Site Access

The NPIC World Wide Web site continues to be a popular source of information for NPIC clientele. The NPIC web site received 437,993 hits and the NAIN web site 186,377 hits. Table 4.1 and Graph 4.1 summarizes the number of web site hits to NPIC main web pages. Graph 4.2 shows the number of hits for emergency-related information. The number of hits (35,208) to the NPIC West Nile virus web pages is shown in Graph 4.3. And Graphs 4.4 and 4.5 detail the number of hits for NPIC fact sheets (>80,000 hits total).

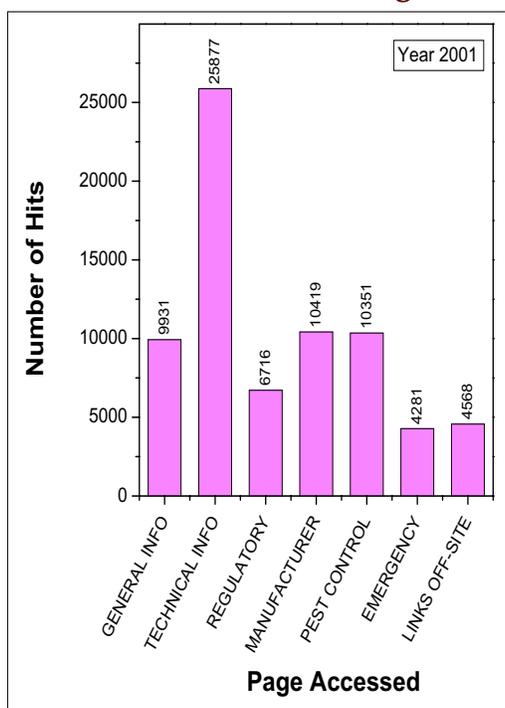
Table 4.1 - Web Hits

Page(s) Accessed	# of Hits NPIC
General Information	9931
Technical Information	25877
Fact Sheets	80827
State Regulatory Agencies	12008
Recognition & Management of Pesticide Poisoning	45736
Manufacturer Info	10419

Graph 4.2 - Hits to Emergency Information Pages



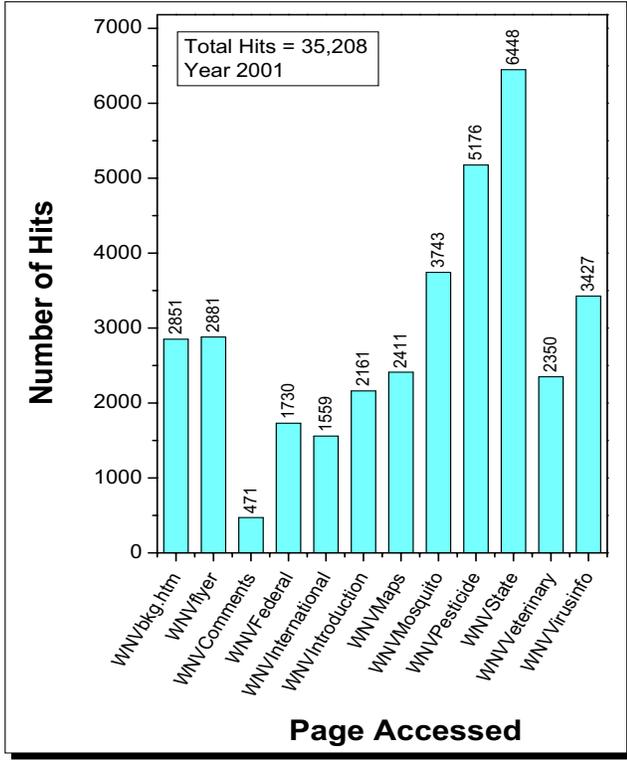
Graph 4.1 - Hits to NPIC Main Web Pages



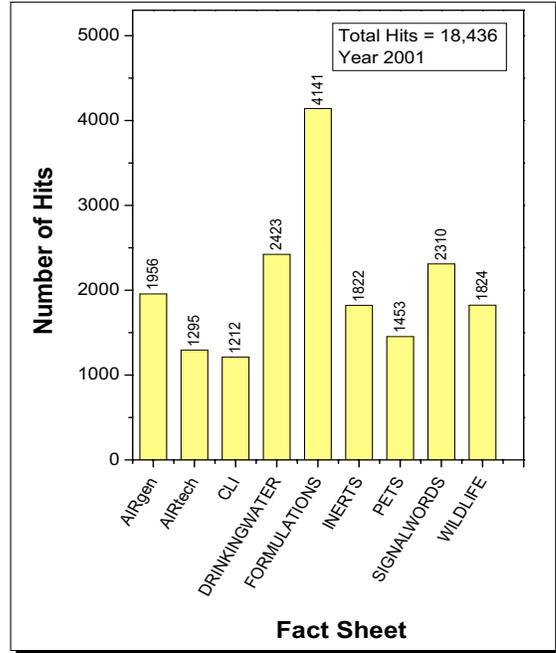
Feedback from Web Site Comment Form -

"This is a wonderful site. I had just spent time looking up XXX Chemical Co. for a question I had and could not find it. I went to Google and they linked me up to your site. It was easy to read, understand and I was able to find the information I needed in no time at all. Just had to let you know how much I appreciate the ease of finding information on your site. It also looks like I could find other information easily too. Congratulations. Judy XXX"

