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NATIONAL
PESTICIDE ● INFORMATION
CENTER

-2011-

Environmental & Molecular Toxicology

Oregon State
UNIVERSITY

OSU

The National Pesticide Information Center (NPIC) is a service providing a variety of pesticide and related information to the general public and professionals across the United States, Puerto Rico, and the Virgin Islands. NPIC is a cooperative project between Oregon State University and the U.S. Environmental Protection Agency. The 2011 Annual Report covers the period June 1, 2011 - May 31, 2012.

DISCLAIMER

Material presented in this report is based on information as provided to NPIC by individuals who have contacted NPIC for information or to report a pesticide incident. None of the information reported to NPIC has been verified or substantiated by independent investigation by NPIC staff, laboratory analysis, or any other means. Based on the information provided, NPIC qualifies the information by assigning a certainty index (CI) and a severity index (SI). NPIC makes no claims or guarantees as to the accuracy of the CI, SI, 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:

U.S. Environmental Protection Agency
Office of Pesticide Programs

Submitted By:

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NPIC 2011 Annual Report

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DELIVERING OBJECTIVES

NPIC's cooperative agreement with the U.S. EPA specifies seven strategic project objectives. An overview of the objectives and a brief description of the measures taken to meet or exceed the goals therein is presented below. Further details about the objectives below are detailed in the following pages of this report.

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

- NPIC operated a toll-free telephone service, including voicemail for off-hour inquiries. NPIC was closed during normal operating hours less than 20 hours this year due to technical or staffing issues.
- NPIC responded immediately to over 99% of calls received during open operating hours throughout the year. In less than 1% of calls, a caller in the queue left a message, and NPIC responded within one business day.
- NPIC made appropriate referrals 100% of the time when people needed emergency medical assistance.
- NPIC submitted all quarterly reports within 30 days of the quarter's end, and the 2010-11 Annual Report was submitted within 90 days of the year's end.

2. To maintain and develop English and Spanish websites accessible to broad audiences, and respond to inquiries in multiple formats including email, fax, written requests and emerging technologies.

- NPIC revamped its entire website this year, adding over 130 new pages of content, including 54 pages in Spanish.
- NPIC added 20 new links to its website when high-quality science and regulatory items were identified mid-year.
- NPIC maintains current contact lists for many organizations. In addition to updating lists routinely in response to new information, NPIC staff performed quality assurance to verify over 3,000 contacts this year.
- NPIC responded to 100% of non-commercial, pesticide-related email inquiries within one business day.
- NPIC developed six new PestiByte podcasts about topics of interest to NPIC clientele, including three podcasts in Spanish. NPIC developed one new "Common Pesticide Question."
- NPIC developed five new general fact sheets about pesticide active ingredients, and three new fact sheets about related topics. NPIC also updated three fact sheets this year.
- NPIC posted information in social media venues like Facebook and Twitter, promoting safe use practices, integrated pest management, and pesticide label comprehension on a weekly basis.

3. To serve as a source of factual, reliable information on pesticide chemistry, toxicology, environmental fate, regulations, and health effects.

- NPIC performed chemical-specific literature searches in order to update 45 active ingredient files, and created 17 new active ingredient files. In addition, NPIC monitored the scientific and regulatory literature and added 1,389 new documents to various files in the collection.
- NPIC staff members participated in 31 events for continuing education this year, including seminars, presentations, conferences, and webinars.
- NPIC used social media venues to build connections, an email list-serv to announce new resources, and provided flyers and other printed materials to diverse stakeholders.

DELIVERING OBJECTIVES

4. To provide expert consultation to the medical community for pesticide incidents involving humans or animals;

- NPIC faculty members were available for consultation with medical (Dr. Daniel Sudakin) and veterinary (Dr. Fred Berman) professionals, NPIC staff, EPA headquarters, and regional offices. Dr. Sudakin and Dr. Berman reviewed human/animal incident reports, provided subject matter expertise for consistent inquiry data recording and provided continuing education to staff during routine debriefs of noteworthy cases.
- NPIC fielded questions from veterinary professionals (117), medical professionals (91), and health agencies (81). NPIC also responded to referrals from poison centers (196), medical (145) and veterinary professionals (37), and health departments (22).

5. To collect complete information on human and animal exposure incidents, including the determination of certainty and severity indexes;

- NPIC specialists documented demographic information for 99% of single human incidents, product information for 96% of reported incidents, and the location for 97% of incidents.
- Among 2,164 reported incidents involving humans or animals, NPIC specialists were able to capture the exposure route in 85% of cases, and symptom/scenario information in 98% of cases.
- For all 1,075 entities with known signs/symptoms that were exposed to a known product/active ingredient, NPIC compared the reported signs to science-based resources in order to assign a certainty index.
- For all 2,449 entities with known signs/symptoms, NPIC assigned a severity index ranging from 'asymptomatic' to 'death.'

6. To computerize all inquiries to facilitate reporting and analyze trends for pesticide misuse, labeling issues, and risks to humans, animals and environment;

- NPIC aims to complete data entry for 95% of inquiry logs within five business days. NPIC developed software to begin tracking these efforts.
- In addition to routine QA/QC activities, each specialist received specialized feedback about their strengths and weaknesses in documenting inquiries. Performance was scored in terms of narrative quality, assignment of certainty and severity indexes, and accuracy in recording inquiry data.
- NPIC provided data about incidents and inquiries in response to 13 requests this quarter, most within four business days.

7. To support and create innovative informational technology (IT) tools to report pesticide incidents and develop and maintain access to specialized databases on pesticides.

- NPIC is available to coordinate with OPP HQ to collaborate on projects related to information technology (IT) opportunities and tools. In collaboration with OPP-FEAD, NPIC released its first web application (app) for mobile devices. Please see the Insect Repellent Locator (<http://npic.orst.edu/myrepel>).
- Discussions are in progress about another app that will deliver contact information for local experts nationwide, including County Extension offices, master gardeners, vector control agencies, health departments, and local environmental agencies based on NPIC's popular My Local Resources site (<http://npic.orst.edu/mlr.html>)
- NPIC received 100 pesticide incident reports from veterinary (99) and wildlife (1) professionals this quarter through its web-based reporting portals.
- After launching a new, custom-built platform for the Pesticide Inquiry Database (PID) in 2011, NPIC improved the system throughout the year. For example, some QA/QC procedures were automated, and drop-down lists were added to the interface.

INTRODUCTION

The primary mission of the National Pesticide Information Center (NPIC) is to provide objective information, collect and report incident data, use cutting edge technologies, and conduct extensive outreach to diverse audiences to promote a better understanding of pesticide use, with an overall goal of reducing risks to people, animals and the environment.

In its second year of the current project period, NPIC continued to provide information about pesticides by phone, email and web content to millions. NPIC supports the U.S. Environmental Protection Agency (EPA)'s Strategic Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution. NPIC also supports the Mission of the Oregon State University Extension System, conveying research-based knowledge in a way that is useful for people to improve their lives, their homes, and their communities.

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

The operational year took place June 1, 2011 – May 31, 2012, which will be referenced as “2011” in this report. The complete record of NPIC accomplishments for the operational year includes this annual report and four quarterly reports, which were submitted throughout the year.

- During this period, NPIC received 18,571 inquiries.
- About 90% of the total inquiries were addressed over the telephone.
- About 13.6% of NPIC inquiries in 2011 were incidents. A pesticide incident is defined as 1) any unintended pesticide exposure, 2) a pesticide exposure with an adverse effect, 3) a spill, and/or 4) a misapplication.
- No human deaths and 39 animal deaths were reported. Details about these cases were submitted quarterly; see Table 17.1.
- The active ingredients involved in the highest number of incidents were naphthalene (1,089), paradichlorobenzene (482), pyrethrins (322), permethrin (281), and boric acid (262).
- There were 3,578 entities involved in incidents reported to NPIC: 48% were human, 27% were structural or environmental, and 25% were animals. See Chart 16.
- Among the 1,705 single humans involved in pesticide incidents, 19.3% were children (ages 4 and under) and 18.2% were seniors (ages 65 and over). Almost half of the people reported no symptoms (46.8%).
- Questions related to pesticide usage (8,508) and health (5,618) were most common.
- The NPIC website received 2,142,723 page views this year, representing a 48% increase from 2010. There were more than 700,000 unique visitors, and 32,497 visitors viewed NPIC's website for more than 15 minutes.



Open minds. Open Doors.™

HIGHLIGHTS

Diversity – NPIC aims to deliver services that are accessible to people with diverse needs. Pesticide Specialists receive training in communication for different educational levels. The NPIC website is available in English and Spanish, and it meets W3C web content accessibility guidelines. Fact sheets are available at the technical level, and in question-answer formats at the 8th grade reading level.

Social Media –NPIC established a routine presence on Facebook and Twitter, targeting residential pesticide users. Updates include tips and resources about IPM and minimizing exposure to pesticides. NPIC also maintained a list-serv for subscribers, and started an RSS feed this year. Follow NPIC on Twitter @NPICatOSU, and on Facebook at <http://www.facebook.com/NPICatOSU>.

Foreign Language Capabilities – NPIC employs three Spanish-speaking Pesticide Specialists capable of responding to inquiries and translating publications. The NPIC website is available in Spanish, and invitations to call NPIC are available in Cantonese, French, Mandarin, Russian, Japanese, Vietnamese, and Farsi.

Under a contract with Language Line Services, Inc., NPIC is capable of responding to inquiries in over 170 languages. This year, NPIC used Language Line Services to provide risk communication in Spanish (25) and Mandarin (2).

IPM and Risk Reduction – While expanding the scope of the NPIC website, more Integrated Pest Management (IPM) and risk reduction concepts were added. Leveraging over two years of staff training, these concepts are discussed in many conversations with callers. NPIC developed web pages about identifying pests, low risk pesticides, minimizing pesticide risks, safe use practices, and a suite of pages about IPM for households, lawns, gardens, schools, and agriculture.

Pesticide Specialists began documenting their activities related to risk reduction in 2011. This grant year, they discussed following label directions over 3,000 times, minimizing exposure over 2,500 times, and IPM concepts over 800 times.

Mothball Products – NPIC received 1,082 inquiries regarding the use of mothballs, flakes, and bars. Of these, 682 (63%) were incidents. Many reports involved off-label use of mothballs to repel squirrels and snakes in and around the home.

Bed Bugs – NPIC received 752 inquiries related to bed bugs this year, including 58 pesticide incidents (8%). Many of these inquiries were related to the difficulty of pest control and the potential health effects of pesticides.

“Your website is a wealth of more information than I thought possible. I probably will spend hours looking at everything, which is what it’s for.”

*Extension Specialist
University of Illinois*

HISTORY

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 telephone service was used to report pesticide incidents in EPA Region VI. 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 the mid 1980s the NPIC changed its name to the National Pesticide Telecommunications Network and moved to Texas Tech University. Following a competitive renewal process for the cooperative agreement, NPTN moved to Oregon State University (OSU) on April 1, 1995.

At OSU, NPTN built a comprehensive website, and started responding to inquiries by email. NPTN was re-named National Pesticide Information Center (NPIC) in 2001.

- In 2007, NPIC added multi-lingual capabilities through a contract with Language Line Services, Inc. This enables NPIC to provide service in over 170 languages.
- In 2008, NPIC released a Spanish-language version of its website.
- In 2009, NPIC launched PestiByte podcasts and an online portal for veterinary pesticide incident reporting (<http://npic.orst.edu/vet>).
- In 2010, NPIC started using social media, and developed software to facilitate retrieval of information from the Pesticide Product Information System (PPIS) and the Pesticide Product Label System (PPLS).
- In 2011, NPIC revamped its websites in English and Spanish to infuse Integrated Pest Management (IPM) concepts throughout. Over 100 web pages were added, including a zip code driven locator for local resources.
- In 2012, NPIC released its first app for mobile devices, My Repellent Finder (<http://npic.orst.edu/myrepel>).