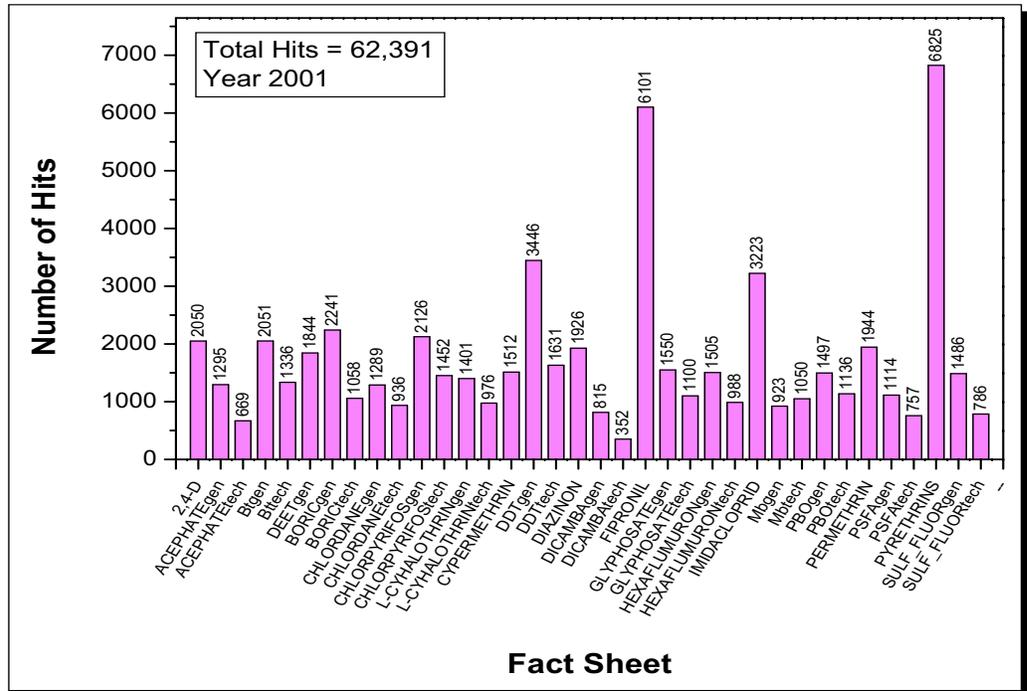
Graph 4.3 - Hits to WNV Pages



Graph 4.4 - Hits to Topic Fact Sheets



Graph 4.5 - Hits to Active Ingredient Fact Sheets



5. Type of Caller

Graph 5.1, Table 5.1, and Chart 5.1 summarize the profession/occupation of individuals contacting NPIC. The majority of calls made to NPIC are from the general public. Of the 23,511 inquiries received, there were 20,351 (86.6%) from the general public; 1,095 (4.7%) from federal, state, or local government agencies; 591 (2.5%) from human and animal medical personnel; 459 (2.1%) from information groups including the media, unions, environmental organizations and pesticide manufacturing or marketing companies; 710 (3.0%) from consumer users including legal or insurance representatives, laboratory or consulting personnel, pest control operators, retail store personnel, or farm personnel; and 270 (1.2%) calls from other professions/occupations.

Graph 5.1 - Type of Caller

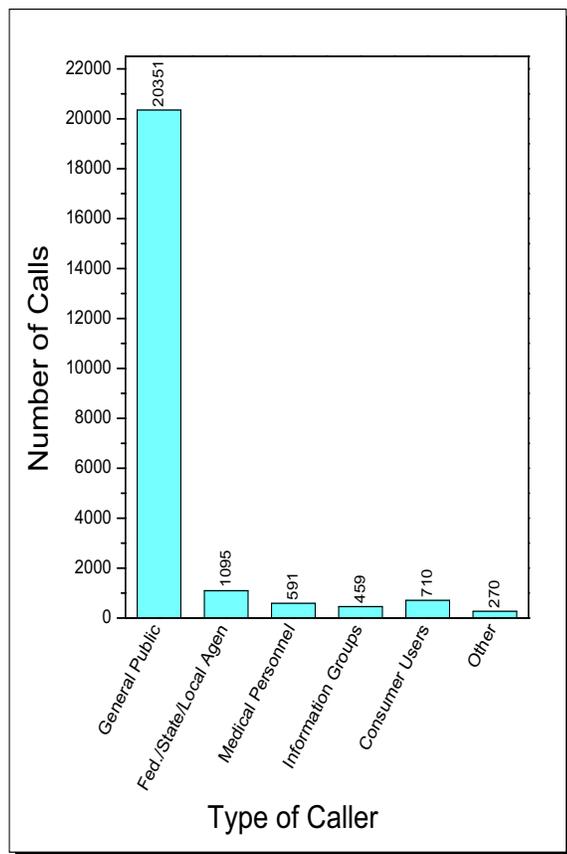
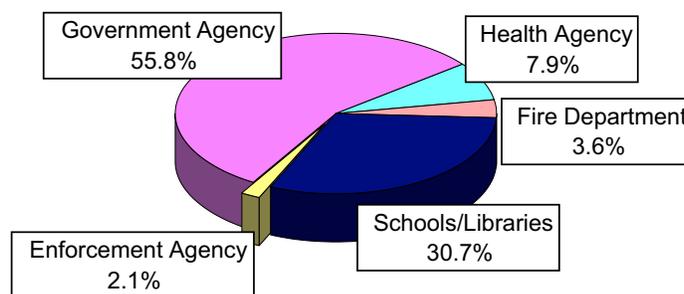


Table 5.1 - Type of Caller

Type of Caller	Number of Calls				
	1997	1998	1999	2000	2001
General Public	18304	18802	20041	20209	20351
Federal/State/Local Agency					
Health Agency	120	171	143	104	86
Government Agency	637	564	572	605	611
Enforcement Agency	67	43	11	2	23
Schools/Libraries	280	261	154	209	336
Fire Department	26	31	28	26	39
Medical Personnel					
Human Medical	532	395	351	290	315
Animal Vet./Clinic	159	168	195	252	268
Migrant Clinic	16	3	9	4	8
Information Groups					
Media	228	162	133	142	111
Unions/Info. Service	104	68	61	51	75
Environmental Org.	191	150	156	113	100
Pesticide Mfg./Mktg. Co.	158	133	106	136	173
Consumer Users					
Lawyer/Insurance	129	69	76	107	98
Lab./Consulting	149	96	105	100	80
Pest Control	227	202	131	149	183
Retail Store	57	51	154	197	286
Farm	67	57	50	44	63
Other	386	291	245	307	270
Grant Year Total =	21837	21717	22721	23047	23511

Chart 5.1 - Inquiries - Governmental Agencies



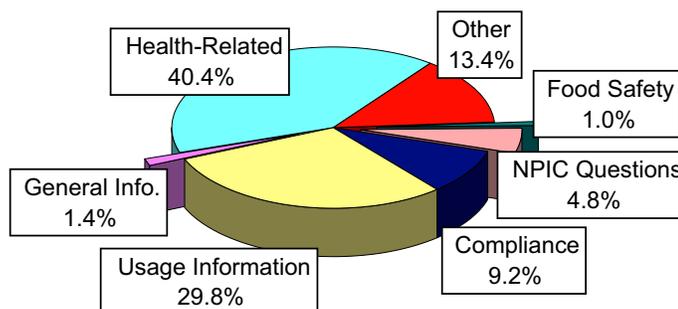
6. Type of Question

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 9,505 (40.4%) inquiries related to health effects of pesticides, including inquiries about general health, treatment and testing, and laboratory questions. NPIC responded to 7,004 (29.8%) inquiries involving requests for pesticide usage information, including questions about use on specific pests or crops, chemical information, pros and cons of application, safety and application questions, cleanup questions, questions about harvest intervals, and lawn care usage questions. NPIC responded to 2,155 (9.2%) inquiries involving compliance questions, including questions about regulations, disposal, and complaints. Additionally, NPIC responded to 5 inquiries about FQPA, 234 (1.0%) inquiries about other food safety issues, 12 inquiries about a Consumer Reports article, 325 (1.4%) inquiries involving general pesticide questions, 1,139 (4.8%) inquiries involving questions about NPIC, and 3,129 (13.4%) inquiries not classified according to type of question.