Budget Reduction

The budget for NPIC was reduced by 32% effective July 1, 2011. To address the reduction in funding, NPIC made changes in 2010 and early 2011 listed below.

Before July 1, 2011	After July 1, 2011
Open hours 6:30 am – 4:30 pm	Open hours 7:30 am – 3:30 pm
Open seven days per week	Open Monday through Friday
Subcontracts with OHSU (the Oregon Poison Center) and ASPCA (the Animal Poison Center) for managing pesticide emergencies	Subcontracts ended. Emergencies managed by referral to caller
NPIC brochures available upon request (>200,000 requested last year)	People are encouraged to print copies independently from the NPIC website
Fact sheets, FAQs and PestiByte podcast collections growing each quarter	Development of new publications curtailed.
NPIC translated most publications into Spanish	NPIC continues to maintain its extensive Spanish website with limited new translations.
Proactive outreach efforts include cold calls to gate-keeper organizations, mailings, and conference exhibits	Proactive outreach limited.

Over 90% of the NPIC operating budget is allocated for personnel. NPIC reduced specialist staffing levels from 12.0 to 8.0 FTE. NPIC also eliminated the fiscal/personnel manager position.

Resources & Facilities

NPIC maintains an extensive collection of hard copy and electronic information. NPIC specialists have access to the full resources of the Oregon State University Library, which includes electronic access to hundreds of academic journals, databases, and indexing services. NPIC's library includes a comprehensive Active Ingredient (AI) file collection with detailed scientific and regulatory information for over 1,000 active ingredients. This collection has been scanned and indexed for desktop access, using software developed by NPIC.

No new acquisitions were made in 2011-12 with regard to computer hardware, furniture, or facilities. NPIC is housed on the third floor of Weniger Hall in the Department of Environmental & Molecular Toxicology. Allocated spaces include five rooms, two individual offices, and a storage unit.

Funding & Compliance

Funding for NPIC is provided by the U.S. Environmental Protection Agency and Oregon State University.

Throughout the reporting period, NPIC has complied with the requirements of the U.S. Environmental Protection Agency (U.S. EPA) regarding Title VI of the Civil Rights Act of 1964 and Section 13 of the FWPCA Amendments of 1972. NPIC has complied with U.S. EPA Guidelines regarding procurement requirements stipulated in 40 CFR Part 33. NPIC has complied with all requirements specified by US EPA as part of the funding authorization of this project.

Personnel Update

Six Pesticide Specialists (4.8 FTE) left the organization this year, including two part-time employees. NPIC eliminated the fiscal/personnel manager position, and all student assistant positions. NPIC hired two Pesticide Specialists (2.0 FTE), Colton Bond and Brittany Hanson. Mr. Bond and Ms. Hanson hold Master's degrees in Microbiology and Zoology, respectively.

As of May 31, 2012, NPIC's staff includes eight full-time Pesticide Specialists, one part-time Pesticide Specialist, a full-time information resource supervisor, a full-time project coordinator, and a full-time administrative professional. In addition, the NPIC Executive Committee includes the Director and three co-investigators, all of whom hold faculty appointments. All Pesticide Specialists hold a Master's degree in an applicable field. Specialists have a variety of scientific backgrounds including toxicology, biology, public health, microbiology, food safety and hydrology. See page 24 for more details about the staff members at NPIC.

Standard Operating Procedures

NPIC staff use a variety of standing operating procedures (SOPs) to guide their work and some decision-making. This year, the entire collection was updated to reflect new hours/days of operation, and 16/29 SOPs were updated. NPIC created a new SOP this year, "Sending Follow-up Text Messages to Callers." This procedure was developed in response to the common scenario where someone is calling NPIC from a retail store, and they don't have a pen or paper to write down key information.

WEBSITE OVERHAUL

NPIC launched a new version of its website this year, including over 125 new pages of content. Over a year in the making, the new site is also more compatible with mobile devices, W3C compliant for users with disabilities, infused with IPM concepts, and integrates with NPIC's new Spanish website. Most of this effort was complete before July 2011.

The new website design was developed by NPIC using research-based methods about the way people find, read and use health-based information on the internet.

- The A-Z index is expanded and available on every page.
- Illustrations were largely replaced with photographs.
- Long paragraphs are replaced with short sentences and bullet lists.
- Headings are short, descriptive, and based on common inquiries.
- Pages are shorter and paired with related topics.
- The site is more compatible with mobile devices and various internet browsers.

51 web pages were translated into Spanish and posted as part of the new website.



National Pesticide Information Center

1.800.858.7378 npic@ace.orst.edu

Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z Search

About Health & Safety Pest Control Pesticide Ingredients Regulations Environment Emergency Report Pesticide Incident A A A



Protecting Wildlife from Pesticides

Bug Bombs or Foggers

Ecotoxicology

Report a Pesticide Incident

Planning to use a pesticide around your fish pond or bird bath? When dealing with pests, take steps to protect wildlife.

My Local Resources

Find local pesticide & pest control information



Enter your zip code here... Zip Search...

People and Pets



- Human Health
- Animal Health
- Safe Use Practices
- Pest Control
- Pets and Pesticides
- Report a Pesticide Incident

Science and Regulation



- Toxicology Resources
- Pesticide Ingredients
- Medical Case Profiles
- Veterinary Resources
- Pesticide Regulations
- Occupational Safety

Pests and Environment



- Identify Your Pest
- Learn About Your Pest
- Control Your Pest
- Integrated Pest Management
- Environment
- Report a Pesticide Incident

NPIC Publications



- Active Ingredient Fact Sheets
- Topic Fact Sheets
- PestiByte Podcasts
- Frequently Asked Questions
- Outreach Materials
- Medical Case Profiles

We are open from 7:30am to 3:30pm Pacific time Mon. — Fri. 粵語 Français 普通话 Русски 日本語 tiếng Việt فارسی Español

Please read our [disclaimer](#) | [Contact us](#)

NPIC provides objective, science-based information about pesticides and pesticide-related topics to enable people to make informed decisions. NPIC is a cooperative agreement between Oregon State University and the U.S. Environmental Protection Agency (cooperative agreement #X8-83458501). The information in this publication does not in any way replace or supersede the restrictions, precautions, directions, or other information on the pesticide label or any other regulatory requirements, nor does it necessarily reflect the position of the U.S. EPA.



WEBSITE OVERHAUL

With the launch of the new website, many new pages were developed. These include:

- Heath & Safety, Human Health, Animal Health, Safe Use Practices, Food Safety, Children and Pesticides, Aging Populations, Pesticides in Your Community, the Worker Protection Standard, Minimizing Exposure at Work, and Pesticide Information for Medical Professionals
- Identify your Pest, Learn About Your Pest, Control Your Pest, Selecting Pesticides, Selecting a Pest Control Company, Do It Yourself Pest Control, Ants, Termites, and Professional Pest Control
- Integrated Pest Management (IPM), Household IPM, Garden IPM, Lawn IPM, School IPM, and Agricultural IPM
- Pesticide Ingredients, Active Ingredients, Other (Inert Ingredients), Low Risk Ingredients, Organic Ingredients, Pesticide Types, and Databases with Specific Chemical Information
- State Pesticide Regulations, Federal Pesticide Regulations, International Pesticide Regulations, Registration of Pesticides, Regulation of Pesticide Labeling, Endocrine Disruption, Pesticide Drift, Regulating Organic Food Production, Non-Chemical Pest Control Devices, and Food/Drinking Water Limits for Pesticides
- Soil and Pesticides, Water and Pesticides, Air and Pesticides, Plants and Pesticides, Wildlife and Pesticides, Problem Wildlife in the Yard and Garden, Problem Wildlife in the House, Residential Soil and Pesticides, Exposure and Testing, Pesticides and Drinking Water, and Plant/Herbicide Interactions

“My Local Resources” was also launched with the new website. Driven by ZIP code searches, this feature allows the user to find local resources, agencies, and County Extension agents to meet their needs. The supporting database, developed by NPIC, is updated regularly. See page 12.

Find Your Local Resources

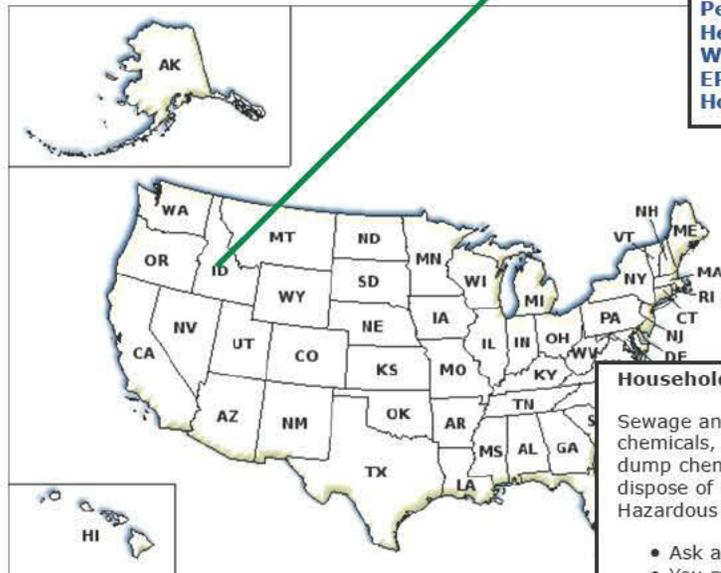
Search by ZIP code:

Enter your zip code here Zip Search...

—OR—

Choose your state:

Click the state you live in to find your local resources:



My Local Resources

Resources:

University Extension in my State
Master Gardeners in my area
Mosquito/Vector Control
Environmental Agency in my State
Pesticide Agency in my State
Health Agency in my State
Worker Safety in my State
EPA in my Region
Household Hazardous Waste

Who Should I Call?

Pest control at home
Garden pest control
Pesticides at work
Neighborhood pest control
Applicator licensing
Pesticide law enforcement
Shipping pesticides into the US
Disposal of leftover pesticide(s)

Household Hazardous Waste

Sewage and storm-water treatment facilities may not be able to handle certain chemicals, so it's important to not to dump pesticides down your sink or toilet. Never dump chemicals in natural waters or storm drains. If you have questions about how to dispose of household products safely, you might consider contacting your Household Hazardous Waste contact.

- Ask about upcoming collection events for disposal of old or unwanted pesticides
- You might also try calling Earth 911: 1-800-253-2687

Here are the Household Hazardous Waste contacts in your state:

State:	ID
Org. Name:	Department of Health & Welfare
Phone:	208-373-0502
Web:	http://www.deq.state.id.us/waste/

WEBSITE MAINTENANCE

NPIC routinely updates the “New & Notable” features on the NPIC home page to keep returning visitors interested, and to provide seasonally appropriate risk reduction tips. For example, NPIC highlighted weed control in the spring, repellents in the summer, and bed bugs in the fall. NPIC also used this feature to highlight events such as Poison Prevention Week, Drinking Water Awareness Week, and new NPIC publications.

	Bug Bombs or Foggers
	Ecotoxicology
	Protecting Wildlife from Pesticides
	Report a Pesticide Incident
Report a human, pet, or other pesticide incident.	

Contacts - NPIC maintains a database of contacts providing specialists with quick access to frequently requested information, including contact information for local, state and federal resources, health departments, and occupational and wildlife agencies. This vast collection is available to the public on the NPIC home page; the feature is known as “My Local Resources,” see page 11.

NPIC verified contact information, websites, and mailing addresses for thousands of resources including: County Extension offices (over 3,000), household hazardous waste contacts (about 50), state pesticide regulatory agencies (about 50), and state health agencies (about 50). Contact lists are also updated routinely when new information is identified.



Dixie - Website Facilitator

Dozens of links were added throughout the year as new resources were published about pesticides or related topics. Each new link was evaluated for credibility and relevance. In addition, links to external resources are monitored and repaired or replaced if they change.

New web pages added in response to inquiries throughout the year:

- [Stink bugs, Spiders, Carpet Beetles](#)
- [Acephate, Boric acid, Dicamba, and Neem oil](#)
- [In Spanish: Illegal Pesticides, Tres Pasitos, and Illegal Insect-killing Chalk](#)

PESTIBYTE PODCASTS

NPIC developed short publications called Common Pesticide Questions (CPQs) to be relevant and easily understood by diverse audiences. They include detailed questions and answers, including links to science-based, public-friendly resources. NPIC's collection of 31 CPQs are often provided in response to email inquiries, and the content is adapted for PestiByte podcasts.

NPIC published one new CPQ this year in response to strong interest from the public: [Don't let pesticides make your bed bug problem worse!](#)

NPIC posted the following PestiBytes this year, in both English and Spanish:



Fasten the Lid. Protect Your Kids! Episode 19 - A specialist discusses how to store pesticides during and after use to keep kids from being exposed. [Download and Listen](#), [View Transcript](#) - 2:26 min., 1.67MB



The Crop Was Just Sprayed. Can I Work There Today? Episode 18 - A specialist provides information on reentering fields after pesticides have been applied. [Download and Listen](#), [View Transcript](#) - 2:27 min., 1.69MB



My Home is Being Sprayed. Should I Go or Stay? Episode 17 - A specialist discusses steps you can take to minimize your risk when your home is going to be treated with pesticides. [Download and Listen](#), [View Transcript](#) - 2:05 min., 1.43MB



Humberto - Pesticide Specialist

NPIC aims to deliver services that are accessible for people with diverse needs. Fact sheets are available at the technical level, and in targeted question-answer formats at the 8th grade reading level.

<http://npic.orst.edu/npicfact.htm>

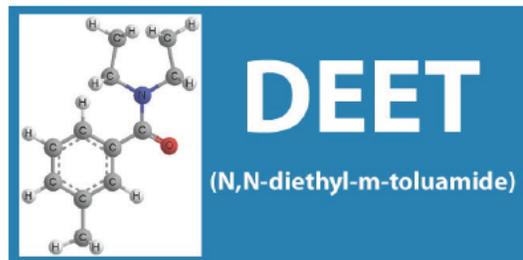
During this grant year, NPIC published the following general fact sheets:

- Acephate
- Bifenthrin
- d-Phenothrin
- Dicamba
- Neem oil
- Antimicrobials
- Older Adults and Pesticides
- Rodenticides

In addition, NPIC substantially updated these fact sheets with new science and regulatory information:

- Formulations
- Inert ingredients
- Rodenticides
- Sulfuryl fluoride

NPIC completed a long-term effort to make its fact sheet collection available in a more dynamic format using HTML (web-based) coding. In addition to the printable (PDF) versions, users can now use menus to move fluidly throughout the content, clicking on specific headings or questions. In 2011, 55 fact sheets were rendered in the new format.



General Questions about DEET

- What is DEET?
- What are some products that contain DEET?
- How does DEET work?
- How might I be exposed to DEET?
- What are some symptoms from a brief exposure to DEET?
- What happens to DEET when it enters the body?
- Is DEET likely to contribute to the development of cancer?
- Has anyone studied non-cancer effects from long-term exposure to DEET?
- Are children more sensitive to DEET than adults?
- What happens to DEET in the environment?
- Can DEET affect birds, fish, and other wildlife?

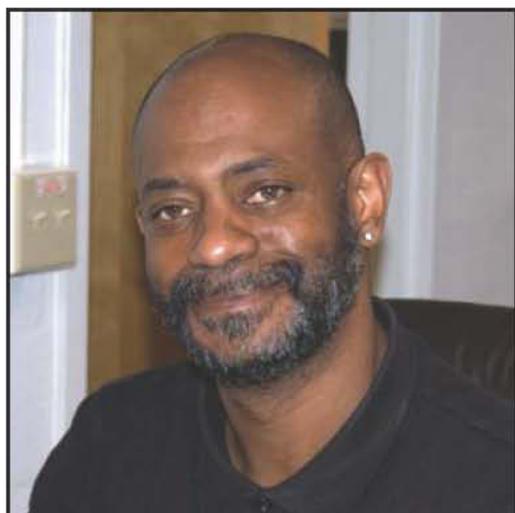
Scientific Information about DEET

- Chemical Class and Type
- Physical / Chemical Properties
- Uses
- Mode of Action
- Toxicity Classification
- Acute Toxicity
- Chronic Toxicity
- Endocrine Disruption
- Carcinogenicity
- Reproductive and Teratogenic Effects
- Fate in the Body
- Medical Tests and Monitoring
- Environmental Fate
- Ecotoxicity Studies
- Regulatory Guidelines

Related Topics:

- Choosing and Using Insect Repellents
- Insect Repellent Locator
- My Repellent Finder App
- Common Pesticide Questions
- Understanding and Controlling Mosquitoes
- Managing Ticks and Preventing Tick Bites
- Medical Case Profiles
- PestiByte Podcasts

ACTIVE INGREDIENT FILES

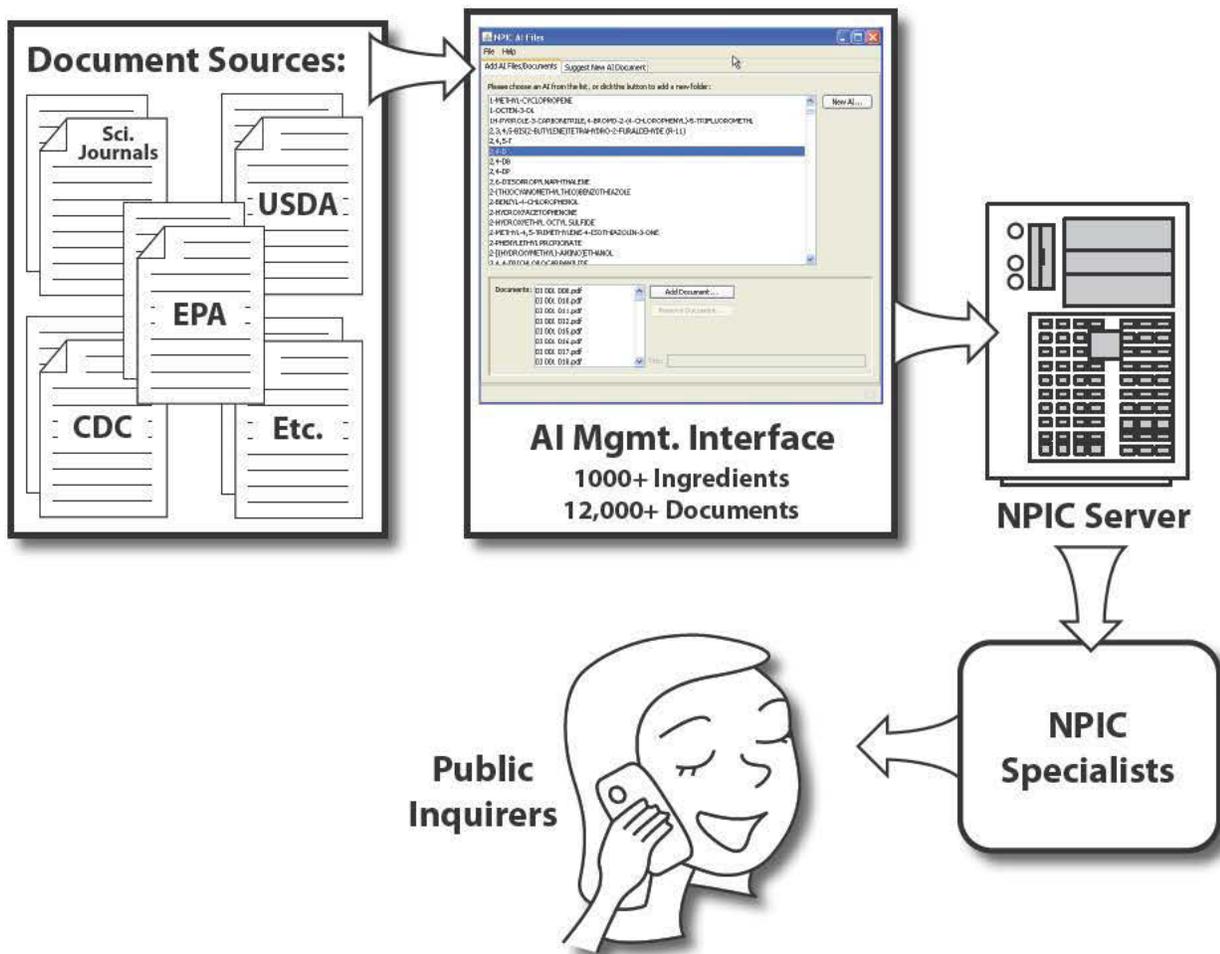


AI Facilitator

In order to respond to inquiries efficiently, NPIC maintains a collection of AI files that contain reputable, science-based information about each pesticide active ingredient. The collection includes 1,066 files. NPIC updated 45 AI files by adding documents obtained from literature searches, and added 17 new AI files to its collection.

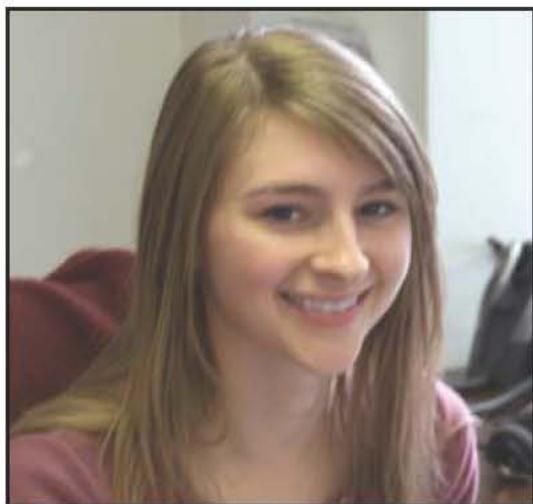
Ted Bunch monitored the Federal Register daily and evaluated relevant dockets for new science and regulatory information. NPIC acquired 1,389 new documents for inclusion in the collection this year.

As a result of the budget reduction in July 2011, NPIC eliminated student assistant positions that were heavily involved in this project. NPIC's AI team worked closely with Sean Ross to develop a new, streamlined method for maintaining the AI file collection. Hard copy files will no longer be maintained. Using custom software, team members are now able to save documents directly in the AI file structure, without printing and scanning each document.



STAFF TRAINING

NPIC approaches training in a way that values diversity, new perspectives, and the best science available. The training program includes a comprehensive training manual, facilitated exercises, and mentored practice in risk communication. To maintain consistency and leverage the value of NPIC's diverse team, all pesticide specialists participate in the training program, devoting 5-10 hours of their time to each new specialist.



Pesticide Specialist

Two pesticide specialists completed the training program this year, and Ted Bunch received training in order to assume leadership of the program. In addition to meeting regularly with trainees for one-on-one instruction and evaluation, he coordinates training activities that involve every member of the NPIC team.