**Table 6.1 -
Type of Question**

Type of Question	Number of Calls				
	1997	1998	1999	2000	2001
Health Related					
Health	7997	8396	8976	8717	9283
Treatment	238	284	151	100	125
Testing Lab.	114	115	84	104	97
Usage Information					
Pest/Crop	1437	1575	1846	1570	1732
Chemical	1865	2111	2196	2482	2342
Pros and Cons	185	104	55	74	65
Safety/Application	1040	531	686	2038	2446
Cleanup	312	252	270	376	290
Harvest Intervals	105	89	64	123	111
Lawn Care	54	43	30	30	18
Compliance					
Regulations	1567	1714	1587	1427	1587
Complaints	279	328	288	321	390
Disposal	197	236	174	211	178
FQPA	-	33	31	10	5
Food Safety	-	42	227	189	234
Consumer Report Article	-	18	5	5	12
General	1026	653	619	544	325
NPIC Questions	1407	1266	1185	918	1139
Non-Pesticide Related	5	5	1	12	1
Other	4009	3922	4246	3796	3129
Grant Year Total =	21837	21717	22721	23047	23511

**Chart 6.1 -
Type of Question**



7. Reason for Inquiry

Pesticide Specialists identify the reason for inquiry for all calls received by NPIC (Table 7.1 and Charts 7.1 and 7.2). The reason for inquiry for all information calls is Concern/Knowledge. The reason for inquiry for incident calls varies according to the nature of the incident. Of the 1,924 calls for which a reason was available, there were 1,367 (71.1%) about pesticide exposure, and 474 (24.6%) about accidents. There were 55 (2.9%) inquiries about odor only, and 27 (1.4%) other calls for other reasons. The reason for all other (non-pesticide) calls is N/A–Unknown.

Chart 7.1 - Pesticide Exposures

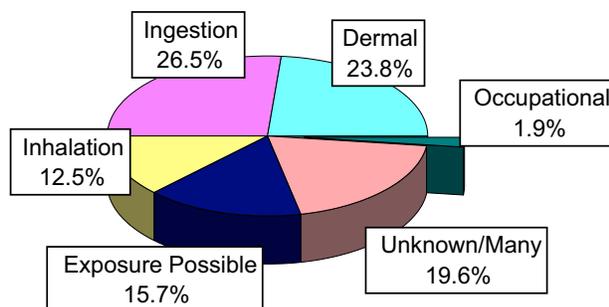


Chart 7.2 - Pesticide Accidents

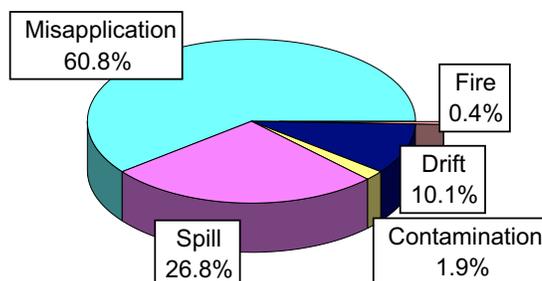


Table 7.1 - Reason for Inquiry

Reason for Inquiry	Number of Calls				
	1997	1998	1999	2000	2001
Information Calls					
Concern/Knowledge	20020	19817	20474	20719	21465
Incident Calls					
Exposures					
Dermal - Acute	201	200	293	336	315
Dermal - Chronic	13	13	15	4	10
Ingestion - Acute	178	228	298	382	359
Ingestion - Chronic	3	7	4	3	3
Inhalation - Acute	176	147	308	248	153
Inhalation - Chronic	43	22	25	6	18
Exposure Possible	311	335	314	324	215
Unknown/Many	83	133	211	258	268
Occupational	42	22	17	23	26
Accidents					
Misapplic. - Homeowner	101	120	137	189	198
Misapplic. - PCO	111	80	70	72	59
Misapplic. - Other	39	32	37	31	31
Spill - Indoor	55	75	75	115	102
Spill - Outdoor	15	29	20	19	25
Contamination - Home	21	15	6	11	2
Contamination - Other	16	8	9	11	7
Drift	59	51	60	62	48
Fire - Home	1	0	1	1	1
Fire - Other	0	2	1	3	1
Industrial Accident	0	0	0	0	0
Odor Only	58	28	55	77	55
Testing Laboratory	1	0	1	0	1
Other	36	26	21	39	27
N/A-Unknown	254	327	269	114	122
Grant Year Total =	21837	21717	22721	23047	23511

8. Action Taken by NPIC

NPIC Specialists respond to inquiries in many ways, including the provision of verbal information, referrals to other agencies or organizations, and hard-copy information sent by mail, Fax, or email. Actions taken by Pesticide Specialists in response to inquiries are summarized in Table 8.1, and Charts 8.1 and 8.2. Most inquiries (21,318; 90.7%) were answered by providing verbal information to the caller. If Specialists determine that other agencies or organizations are better able to respond to an inquiry than NPIC, a referral is made. Referrals were made for 1,428 (6.1%) calls. Common NPIC referrals were to the EPA, state lead agencies or the National Pesticide Medical Monitoring Program; referrals to county extension services; referrals to Oregon Poison Center and National Animal Poison Control Center; and referrals to the National Antimicrobial Information Network (NAIN). Some callers (765; 3.3%) received hard-copy information via mail, Fax, or email.

Table 8.1 - Action Taken

Action Taken	Number of Calls				
	1997	1998	1999	2000	2001
Verbal Information	17948	18180	17070	19277	21318
Referrals to:					
EPA, State Lead Agencies, National Pesticide Medical Monitoring Program	1404	1095	1245	708	613
County Extension	490	583	1435	495	109
Oregon Poison Center	42	112	72	43	77
National Animal Poison Control Center	77	155	81	112	111
National Antimicrobial Information Network	214	178	213	207	202
Other Organizations	915	973	1992	1475	316
Mailed Information, Brochure, Publication	576	340	472	611	664
Other/FAXED Information	171	101	141	119	101
Grant Year Total =	21837	21717	22721	23047	23511

Chart 8.1 - Action Taken

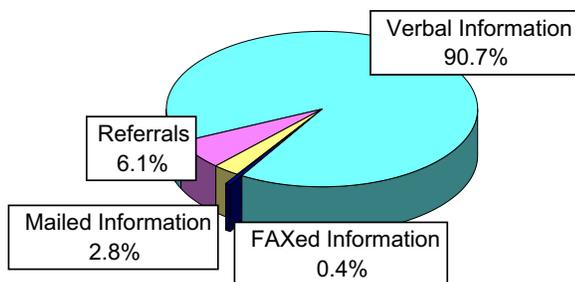
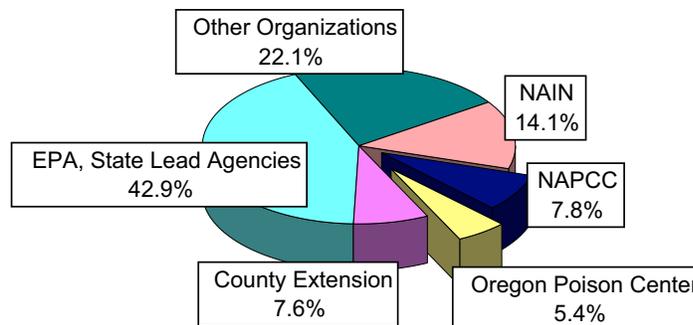