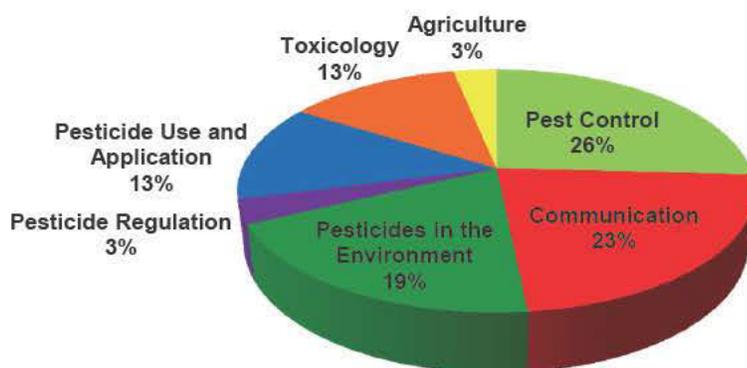
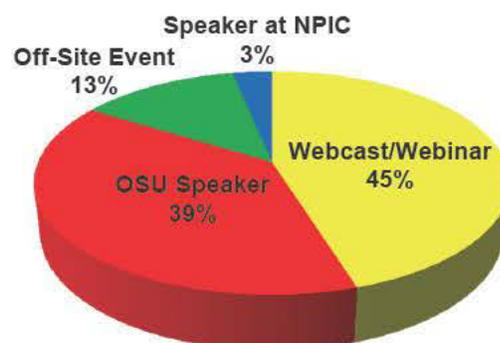
Continuing Education

NPIC places emphasis on continuing education for pesticide specialists in order to maintain the highest level of service, relying on the most up-to-date science and regulatory information. Building and maintaining a strong knowledge base is a significant part of each specialist's position description.

Oregon State University provided diverse opportunities for continued learning, including graduate seminars, visiting lecturers, faculty presentations, and regional conferences. Weekly staff meetings allow NPIC staff to discuss inquiry data consistency, trends in inquiries and new research findings.

Specialists stay current with the scientific, regulatory and industry aspects of pesticides by monitoring relevant journals, pest control industry magazines, social media, and listservs. Each day, a designated specialist monitors the headlines to identify pesticide-related news items and distributes the most relevant items to the team.

NPIC staff attended 31 events for continuing education this year.



Event types and topics for continuing education in 2011

CONTINUING EDUCATION

Selected continuing education events

Speaker/Source	Speaker's Affiliation	Event Title
Dr. Anne Fairbrother	Oregon State University	Ecological Risk Assessment
Several	Society for Environmental Toxicology and Chemistry	Salmon and Pesticides in the Pacific Northwest
Several	Tennessee State, Clemson, Auburn, and Texas A& M Universities	Solve Your Fire Ant Problems with Help From the Experts
Kevin Masterson	Oregon Department of Environmental Quality	The Afterlife of Unused Pesticides: Collection Events to Final Disposal
Several	North American Hazardous Waste Management Association, et al	Safely Managing Chemical Spills and Disposal in the Educational Environment
Several	Northeast IPM Center	The Tenant's Role in Integrated Pest Management
Paul Biwan	Oregon State University	Delivering Exceptional Service
Dr. Kent Anger	Center for Research on Occupational and Environmental Toxicology	Neurotoxic Effects of Organophosphorus Pesticides in Humans
Charles J. Lichon	Mid-Michigan Department of Health	Low Trust, High Concern Risk Communication
Dr. Thomas A. Arcury	Wake Forest University, Department of Family and Community Medicine	Overcoming Language & Literacy Barriers in Safety & Health Training of Agricultural Workers
Dr. Duane Hugget	University of North Texas	Environmental Fate and Effects of Synthetic Progestins
Mary Miller	Washington State Department of Labor and Industries	Proposed Changes to the Agricultural Child Labor Regulations
Michelle Colledge and Amy Mysz	U.S. EPA and CDC	Pesticide Misuse and the National Bed Bug Epidemic
Several	U.S. EPA Office of Water	Clean Water Act Permitting of Discharges from Pesticide Applications
Steven Rosenbaum	Author of "Curation Nation"	Curate the Cloud. How Too Much Information Puts Humans Back in Charge
Jae Douglas	Oregon Health Authority	Research and Education in Environmental Health
Charles Smith	U.S. EPA	Residential Exposure to Pesticides; Updated EPA SOPs
Jeff Evans	U.S. EPA	How PPE Requirements are Determined for Workers who Handle Pesticides
Several	U.S. EPA and NIEHS Children's Centers	Understanding Factors that Define Variability in Pesticide Exposure and Response for Children
Dr. Tom Green	IPM Institute of North America	Effective Integrated Pest Management for Bed Bugs and Lice in the Educational Environment
Several	U.S. EPA and National Council for Air and Stream Improvement	Oregon Forests and Water Symposium
Marcia Anderson	U.S. EPA Region 2 Pesticides Program	The Problem of Bed Bugs for Health Care and Social Service Providers
Jay O'Laughlin	College of Natural Resources, University of Idaho	The Clean Water Act: Fundamentals and Effects on Forestry
Several	Migrant Clinicians Network	The Nuts and Bolts of Cholinesterase Monitoring for Farmers, Ranchers and Agricultural Workers
Dr. Gretchen Onstad	UW Environmental and Occupational Health Sciences	Improving Drinking Water Treatment for Public Health
Several	U.S. EPA, NPIC, various universities and industry professionals, et al	International IPM Symposium
Several	NIOSH, U.S. EPA, CROET, OR-OSHA, et al	Oregon Pesticide Symposium
Dr. Daniel L. Sudakin	NPIC	Pesticide Residues in the Indoor Environment
Dr. Paul Slovic	University of Oregon	The Feeling of Risk: New Directions in Risk Perception
Several	Various academic, industry, and regulatory professionals	National Conference on Urban Entomology
Rusha Tapadar	OSU	Assessing bed bug infestation in Multnomah County
Dr. Patrick Iverson	AVI BioPharma, Inc.	Synthetic DNA/RNA and the Expanding Landscape for Gene Expression Modulators in Biology, Medicine and Agriculture

PESTICIDE INQUIRY DATABASE

Pesticide specialists perform data entry on a daily basis, documenting inquiries and incidents. A Quality Assurance/Quality Control (QA/QC) Specialist reviews the data, making corrections as needed to maintain a consistent approach. The QA/QC Specialist collaborates with Dr. Daniel Sudakin (MD) on human incidents, and with Dr. Fred Berman (DVM) on animal incidents. Together, they reviewed over 2,500 pesticide-related incidents this year.

Special Reports Provided to EPA - NPIC provides special reports from its Pesticide Inquiry Database (PID) to EPA personnel, often within one week. Selected topics:

- Pesticide incidents involving rodenticides
- Inquiries in Spanish related to label comprehension
- Pesticide incidents involving honey bees
- Human incidents related to fipronil
- Rodenticide exposures in children ages 1-6
- Rodenticide incidents with pets or children
- Web traffic on the new mobile app, My Repellent Finder

This year, we also provided reports to state agencies:

- Pesticide incidents in New Mexico (2006-2010)
- All inquiries from Vermont (2006-2011)
- Pesticide incidents related to dichlorvos pest strips (WA)
- All incidents in Alaska (2006-2011) (AK DEC)

"You are so great! This is really helpful to us."

*Pesticide Program Coordinator
Alaska Department of
Environmental Conservation*



QA/QC Facilitator

The QA/QC Specialist, Carmen Boone, performed an annual data assessment, and provided detailed feedback to each Pesticide Specialist about their performance in data collection, entry, and incident classification.

This year, NPIC also launched projects to further improve data quality in the PID. Over the winter, Ms. Boone provided a series of presentations for staff about streamlining case narratives, consistently identifying the type of inquiry (incident, information, or other), and other topics. Second, Ms. Boone provided staff with reminders and examples for a selected "PID Code of the Week" at weekly staff meetings.

See pages 26-63 for detailed information about the inquiries and incidents this year.

SOCIAL MEDIA

In keeping with its mission, NPIC recognized the importance of social media as a mechanism to provide objective, science-based information about pesticides in a timely manner. To start, NPIC created profiles on Facebook and Twitter. Procedures were developed for answering inquiries received via social media, for building connections with organizations that have similar goals, and for responding efficiently to problematic external content on our page/feed.

Selecting a target audience was challenging because so many disparate groups can benefit from the services provided by NPIC. In the future, distinct profiles may be added in order to target health care providers, state regulators, or parents, for example. In the short term, NPIC chose to target its core audience, people who use pesticides in their own homes and gardens.



Social Media Facilitator

The screenshot shows a vertical list of tweets. Each tweet includes a profile picture (the NPIC logo), the name of the user, their handle, the date, the text of the tweet, and a link. An 'Expand' link is visible below each tweet. The tweets are as follows:

- Nat'l Pesticide Info** @NPICatOSU, 14 May: Make your yard less attractive to #ticks and protect yourself from tick bites using these tips. ow.ly/aTKal
- UMaine Extension** @UMaineExtension, 10 May: May is Lyme Disease Awareness Month in Maine; remember to do your tick checks! Lyme disease is a preventable... fb.me/1TL6h2okz (Retweeted by Nat'l Pesticide Info)
- Nat'l Pesticide Info** @NPICatOSU, 11 May: Does it matter WHICH #ants are invading your kitchen? It matters if you want to find the nest. ow.ly/avNyG
- Nat'l Pesticide Info** @NPICatOSU, 9 May: Tackle your #carpet #beetle problem by removing their food sources. Learn more here. ow.ly/aNK4g
- Nat'l Pesticide Info** @NPICatOSU, 7 May: #Fleas are not just a fact of life. Learn about low-impact control strategies. ow.ly/aKyce
- Nat'l Pesticide Info** @NPICatOSU, 4 May: #HealthyAir indoors can be enhanced by ventilating to prevent accumulation of pollutants inside our homes. ow.ly/aEzLx
- Nat'l Pesticide Info** @NPICatOSU, 4 May: Follow these tips to identify and avoid counterfeit flea/tick products for pets. ow.ly/avJwn
- Nat'l Pesticide Info** @NPICatOSU, 3 May: We spend most of our time indoors. Antimicrobials and disinfectants are pesticides. Use only when needed for #HealthyAir. <http://ow.ly/aEzcc>

SOCIAL MEDIA

NPIC developed content for posting by planning seasonally appropriate themes for each week or month. Additional content was added in response to inquiries (i.e. late blight in tomatoes) and events of national importance (i.e. flooding along the Mississippi River). In 2011, NPIC posted new content throughout the year. Often, the weekly theme was reflected on the NPIC home page in the “New & Notable” section of the English and Spanish websites.



Fans of this page will receive updates and tips about reducing the risk of pesticide exposure when controlling pests in the home and garden.

National Pesticide Information Center shared a link.
March 19

Are you a Pesticide Handler or Agricultural Worker? Do you work in a forest, nursery, or greenhouse? The Worker Protection Standard (WPS) was designed to protect workers like you. It contains specific requirements for protective equipment, restricted-entry times following pesticide applications, safety training and other elements to prevent poisoning and injury from pesticides.



Worker Protection Standard
npic.orst.edu

Objective, science-based pesticide information.

Like · Comment · Share

3 2

National Pesticide Information Center shared a link.
March 13

CSI fan? How about PSI? –Pesticide safety inspection – Grab your flashlight and stroll around your yard and home looking for ways to make your environment safer. Are the pesticides stored safely, out of reach of children and pets? Are they in their containers with their labels?



Storage of Pesticides
npic.orst.edu

Objective, science-based pesticide information.

Like · Comment · Share

5 3

National Pesticide Information Center shared a link.
March 21

Do you work with herbicides, insecticides, or cleaning products containing antimicrobials on a regular basis? Even though some pesticides may not make you sick right away, long-term exposure to certain pesticides may increase your risk of chronic health effects. You can take steps to reduce your risk by keeping your exposure as low as possible



Minimizing Exposure at Work
npic.orst.edu

Objective, science-based pesticide information.