Chart 8.2 - Referrals Made

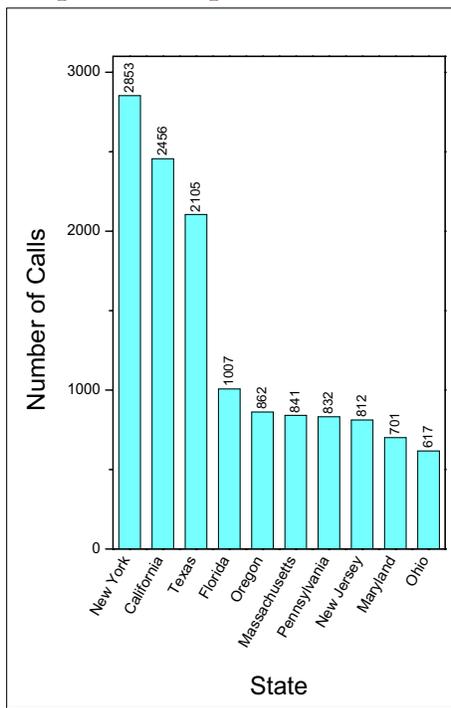


9. Inquiries by State

Table 9.1 lists the number of calls received by NPIC from each state. The largest number of calls were received from New York, California, and Texas (Graph 9.1) - states ranked 2, 1, and 3, respectively, in terms of population. Graph 9.2 summarizes calls by EPA region. NPIC received 15.7% of calls from Region 2, 12.4% from Region 9, 11.7% from Region 4, 11.2% from Region 5, and 11.0% from Region 6.



Graph 9.1 - Top 10 States



Graph 9.2 - Calls by EPA Region

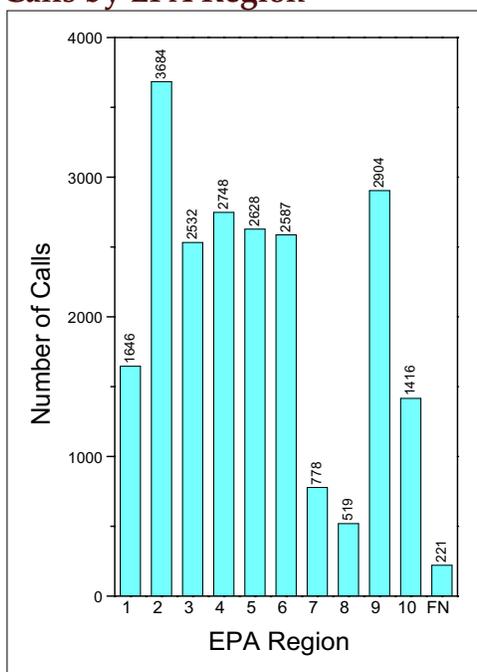


Table 9.1 - Listing of States and Foreign Nations Using NPIC

EPA Region	State Code	State	Number of Calls
		Not recorded	1848
10	AK	Alaska	24
4	AL	Alabama	180
6	AR	Arkansas	108
9	AZ	Arizona	278
9	CA	California	2456
FN	CN	Canada	111
8	CO	Colorado	310
1	CT	Connecticut	446
3	DC	DC	248
3	DE	Delaware	58
4	FL	Florida	1007
FN	FN	Foreign	111
4	GA	Georgia	405
9	HI	Hawaii	83
7	IA	Iowa	156
10	ID	Idaho	67
5	IL	Illinois	572
5	IN	Indiana	265
7	KS	Kansas	209
4	KY	Kentucky	168
6	LA	Louisiana	166
1	MA	Massachusetts	841
3	MD	Maryland	701
1	ME	Maine	71
5	MI	Michigan	607
5	MN	Minnesota	306
7	MO	Missouri	304
4	MS	Mississippi	83
8	MT	Montana	68
4	NC	North Carolina	463
8	ND	North Dakota	24
7	NE	Nebraska	110
1	NH	New Hampshire	111
2	NJ	New Jersey	812
6	NM	New Mexico	94
9	NV	Nevada	86
2	NY	New York	2853
5	OH	Ohio	617
6	OK	Oklahoma	112
10	OR	Oregon	862
3	PA	Pennsylvania	832
2	PR	Puerto Rico	19
1	RI	Rhode Island	120
4	SC	South Carolina	134
8	SD	South Dakota	32
4	TN	Tennessee	306
6	TX	Texas	2105
8	UT	Utah	64
3	VA	Virginia	588
2	VI	Virgin Islands	1
1	VT	Vermont	58
10	WA	Washington	462
5	WI	Wisconsin	264
3	WV	West Virginia	104
8	WY	Wyoming	21
		Total =	23511

10. Top 10 Active Ingredients In All Calls

When calls to NPIC involve discussion of a specific product or active ingredient, the Pesticide Specialist records the product and the active ingredient in the NPIC Pesticide Incident Database. The active ingredient permethrin was discussed in more calls than any other single active ingredient (Table 10.1). Of the 1,275 calls involving permethrin, 162 (12.7%) were incident calls and 1,114 (87.3%) were calls for information. See Table 10.1 and Graph

10.1 for this and similar information for the 25 active ingredients most commonly discussed in calls made to NPIC. Note that a call may involve discussion of more than one active ingredient; thus totals reflect the number of times active ingredients are discussed during all calls. Table 10.1 also shows the number of times a certainty index of 1 or 2 was assigned to these incident calls. The certainty index is an estimate by NPIC as to whether the incident was definitely (1), probably (2), possibly (3), or unlikely (4) to have been caused by