Like · Comment · Share

2 2

National Pesticide Information Center shared a link.
March 15

Do you have unwanted pesticides in storage? We can help you find local contacts for hazardous waste disposal. Not sure about whether they are too old? We can also help you contact pesticide manufacturers if you don't know if a pesticide is too old.



Disposal of Pesticides
npic.orst.edu

Objective, science-based pesticide information.

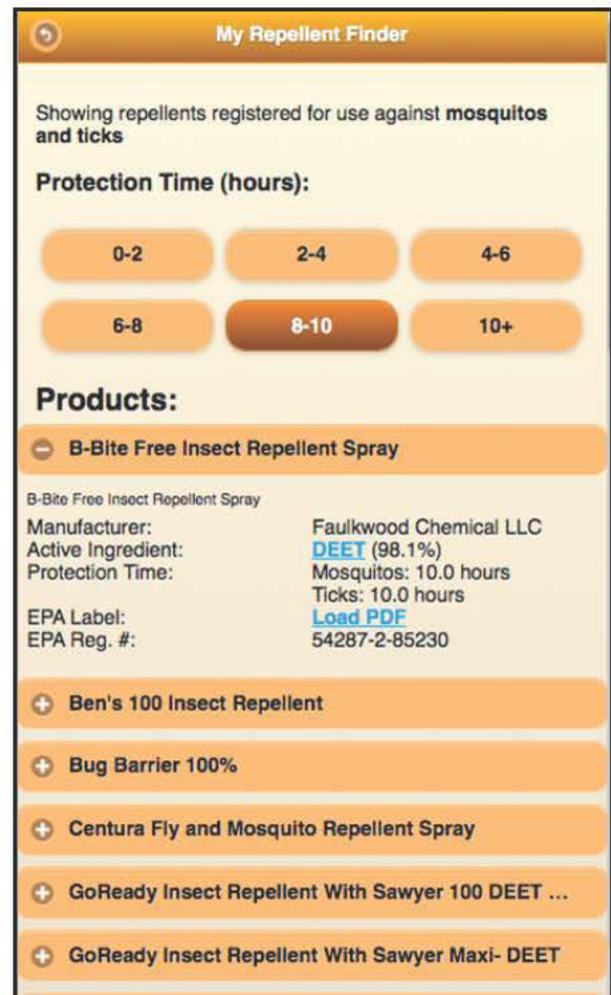
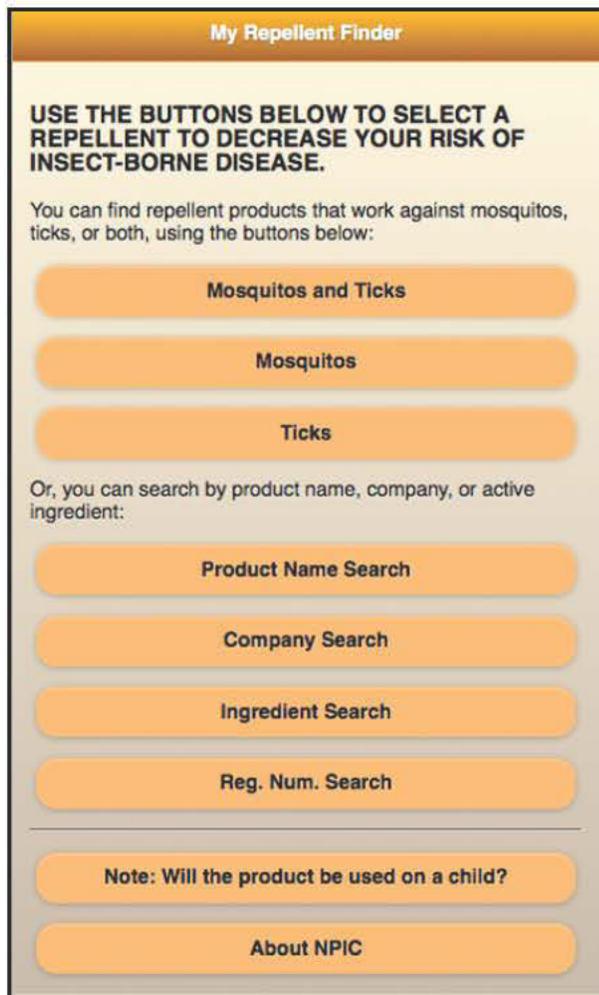
Like · Comment · Share

1 2

MY REPELLENT FINDER

NPIC developed its first app for mobile devices this year, an insect repellent locator (<http://npic.orst.edu/myrepel>). It was developed in collaboration with the Office of Pesticide Programs, Field & External Affairs Division. It contains detailed information about all EPA-registered insect repellents, including label claims about the duration of protection (0 - 10+ hours), ingredients, and more. It also includes links to each product label, and fact sheets about each of the active ingredients.

Users of the app can select mosquitoes, ticks, or both. They are prompted to select the number of hours they typically need protection, which serves an important educational purpose. Many callers to NPIC are not aware that insect repellents vary with respect to protection time, dependent upon the concentration and other factors.



My Repellent Finder was developed in HTML5 because it works on so many different devices, regardless of the operating system (Apple, Windows, Android, etc.) or the hardware (computer, phone, tablet, etc.). That flexibility comes with all of the necessary functionality, and freedom to customize features in response to changing needs.

RSS FEED

NPIC started publishing weekly items using a syndication (RSS) feed in May 2012. Visitors to the NPIC website can subscribe by clicking the RSS icon, available at the bottom of each web page. Subscribers view updates using one of many available readers on their computers, tablets, and/or phones. Many organizations use RSS feeds (one or many) to keep stakeholders informed.

Rather than automating the feed, NPIC opted to publish new content in coordination with weekly/monthly themes used in social media venues. RSS items include a picture, an introduction, a hyperlink for more information, and a short bullet list of actionable items.



Pesticide Specialist



Bug Bombs can really explode, if used incorrectly. You can prevent dangerous and costly explosions by carefully following the label directions.

To minimize the risk, check the fogger label for details, such as:

- The number of foggers that can be used in an area (cubic feet)
- How to manage ignition sources such as pilot lights, refrigerators and air conditioners
- How long to stay out of your home

[Listen](#) or [Read](#) for more tips.

Did you find this useful? Share it with others!



OUTREACH

In July 2011, NPIC restructured outreach efforts to focus on social media, newsletters, and project collaboration. The cost of printing and distributing NPIC brochures upon request is no longer supported. After the supply of NPIC brochures was exhausted, NPIC worked with requesters to identify appropriate alternatives, such as NPIC flyers and NPIC business cards. See the table below for a list of organizations/people who requested NPIC material this year.

Collaborations – selected examples:

- NPIC worked with EPA Region 10 to design a water bottle image (with NPIC toll-free number) to be distributed to Spanish-speaking agricultural workers.
- NPIC worked with EPA Region 5 to compile pesticide incident data related to bed bugs, leading to a webinar titled, “Pesticide Misuse and the National Bed Bug Epidemic.”
- NPIC reviewed draft language for the “Household Chemicals” section of the forthcoming website, HealthyHomes.gov, in collaboration with EPA’s Office of Children’s Health Protection.
- NPIC reached out to the coordinators of the AgrAbility National Training Workshop, and offered 250 dry-erase boards with emergency poisoning information.



Outreach Co-facilitator

Presentations delivered (selected):

- Kaci Buhl delivered a webinar about NPIC services, “Practical resources for you and the people you serve”, hosted by the AgriSafe Network.
- Ann Ketter delivered four presentations about NPIC via webinar for the pesticide applicators in Washington.
- Jessica Thorpe delivered a presentation about inert ingredients at a training event for the Portland Parks & Recreation Department.
- Kaci Buhl delivered a presentation about NPIC at the National Pesticide Applicator Certification & Training (PACT) Workshop in Portland, Oregon.
- Dave Stone delivered a presentation on October 13th discussing NPIC services at the EPA Region 6 State Lead & Tribal Agency meeting in Dallas, Texas.
- Ted Bunch delivered a presentation about NPIC and toxicology at the Sustainable Herb Conference in Corvallis, Oregon.

Requesting NPIC materials	Number of materials provided (flyers, etc.)
Environmental Protection Agency	5228
Gardeners	5188
Public Health Information Services	3531
State Pesticide Agencies	2580
Animal Caretakers (Veterinary)	2296
Applicators	1995
Industry	1927
Emergency Management Services	1300
Other	710
Environmental Services	185
General Public	169
Tribal	110
Underserved	82

NPIC sent 60 packets of bed bug information to callers without internet access. To practice IPM, people need to learn about the pest before taking action.

Introduction to Inquiry Data

Pesticide specialists create a record for every inquiry, which is entered into the NPIC Pesticide Inquiry Database (PID). The PID is a relational database, designed and built by Sean Ross to optimize efficiency in data entry, quality assurance, and useful reporting.

There are three types of inquiries received by NPIC:

- Requests for information about pesticides and related issues
- Inquiries or reports about pesticide incidents
- Issues that are not related to pesticides

The type and amount of information entered into the PID depends on the type of inquiry.

NPIC aims to collect the following information for all pesticide-related inquiries:

- The inquirer's zip code or state
- The type of person (general public, government, or medical personnel, etc.)
- The type of question (health risk, regulatory compliance, label clarity, etc.)
- The EPA Registration number, product name and/or active ingredient name(s)
- The actions performed (verbal information, referrals, transfers, etc.)
- The way the person found NPIC (internet, phone book, etc.)

For pesticide incidents, NPIC makes every effort to collect these additional data:

- The type of incident (exposure route, misapplication, spill, etc.)
- The type of exposed entity (person, animal, building, etc.)
- The location of the incident (home inside, home outside, retail store, school, etc.)

If a person or animal was exposed to a pesticide, NPIC specialists attempt to collect additional information. However, they may not ask for all of these items during emergent medical events.

- A timeline describing the exposure duration, symptom onset and resolution
- The person or animal's age, symptoms and gender
- The species, breed, and weight of animals

When symptoms are reported and the active ingredient(s) are known, specialists evaluate the relationship between them to assign a certainty index. The certainty index is an estimate by NPIC as to whether the reported symptoms were definitely, probably, possibly, or unlikely to have been caused by the reported exposure to a pesticide, or whether the signs and symptoms were unrelated. Specialists use the following tools when assigning the certainty index:

- A standard set of criteria, defined in NPIC training and procedures
- Published exposure reports and case studies
- Input from Dr. Dan Sudakin for human exposure incidents
- Input from Dr. Fred Berman for animal exposure incidents
- Input from the PID QA/QC specialist

Symptoms are also characterized in terms of their severity in the PID. The criteria for defining major, moderate, and minor symptoms were adapted from similar mechanisms used by poison control centers in the National Poison Data System, and by the U.S. EPA in the Incident Data System.

The following pages include details about the incidents and inquiries documented by NPIC from June 1, 2011 to May 31, 2012.

MONTHLY INQUIRIES

1. Monthly Inquiries

NPIC received 18,571 inquiries during the 2011-12 operational year. Graph 1 shows the number of inquiries received for each month. Eighty-one percent (81%) of the inquiries were received between March and October, concurrent with the part of the year when pest pressures are highest. NPIC operating hours were curtailed on July 1, 2011.