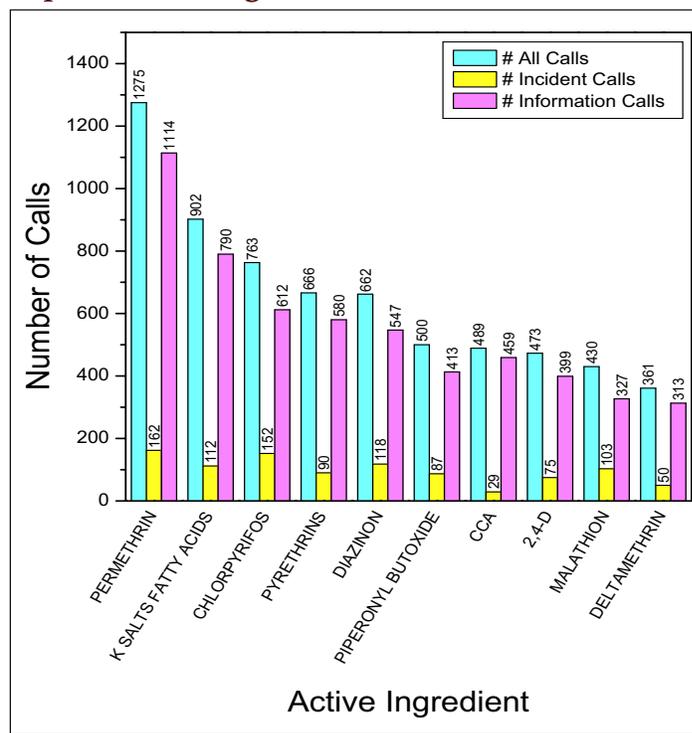
exposure to a pesticide, or whether the incident was unrelated (5) to pesticides. A certainty index of zero (0) is assigned to those calls where the caller reported an exposure, accident, or odor, but no health effects were reported. Of the 162 times that permethrin was mentioned during incident calls in which effects were reported, 7.4% of the cases were assigned a certainty index of 1 (definite) or 2 (probable).

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

Active Ingredient	Total Calls	Incident ¹⁾ Calls	Information Calls
PERMETHRIN	1275	162 (12)	1114
POTASSIUM SALTS OF FATTY ACIDS	902	112 (0)	790
CHLORPYRIFOS	763	152 (12)	612
PYRETHRINS	666	90 (11)	580
DIAZINON	662	118 (2)	547
PIPERONYL BUTOXIDE	500	87 (9)	413
CHROMATED COPPER ARSENATE	489	29 (0)	459
2,4-D	473	75 (2)	399
MALATHION	430	103 (4)	327
DELTAMETHRIN	361	50 (5)	313
CARBARYL	354	64 (5)	290
DICAMBA	351	60 (3)	291
FIPRONIL	348	39 (2)	309
BORIC ACID	342	30 (0)	313
MECOPROP	335	63 (3)	272
CYFLUTHRIN	333	40 (4)	293
BIFENTHRIN	328	35 (1)	293
BACILLUS THURINGIENSIS	306	31 (0)	275
PETROLEUM HYDROCARBONS	298	21 (1)	277
GLYPHOSATE	286	52 (2)	234
IMIDACLOPRID	284	39 (1)	245
SULFUR	249	31 (0)	218
CYPERMETHRIN	226	31 (2)	195
METALDEHYDE	208	98 (15)	110
CAPSAICIN	196	8 (0)	188
Total - Above Pesticides =	10965	1620 (96)	9357

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

**Graph 10.1 -
Top 10 Active Ingredients in All Calls**



11. Top 10 Active Ingredients in Incident Calls

The most common active ingredients reported during incident calls are listed in Table 11.1 and Graph 11.1. Table 11.1 also summarizes the number of human and animal entities involved in reported incidents of exposure to specific active ingredients. Permethrin was reported to be involved in more incidents than any other active ingredient. Of the 1,241 times that one of the other top 25 active ingredients was mentioned during incident calls in which human or animal entities were involved, 10.8% of the cases were assigned a certainty index of 1 (definite) or 2 (probable).

Graph 11.1 - Top 10 Active Ingredients in Incident Calls

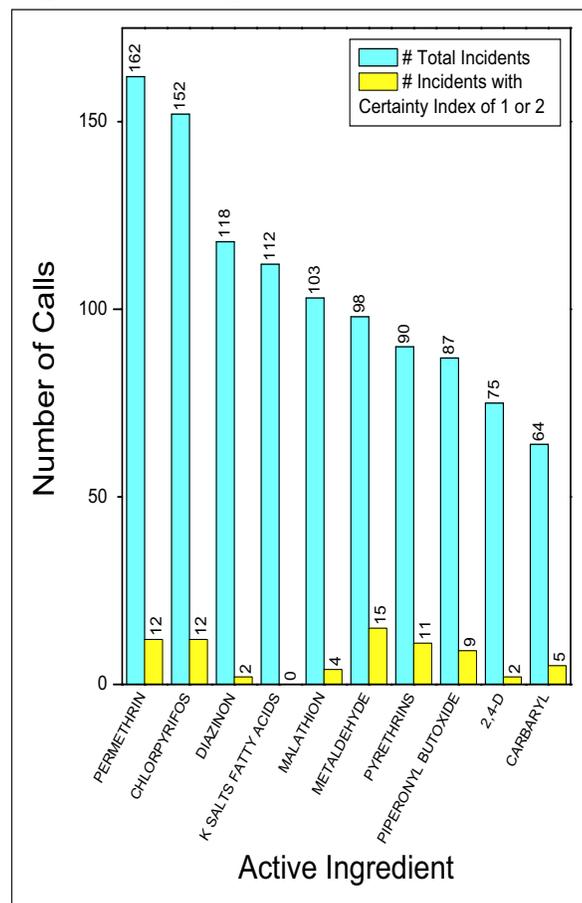


Table 11.1 - Top 25 Active Ingredients for Incident Calls

Active Ingredient	Total Incidents ¹⁾	Human Incidents	Animal Incidents	Other Incidents	Information Calls
PERMETHRIN	162 (12)	95 (6)	38 (6)	29 (0)	1114
CHLORPYRIFOS	152 (12)	109 (12)	18 (0)	25 (0)	612
DIAZINON	118 (2)	57 (1)	19 (1)	42 (0)	547
POTASSIUM SALTS OF FATTY ACIDS	112 (0)	54 (0)	41 (0)	17 (0)	790
MALATHION	103 (4)	55 (3)	7 (1)	41 (0)	327
METALDEHYDE	98 (15)	6 (1)	86 (14)	6 (0)	110
PYRETHRINS	90 (11)	47 (4)	33 (7)	10 (0)	580
PIPERONYL BUTOXIDE	87 (9)	48 (4)	26 (5)	13 (0)	413
2,4-D	75 (2)	44 (2)	17 (0)	14 (0)	399
CARBARYL	64 (5)	32 (4)	11 (1)	21 (0)	290
MECOPROP	63 (3)	42 (3)	13 (0)	8 (0)	272
DICAMBA	60 (3)	41 (2)	12 (1)	7 (0)	291
D-PHENOTHRIN	53 (22)	17 (1)	30 (21)	6 (0)	123
GLYPHOSATE	52 (2)	33 (2)	8 (0)	11 (0)	234
DELTAMETHRIN	50 (5)	29 (5)	10 (0)	11 (0)	313
CYFLUTHRIN	40 (4)	27 (4)	7 (0)	6 (0)	293
FIPRONIL	39 (2)	17 (1)	16 (1)	6 (0)	309
IMIDACLOPRID	39 (1)	16 (0)	13 (1)	10 (0)	245
DIPHACINONE	36 (1)	1 (0)	34 (1)	1 (0)	39
TETRAMETHRIN	36 (3)	26 (3)	2 (0)	8 (0)	101
BIFENTHRIN	35 (1)	23 (1)	5 (0)	7 (0)	293
N-OCTYL BICYCLO-HEPTENE DICARBO	35 (7)	19 (2)	13 (5)	3 (0)	109
CAPTAN	32 (5)	17 (4)	3 (1)	12 (0)	116
METHOPRENE	32 (15)	6 (1)	26 (14)	0 (0)	82
BACILLUS THURINGIENSIS	31 (0)	14 (0)	11 (0)	6 (0)	275
Total - Above Pesticides=	1694 (146)	875 (66)	499 (80)	320 (0)	8277

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

It is interesting to note that, even though more calls were received about permethrin than any other active ingredient, the proportion of permethrin incidents assigned a certainty index of 1 or 2 was less than for the remaining top 24 pesticides taken as a group.

12. Location of Incident

For incident calls, the NPIC Specialist records the reported location of the reported exposure. Of the 1,715 known locations where incidents occurred, 88.1% occurred in the home or yard, 3.9% occurred in an agricultural setting, and 3.4% occurred in an office building or school (Table 12.1).

**Table 12.1 -
Location of Pesticide Incidents**

Location	Number of Incident ¹⁾ Calls				
	1997	1998	1999	2000	2001
Unclear/Unknown	14 (3)	32 (6)	105 (13)	115 (12)	83 (8)
Home or Yard	1148 (129)	1246 (97)	1565 (121)	1704 (104)	1543 (107)
Agriculturally Related	131 (22)	91 (8)	114 (14)	122 (7)	68 (4)
Industrially Related	11 (0)	12 (1)	13 (1)	12 (1)	10 (2)
Office Building, School	75 (10)	65 (2)	39 (2)	65 (1)	59 (2)
Pond, Lake, Stream Related	6 (3)	5 (0)	9 (2)	8 (0)	7 (1)
Nursery, Greenhouse	10 (1)	10 (0)	9 (1)	13 (0)	6 (0)
Food Service/Restaurants	4 (1)	4 (0)	5 (1)	2 (0)	5 (1)
Retail Store/Business	14 (3)	17 (2)	15 (3)	19 (1)	27 (2)
Roadside/Right-of-Way	17 (1)	9 (1)	8 (0)	15 (0)	20 (1)
Park/Golf Course	7 (0)	9 (1)	8 (0)	17 (1)	6 (0)
Other	122 (28)	62 (12)	72 (6)	101 (14)	82 (5)
Total =	1559 (201)	1562 (130)	1962 (164)	2193 (141)	1916 (133)

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



13. Environmental Impact

NPIC Specialists record reported environmental impacts discussed in incident calls. 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 call; thus totals reflect the number of times these sites were discussed during the course of all incident calls. Of the 431 times that a specific environmental impact was reported, 2.8% of the cases were assigned a certainty index of 1 (definite) or 2 (probable). (Table 13.1)



**Table 13.1 -
Reported Environmental Impact**

Environmental Impact	Number of Incident ¹⁾ Calls				
	1997	1998	1999	2000	2001
Air	35 (8)	13 (0)	11 (0)	23 (0)	29 (0)
Water	15 (1)	17 (1)	9 (1)	15 (2)	21 (2)
Soil	41 (6)	21 (3)	15 (3)	23 (0)	18 (0)
Food Crops/Process	44 (4)	38 (0)	40 (1)	83 (0)	78 (0)
Property	120 (14)	93 (7)	136 (6)	234 (8)	209 (9)
Poultry/Livestock	7 (0)	3 (1)	13 (2)	7 (1)	11 (0)
Plants/Trees	44 (4)	25 (2)	48 (1)	71 (2)	65 (1)
Not Applicable	1211 (154)	1333 (112)	1675 (147)	1728 (125)	1463 (120)
Other	42 (10)	19 (4)	15 (3)	9 (3)	22 (1)
Total =	1559 (201)	1562 (130)	1962 (164)	2193 (141)	1916 (133)

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



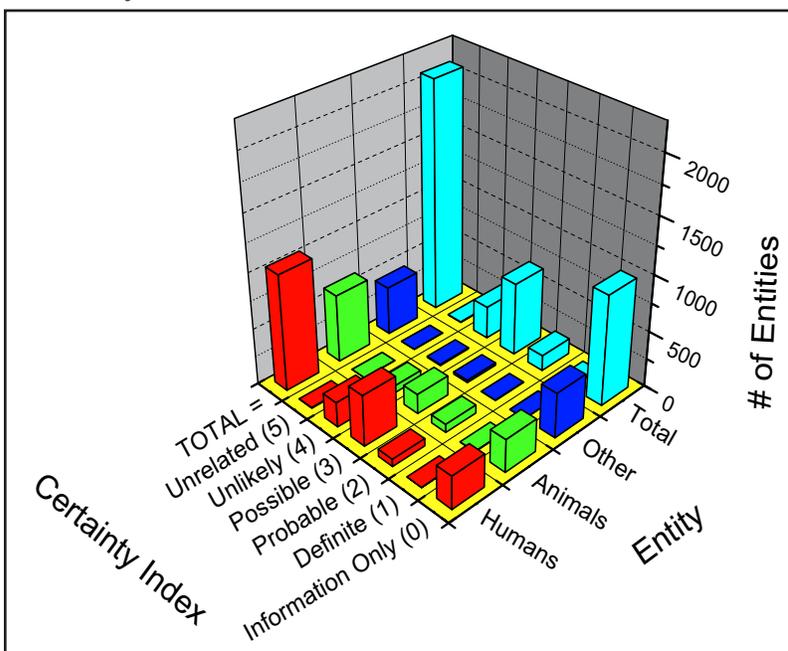
14. Certainty Index

Table 14.1 and Graph 14.1 summarize the assignment of certainty indexes for all incident calls received by NPIC. Calls are sorted according to type of entity; human entities are further sorted according to gender and groups of entities. Multiple entities may be discussed in one incident call; thus totals reflect the number of entities (as opposed to number of incidents) discussed during the course of incident calls to NPIC. Of the total number of entities (2,078) discussed in incident calls to NPIC, 0.2% of the cases were assigned a certainty index of definite (1), 6.7% of the cases were assigned a certainty index of probable (2), 31.3% of the cases were assigned a certainty index of possible (3), 14.2% of the cases were assigned a certainty index of unlikely (4), 0.2% of the cases were assigned a certainty index of unrelated (5), 47.4% of the cases did not involve effects and so were assigned the certainty index of zero (0), information only.