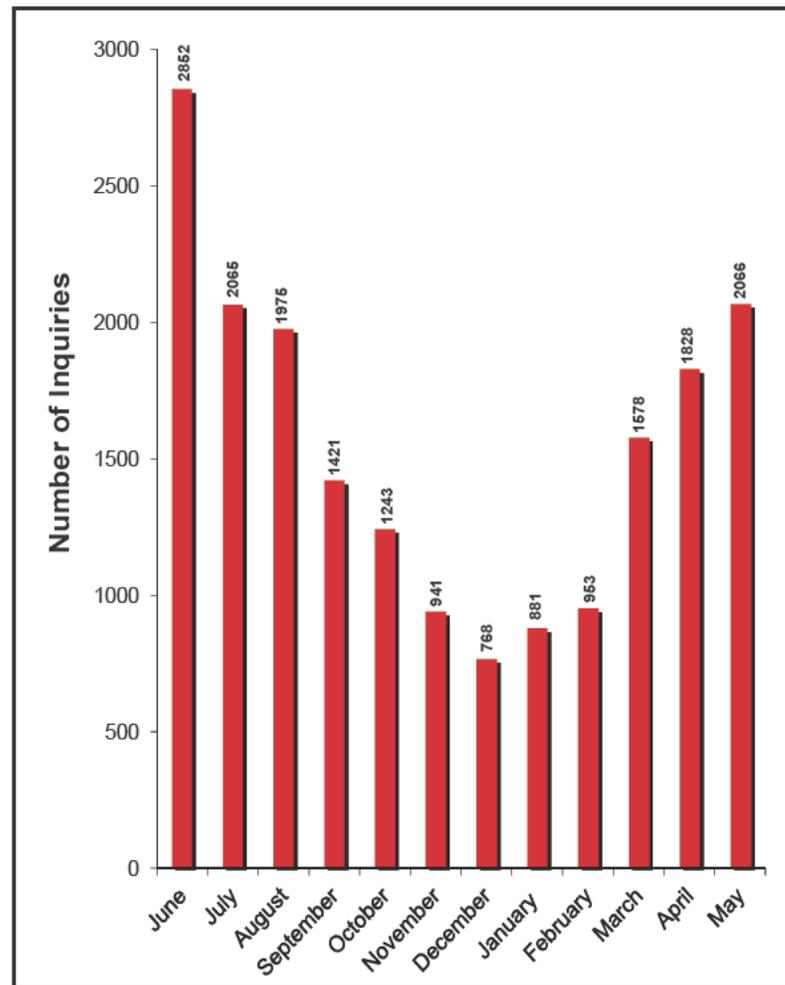
Table 1. Monthly inquiries

Month	Total
June	2852
July	2065
August	1975
September	1421
October	1243
November	941
December	768
January	881
February	953
March	1578
April	1828
May	2066
Calendar¹ Year Total =	19806
Grant² Year Total =	18571

¹ January 1 through December 31.

² June 1 through May 31.

Graph 1. Monthly inquiries



TYPE OF INQUIRY / ORIGIN OF INQUIRY

2. Type of Inquiry

NPIC classifies inquiries as information, incident, or other (non-pesticide) inquiries. A pesticide spill, misapplication, contamination of a non-target entity, or any purported exposure to a pesticide, regardless of injury, is classified as an incident.

The types of inquiries are summarized in Table 2 and Chart 2.

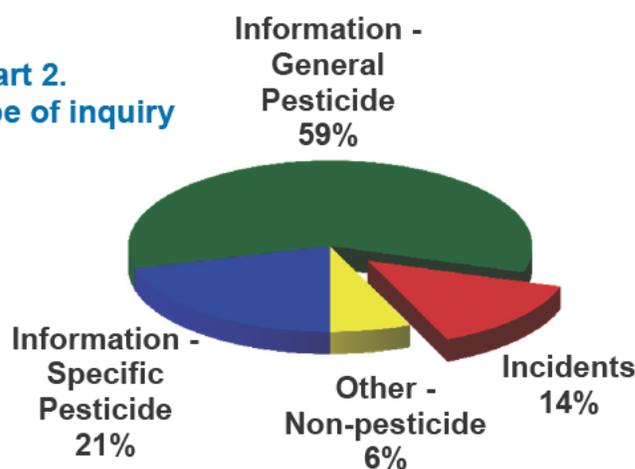
The majority of inquiries (14,844 or 80%) to NPIC were informational inquiries about pesticides or related issues (Chart 2). NPIC responded to 3,862 (21%) information inquiries about specific pesticides. NPIC responded to 10,982 (59%) inquiries relating to pesticides in general.

NPIC documented 2,533 incidents involving pesticides. NPIC Specialists routinely provide requested information, evaluate the need for any referrals, and ask several scoping questions to document the circumstances surrounding the reported incidents.

Table 2. Type of inquiry

Type of Inquiry	Total
Information - General Pesticide	10982
Information - Specific Pesticide	3862
Incidents	2533
Other - Non-Pesticide	1194
Total =	18571

Chart 2. Type of inquiry



3. Origin of Inquiry

Table 3 summarizes the origin of inquiries received by NPIC. Over 90% of inquiries were received by telephone.

Table 3. Origin of inquiry

Origin of Inquiry	Total
Telephone	16785
Voice Mail	933
E-Mail	772
Mail	79
Walk-In	2
Total =	18571

4. Website Access

The NPIC website attracted more than 700,000 unique visitors viewing 2,142,723 pages during 2011, an increase of 48% over 2010 views (1,444,832 pages).

Over 30% of page views (665,379) originated from queries on popular search sites, while 390,956 pages were viewed from a direct link such as a “bookmark” or shared link. The most popular search phrase used to reach NPIC was “moth balls” (or “mothballs”). Other common searches included “fipronil,” “pesticide/pesticides,” and “permethrin.”

Visits to the website varied greatly in duration, with 48,455 visits lasting longer than 15 minutes, and 904,887 of less than 15 minutes. The average visit duration was 2 minutes 45 seconds.

The most popular pages viewed on the site were the “My Local Resources” page (191,202 views), the NPIC home page (119,288 views), and the State Pesticide Regulatory Agencies page (35,286).

Graph 4.1. Page views

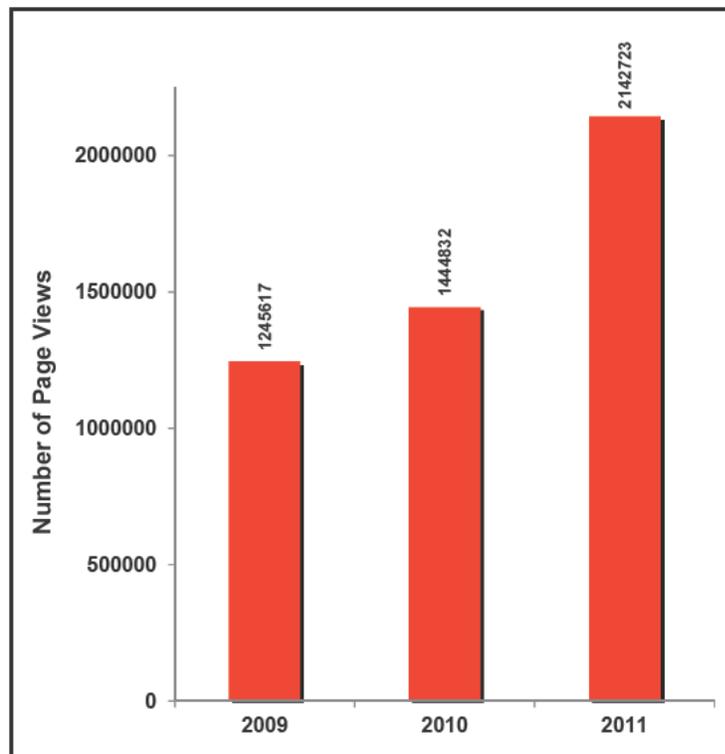
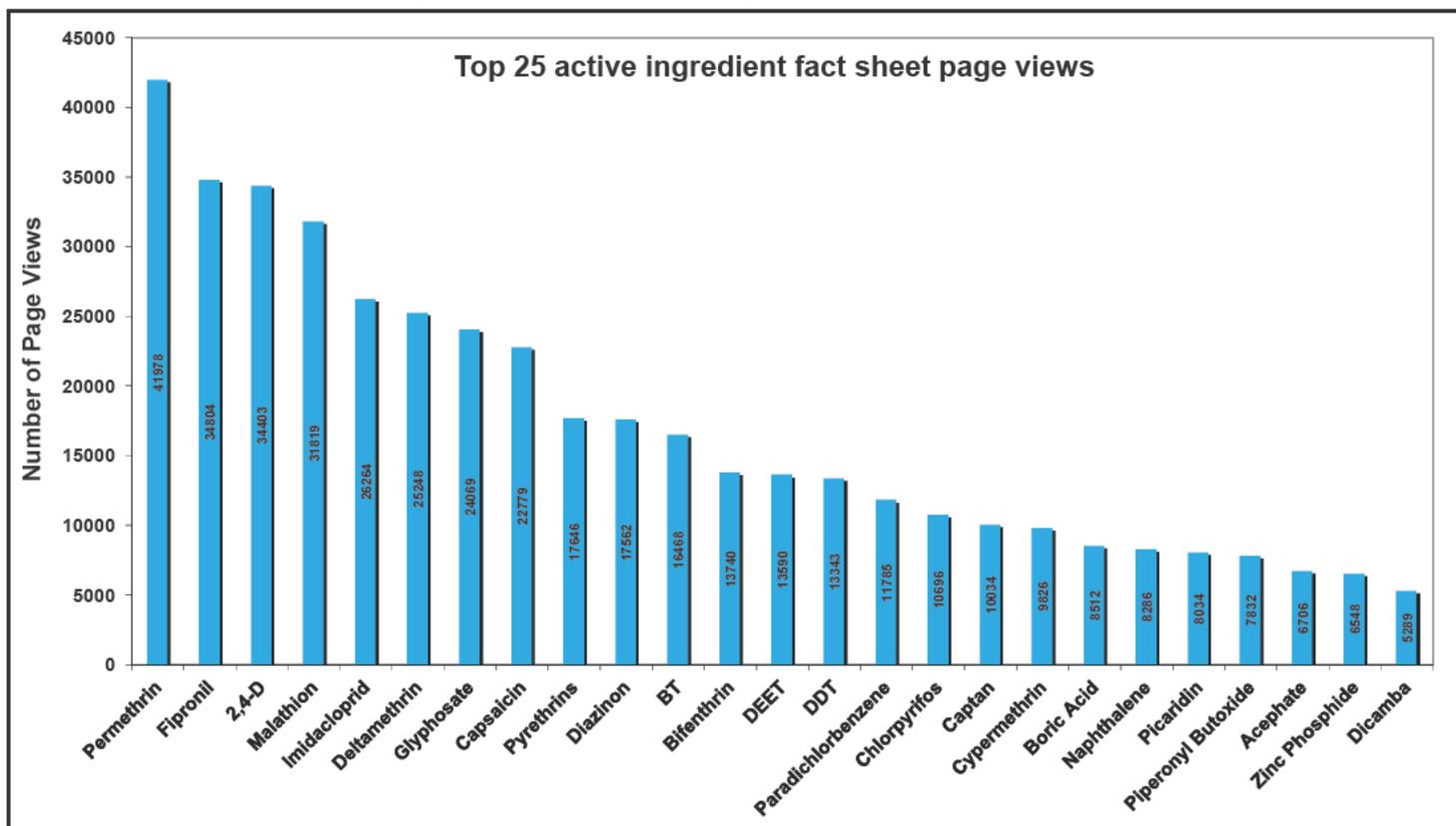