Table 14.1 - Incident Calls by Certainty Index (CI)

CI for All Categories of Entities					Breakdown of Human Entity Incident Calls			
Certainty Index	Humans	Animals	Other	Total	Male	Female	Groups	Gender Not Stated
Total Calls in Operational Year = 23,511								
Non-Incident Calls = 22,537								
Information Only (0)	292	292	400	984	97	155	35	5
Definite (1)	1	3	0	4	1	0	0	0
Probable (2)	65	73	2	140	26	31	8	0
Possible (3)	453	176	22	651	167	257	28	1
Unlikely (4)	220	63	11	294	82	129	8	1
Unrelated (5)	5	0	0	5	3	1	1	0
TOTAL =	1036	607	435	2078	376	573	80	7

Graph 14.1 - Certainty Index for Entities



15. Description of Entities

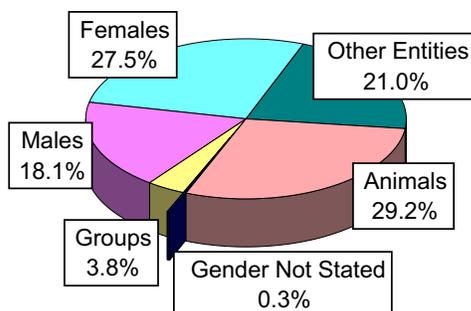
Table 15.1 and Chart 15.1 provide a more detailed summary of categories of entities discussed in incident calls. Of the 2,081 entities involved in incidents reported to NPIC, 49.8% were human, 29.2% animal, and 21.0% were other types of non-target entities (building or environment, for example).

**Table 15.1 -
Description of Entities**

Description of Entities	Number of Entities ¹⁾				
	1997	1998	1999	2000	2001
All females -					
Female	555 (76)	502 (37)	686 (44)	692 (39)	539 (29)
Female-pregnant	22 (1)	12 (0)	24 (1)	49 (0)	34 (2)
Female suicide attempt	2 (1)	3 (1)	0 (0)	1 (0)	0 (0)
Total all females =	579 (78)	517 (38)	710 (45)	742 (39)	573 (31)
All males -					
Male	407 (79)	367 (35)	452 (48)	445 (35)	375 (26)
Male suicide attempt	1 (1)	2 (0)	4 (0)	1 (0)	1 (1)
Total all males =	408 (80)	369 (35)	456 (48)	446 (35)	376 (27)
All groups -					
Family	88 (10)	94 (7)	138 (12)	98 (3)	58 (5)
Non-family group	32 (7)	31 (2)	27 (1)	40 (4)	22 (3)
Total all groups =	120 (17)	125 (9)	165 (13)	138 (7)	80 (8)
Gender not stated -					
Child - sex unknown	15 (1)	7 (1)	9 (0)	1 (0)	7 (0)
Adult - sex unknown	0 (0)	0 (0)	1 (0)	1 (1)	0 (0)
Other - sex unknown	22 (4)	12 (0)	15 (1)	6 (1)	0 (0)
Total gender not stated =	37 (5)	19 (1)	25 (1)	8 (2)	7 (0)
Total all humans =	1144 (180)	1030 (83)	1356 (107)	1334 (83)	1036 (66)
All animals -					
Single animal	259 (42)	312 (39)	371 (53)	513 (53)	563 (69)
Group of animals	57 (15)	45 (16)	70 (16)	70 (16)	38 (6)
Wildlife	6 (1)	2 (1)	3 (0)	4 (1)	7 (1)
Total all animals =	322 (58)	359 (56)	444 (69)	587 (70)	608 (76)
Other entities:					
Building-home/office	88 (2)	135 (0)	123 (1)	155 (0)	167 (1)
Other places	138 (2)	144 (1)	161 (0)	282 (1)	270 (1)
Total other entities =	226 (4)	279 (1)	284 (1)	437 (1)	437 (2)
Total all entities =	1692 (242)	1668 (140)	2084 (177)	2358 (154)	2081 (144)

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

**Chart 15.1 -
Description of Entities**



16. Entity Symptoms

Of the 1,036 human entities discussed in incident reports to NPIC, symptoms, or absence of symptoms, were reported for 927 entities (Table 16.1). Of these entities, 51.8% reported symptomatic health effects (effects that are consistent with a significant exposure to the pesticide in question), 26.3% reported asymptomatic health effects, and 21.9% reported atypical health effects (Chart 16.1). Table 16.1 and Chart 16.2 provide this and similar information for animal entities.

Chart 16.1 - Symptoms - Humans

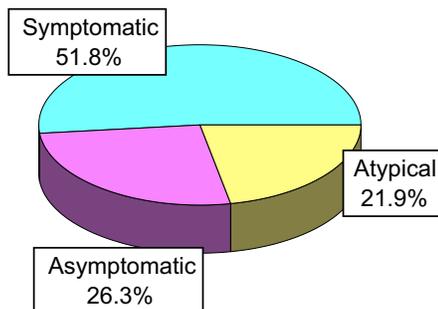


Chart 16.2 - Symptoms - Animals

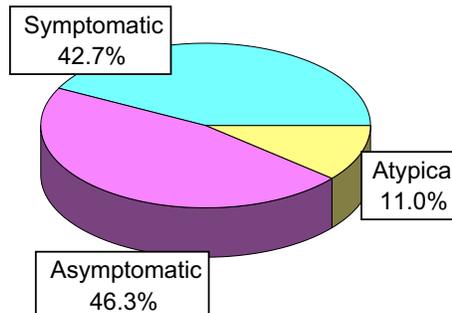


Table 16.1 - Reported Symptoms of Entities

Reported Symptoms	Number of Entities ¹⁾				
	1997	1998	1999	2000	2001
Human symptoms -					
Symptomatic	651 (202)	614 (138)	843 (188)	751 (160)	480 (116)
Asymptomatic	164 (16)	180 (24)	240 (15)	255 (30)	244 (28)
Atypical	227 (17)	174 (19)	178 (15)	184 (26)	203 (19)
Total humans =	1042 (235)	968 (181)	1261 (218)	1190 (216)	927 (163)
Animal symptoms -					
Symptomatic	162 (64)	165 (59)	201 (81)	273 (91)	252 (101)
Asymptomatic	108 (6)	147 (5)	196 (1)	241 (13)	273 (23)
Atypical	54 (3)	48 (5)	44 (4)	48 (7)	65 (7)
Total animals =	324 (73)	360 (69)	441 (86)	562 (111)	590 (131)
Total symptoms =	1366 (308)	1328 (250)	1702 (304)	1752 (327)	1517 (294)

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

17. Deaths and Other Outcomes

Amongst the 1,036 human entities, 2 deaths was reported (Table 17.1). Based on information provided by the caller, these incidents were not assigned a certainty index of 1 or 2, making it unlikely that the deaths were a result of pesticide exposure. With one of the individuals, there was concern about incidental exposure to chlorpyrifos from a truck in which a spill had occurred prior to purchase of the truck by the deceased. In the other incident, the individual had worked in a lumber yard and handled CCA-treated lumber.