Table 4. Selected page views

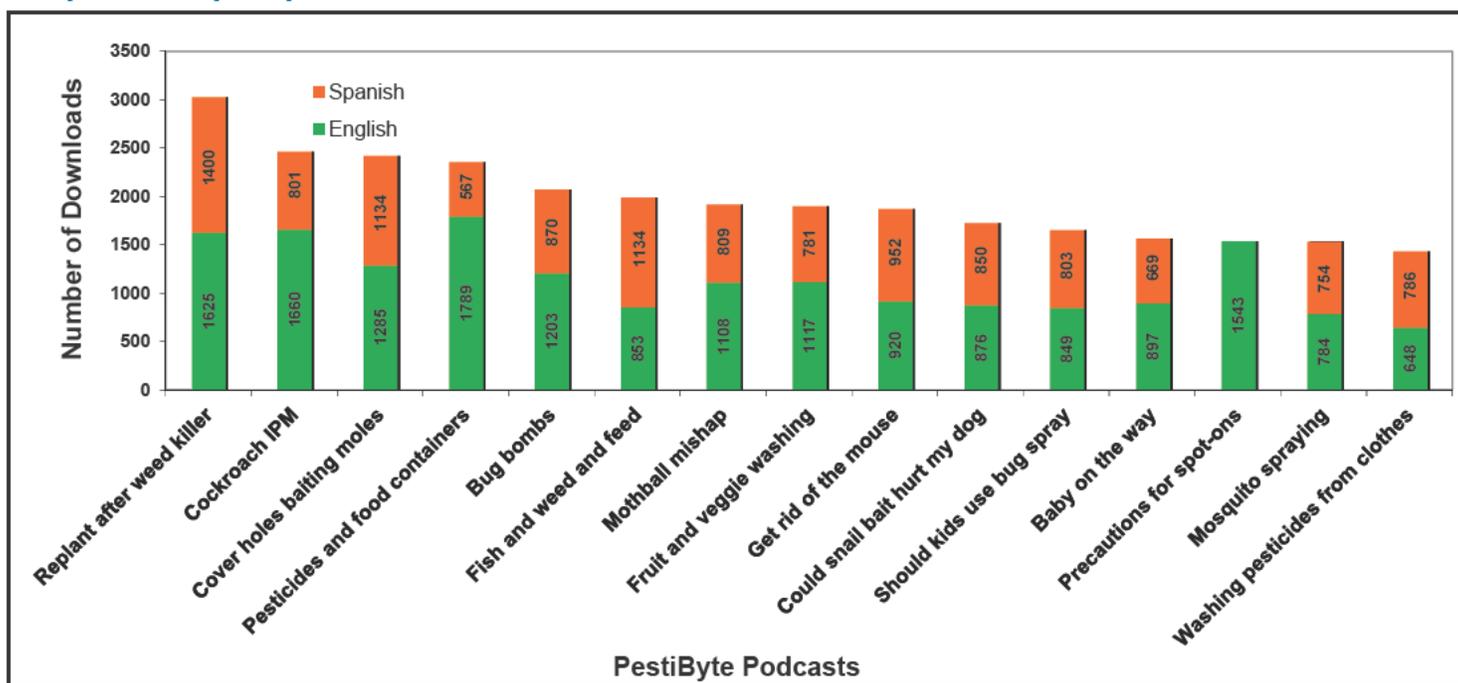
Page Accessed	English page views	Number of pages available	Spanish page views	Number of pages available
Home page	119,288	1	5,011	1
Health and Safety	52,113	26	6,790	10
Pest Control	164,010	45	35,506	31
Pesticide Ingredients	237,206	77	15,414	15
Regulations	63,149	20	3,274	6
Environment	21,587	18	4,967	7
My Local Resources	191,202	1	3,807	1
A to Z Index	29,278	1	2,099	1
Fact Sheets	555,006	145	1,832	5
Common Pesticide Questions	19,365	45	14,828	30
Pestibyte Podcasts	21,475	39	13,113	31
Reporting Pesticide Incidents	6,411	1	931	1

WEBSITE ACCESS

Graph 4.2. Top 25 active ingredient fact sheet page views



Graph 4.3. Top 15 podcast downloads



TYPE OF INQUIRER

5. Type of Inquirer

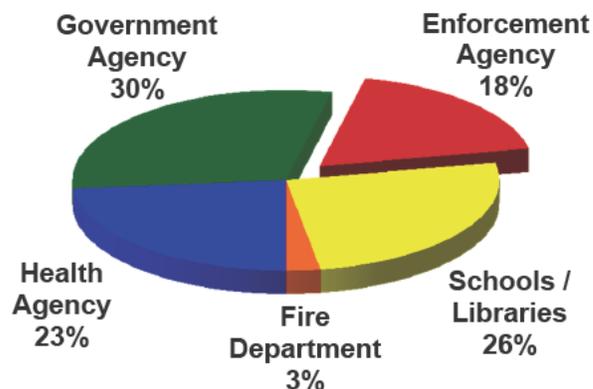
Table 5 summarizes the profession/ occupation of individuals contacting NPIC. The majority of inquiries to NPIC are from the general public. Of the 18,571 inquiries received, there were 17,280 (93.0%) from the general public, 348 (1.9%) from federal, state or local government agencies, 213 (1.1%) from human and animal medical personnel, and 241 (1.3%) from information groups including the media, unions, and environmental organizations.

Chart 5 summarizes the 348 governmental entities that contacted NPIC during the year. Health agencies include health departments and WIC personnel. Government agencies include city, county, and other government entities without enforcement roles. Enforcement agencies include the U.S. EPA, state lead pesticide agencies and police, among others.

Table 5. Type of inquirer

Type of Inquirer	Total
General Public	17280
Federal/State/Local Agencies	
Health Agency	82
Government Agency	104
Enforcement Agency	64
Schools/Libraries	89
Fire Department	9
Medical Personnel	
Human Medical	92
Animal Vet./Clinic	120
Migrant Clinic	1
Information Groups	
Media	28
Unions/Info. Service	53
Environmental Org.	35
Pesticide Mfg./Mktg. Co.	125
Consumer Users	
Lawyer/Insurance	28
Lab./Consulting	20
Pest Control	102
Retail Store	126
Farm	17
Master Gardener	16
Non-migrant Ag. Worker	9
Other	171
Grant Year Total =	18571

Chart 5. Inquiries from federal / state / local agencies (Total: 348)



TYPE OF QUESTION

6. Type of Question

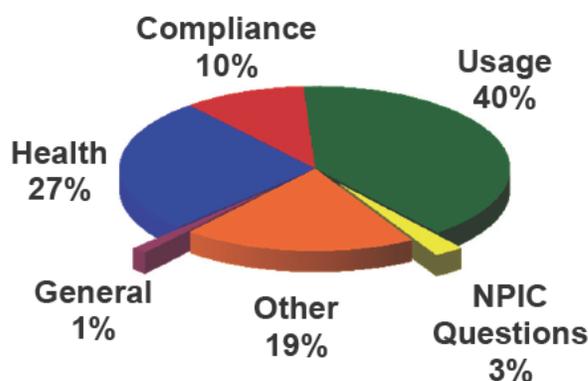
The questions received at NPIC are most often related to health effects and application practices (Chart 6 and Table 6). Many inquirers to NPIC have more than one question, resulting in 21,363 questions being recorded in 2011.

NPIC responded to 5,618 (26.3%) questions related to health effects of pesticides, including general health, treatment, testing, and laboratory questions. In addition, there were 8,508 (39.8%) requests for pesticide use information, including questions about use on specific pests or crops, chemical information, pros and cons of application, safety and application questions, cleanup, and pre-harvest intervals. NPIC also responded to 2,152 (10.1%) compliance questions, including questions about regulations, disposal, and complaints.

Table 6. Type of question

Type of Question	Total
Health Related	
Health	4685
Treatment	783
Testing Lab.	150
Usage Information	
Pest/Crop	2053
Chemical	1039
Pros and Cons	48
Safety/Application	4507
Cleanup	558
Harvest Intervals	303
Compliance	
Regulations	1390
Complaints	608
Disposal	145
WPS	9
Food Safety	186
General	277
NPIC Questions	533
Other	4089

Chart 6. Type of question



ACTIONS TAKEN

7. Actions Taken

Primary actions:

NPIC Specialists respond to inquiries in a variety of ways. The primary actions are summarized in Table 7.1. Most inquiries (17,738) were answered by providing verbal communication. Information was also sent via email in 761 cases, and by postal mail in 85 cases. Upon request, NPIC brochures and other promotional materials were mailed to people 100 times in 2011.

Table 7.1. Primary action taken

Primary Action Taken	Number of Inquiries
	2011
Emailed Info	761
Faxed Info	6
Handled Inquiry in Spanish	141
Interpreted via Language Line Svs	28
Mailed Info	85
Referred to Dr. Berman	1
Referred to Dr. Sudakin	5
Sent NPIC Outreach Material(s)	100
Transferred to EC / PC	42
Transferred to Specialist / Voicemail	209
Verbal Info	17738

Risk reduction actions:

In 2011, NPIC started tracking elements of each conversation related to reducing risk. While these are not the only topics that are frequently discussed, they support the U.S. EPA's Strategic Goal #4: Ensuring the safety of chemicals and preventing pollution. Specialists documented 6,816 risk reduction actions, detailed in Table 7.2.

Table 7.2. Risk reduction actions

Risk Reduction Action Taken	Number of Inquiries
	2011
Discussed Following the Label	3138
Discussed Ways to Minimize Exposure	2645
Discussed IPM Concepts	801
Discussed Environmental Protection	232

Referrals to other organizations:

The number of referrals to various organizations is presented in Table 7.3. Specialists use their training and standard operating procedures (SOPs) to evaluate the need for referrals, providing them only when the requested information is outside NPIC boundaries (i.e. pest control advice, detailed application instructions) and there is an appropriate resource available to provide the information. Local resources are provided whenever possible, and contact information is included. See page 12 for information about how NPIC maintains and delivers appropriate referral information.