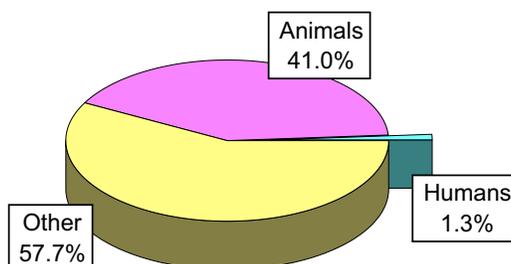
Of the 607 animal victims, there were 64 deaths, with 16 of the cases assigned a certainty index of 1 or 2, indicating likely pesticide involvement. Table 17.1 and Chart 17.1 summarize this information and also list the number of entities associated with life threatening conditions or interesting or strange circumstances.

**Table 17.1 -
Additional Outcomes for Entities**

Additional Outcomes	Number of Entities ¹⁾				
	1997	1998	1999	2000	2001
Human deaths -					
Male	1 (0)	2 (0)	4 (0)	1 (0)	2 (0)
Female	1 (0)	1 (1)	1 (0)	0 (0)	0 (0)
Total human deaths =	2 (0)	3 (1)	5 (0)	1 (0)	2 (0)
Animal deaths -					
Single animal	16 (7)	27 (4)	22 (11)	27 (7)	45 (10)
Group of animals	14 (4)	20 (10)	25 (10)	20 (6)	12 (5)
Wildlife	4 (1)	2 (1)	2 (0)	2 (1)	7 (1)
Total animal deaths =	34 (12)	48 (15)	49 (21)	49 (14)	64 (16)
Other -					
Life threatening	0 (0)	5 (1)	4 (4)	6 (3)	2 (1)
Interesting/strange	144 (60)	60 (12)	79 (21)	141 (26)	88 (17)
Total other =	144 (60)	65 (13)	83 (25)	147 (29)	90 (18)
Total additional outcomes =	180 (72)	117 (29)	137 (46)	197 (43)	156 (34)

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

**Chart 17.1 -
Deaths and Other Outcomes**



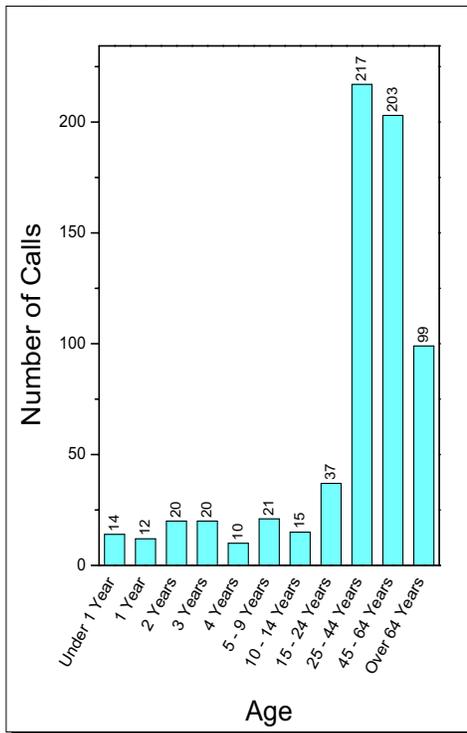
18. Entity Age

Entity ages were available for 668 of the 1,036 human entities. Table 18.1 and Graph 18.1 summarize information about the ages of human entities discussed in incident calls to NPIC. Of these 668 entities, 11.4% were less than 5 years of age, 5.4% were between the ages of 5 and 14, 5.5% were between the ages of 15 and 24, 62.9% were between the ages of 25 and 64, and 14.8% were over age 64.

Table 18.1 - Reported Ages of Human Entities

Age Category	Number of Entities				
	1997	1998	1999	2000	2001
Under 1 Year	42	49	39	6	14
1 Year	36	39	25	22	12
2 Years	19	41	42	16	20
3 Years	21	23	18	15	20
4 Years	13	29	13	9	10
5 - 9 Years	51	68	55	25	21
10 - 14 Years	30	19	30	17	15
15 - 24 Years	33	28	45	32	37
25 - 44 Years	276	245	200	269	217
45 - 64 Years	226	196	184	216	203
Over 64 Years	83	73	78	99	99

Graph 18.1 - Age of Human Entities



Report on Subcontracts

Oregon Poison Center

NPIC Pesticide Specialists transferred 77 calls to the Oregon Poison Center. These calls were transferred to the center because the Specialists deemed that the caller's situation represented an acute poisoning emergency. The NPIC Quarterly Reports present information for the calls transferred in that quarter.

National Animal Poison Control Center

In the current year, 111 calls were transferred to the National Animal Poison Control Center (NAPCC). The situation presented in each call was considered to be an emergency; therefore, the call was transferred to NAPCC. The nature of the calls transferred is detailed in the NPIC Quarterly Reports.

Sub-Projects

National Antimicrobial Information Network (NAIN)

The National Antimicrobial Information Network (NAIN), operated in association with the National Pesticide Information Center, is a toll-free telephone service that provides antimicrobial pesticide information via telephone and the Internet. Information is provided to health care and antimicrobial industry professionals, and to the general public. NAIN helps callers understand product labels and permitted uses for specific products; provides lists of products registered as sterilants, tuberculocides, and products effective against HIV and HBV/HIV; provides toxicology, health effects and safety informa-

tion on specific antimicrobial active ingredients; supplies information on regulation and registration of antimicrobials in the United States; fields complaints on product efficacy and forwards that information to the EPA; and refers requests that are outside of the scope of NAIN services to the correct agencies and resources.

email to hardy.michael@epa.gov or liem.david@epa.gov, or through the EPA web site at <http://www.epa.gov/oppad001/>

NAIN (National Antimicrobial Information Network) was discontinued on March 31, 2002, because of lack of funding. The Antimicrobial Division of the U.S. EPA Office of Pesticide Programs now handles phone calls, email, and web inquiries previously addressed to NAIN.

Please direct telephone calls to: Michael Hardy or David Liem at 1-703-308-0127, and Email to: Hardy.Michael@epa.gov or Liem.David@epa.gov

NAIN received 1,273 calls during grant year 2001. Of these calls, 1,113 were for general information about antimicrobial pesticides, 4 were complaints about antimicrobials, and 25 were incidents purported to involve antimicrobials. The NAIN web site received 186,377 hits, an increase of 62% from the previous year.

Due to lack of funding, NAIN ceased operation on March 31, 2002. The EPA's Office of Pesticide Programs Antimicrobial Division began handling phone calls, email, and web inquiries normally handled by NAIN on April 1, 2002.

The types of inquiries typically received by NAIN are now handled by Michael Hardy and David Liem of the EPA Antimicrobial Division. They can be reached at (703) 308-0127, by

During its tenure at Oregon State University, NAIN responded to over 8,000 inquiries on antimicrobial pesticides and related topics...