Table 7.3. Referrals to other organizations

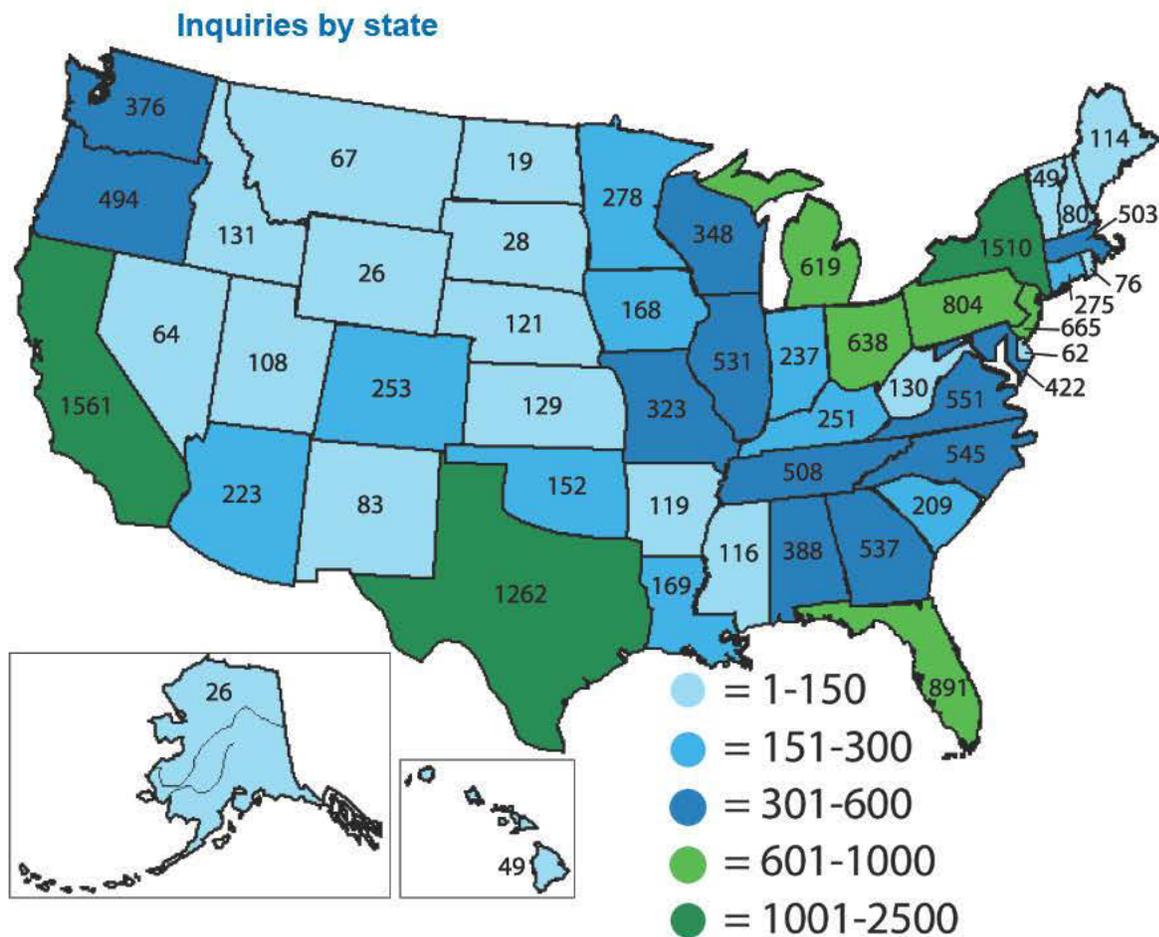
Organization Name	Number of Inquiries
	2011
Manufacturer/Distributor	6025
Cooperative Extension	1327
State Lead Agency	811
Human Poison Control	769
Non-Governmental	510
EPA Website	430
EPA Headquarters	274
Animal Poison Control	272
Department of Health	201
Hazardous Waste	197
Other State Agency	190
EPA Region	152
Other Federal Agency	96
OSHA	22

INQUIRIES BY STATE

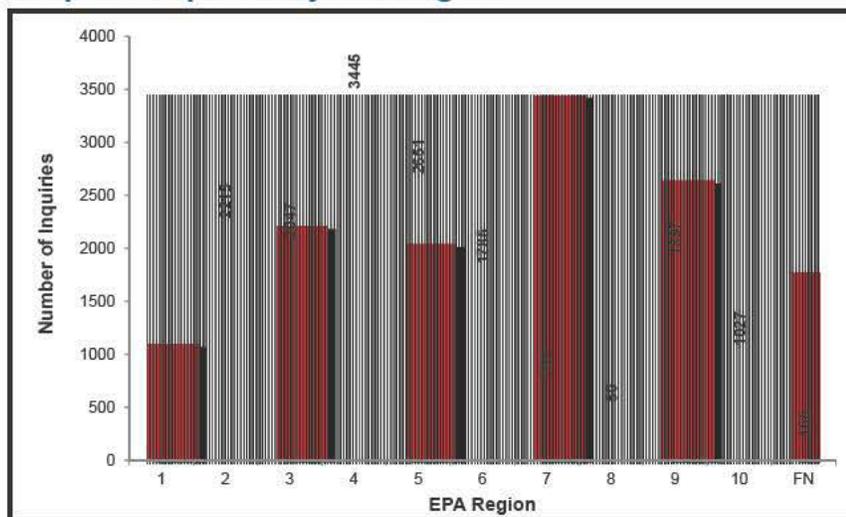
8. Inquiries by State

The map below shows the number of inquiries received by NPIC from each state. The largest number of inquiries came from California, followed by New York, Texas, and Florida. NPIC also received calls from Puerto Rico (39), Canada (63), and other countries (155).

Graph 8 summarizes inquiries by EPA region. NPIC received 18.2% of inquiries from Region 4, 14.0% from Region 5, 11.7% from Region 2, 10.8% from Region 3, and 10.0% from Region 9.



Graph 8. Inquiries by EPA region



FN = Foreign Nation

TOP 25 AIs FOR ALL INQUIRIES

9. Top 25 Active Ingredients for All Inquiries

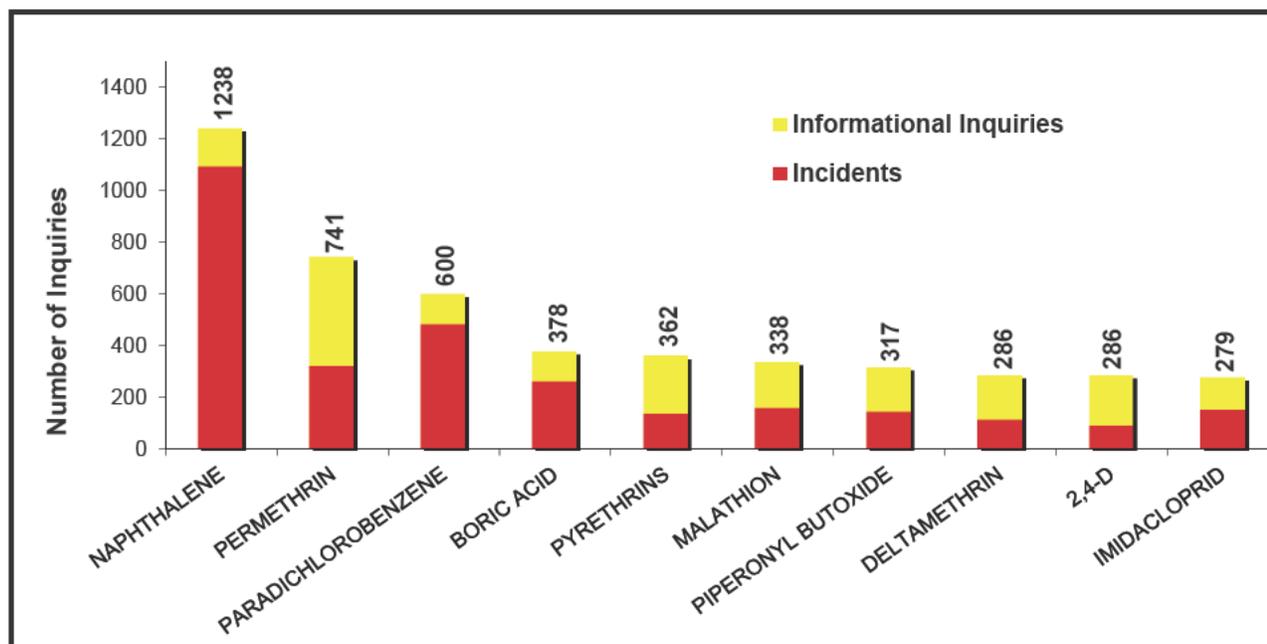
When inquiries to NPIC involve discussion of a specific product or active ingredient, Specialists record the product and the active ingredient in the PID. Naphthalene was discussed in more inquiries than any other single active ingredient this year (Table 9, Graph 9). Of the 1,238 inquiries involving naphthalene, 1,089 (87.96%) were incidents. Note that an inquiry may involve discussion of several active ingredients. Graph 9 illustrates the number of informational inquiries and incident inquiries for the top active ingredients that NPIC received in the 2011 grant year.

Table 9. Top 25 active ingredients for all inquiries

Active Ingredient	Total Inquiries	Incidents ¹	Information Inquiries
NAPHTHALENE	1238	1089(18)	149
PERMETHRIN	741	322(23)	419
PARADICHLOROBEZENE	600	482(2)	118
BORIC ACID	378	262(3)	116
PYRETHRINS	362	137(12)	225
MALATHION	338	159(3)	179
PIPERONYL BUTOXIDE	317	144(14)	173
DELTAMETHRIN	286	114(1)	172
2,4-D	286	92(0)	194
IMIDACLOPRID	279	153(13)	126
FIPRONIL	272	143(6)	129
CARBARYL	271	114(3)	157
DICAMBA	246	64(1)	182
GARLIC OIL	218	86(0)	132
CAPTAN	208	85(2)	123
PUTRESCENT WHOLE EGG SOLIDS	206	79(1)	127
METHOPRENE	201	170(19)	31
DRIED BLOOD	190	69(0)	121
GLYPHOSATE	187	80(2)	107
MECOPROP	183	42(1)	141
PYRIPROXYFEN	168	132(20)	36
CAPSAICIN	166	95(26)	71
IRON PHOSPHATE	162	122(2)	40
BIFENTHRIN	151	53(2)	98
SULFUR	126	38(2)	88
Total =	7780	4326(176)	3454

¹ First number represents the total number of purported incidents regardless of certainty index. The numbers in parentheses indicate the total number of incidents with certainty index of "definite" or "probable."

Graph 9. Top 10 pesticide active ingredients for all inquiries



INCIDENT TYPE

10. Incident Type

A pesticide incident may involve a spill, misapplication and an exposure, or one of these alone.

In 2011, there were 2,931 pesticide exposures, and 1,055 accidents. Charts 10.1 and 10.2 provide further details. Among reported exposures, inhalation was the most common route of exposure (33.6%), followed by dermal contact (27.1%) and ingestions (22.4%). When a specific exposure route could not be identified, specialists documented a "possible exposure" (11.2%).

Indoor spills (83) were reported about three times more than outdoor spills (28). Among reported misapplications (840), over three quarters were misapplications by the homeowner or resident. Only 5% were misapplications attributed to professionals (PCO).

Chart 10.1. Pesticide exposures

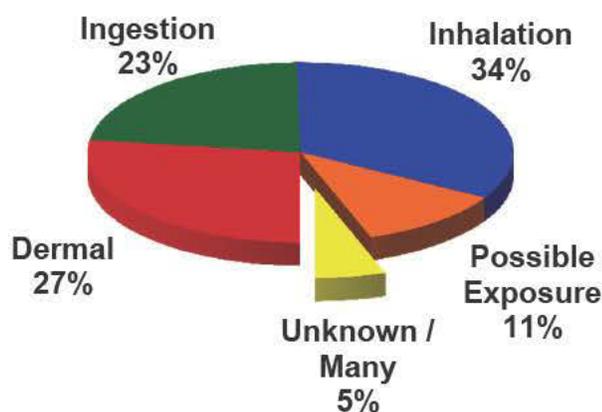


Chart 10.2. Pesticide accidents

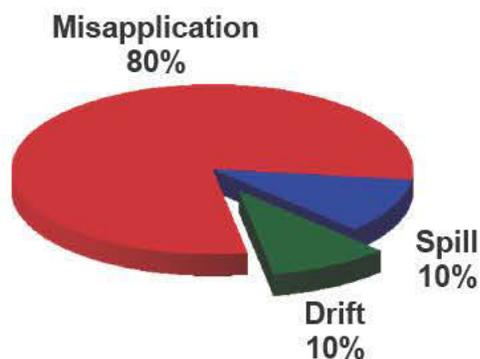


Table 10. Incident Type

Type of Incident	Total
Incident	
Exposures	
Dermal	793
Ingestion	657
Inhalation	984
Exposure Possible	328
Unknown/Many	156
Occupational	13
Accidents	
Misapp. - Homeowner	658
Misapp. - PCO	42
Misapp. - Other	140
Spill - Indoor	83
Spill - Outdoor	28
Drift	102
Fire - Home	2
Fire - Other	0
Industrial Accident	0
Other	291

TOP 25 AIs FOR INCIDENTS

11. Top 25 Active Ingredients for Incidents

The most common active ingredients reported during incident inquiries are listed in Table 11 and Graph 11. The table identifies the number of incidents involving humans, animals, and other entities, such as environmental entities and property. Naphthalene and paradichlorobenzene were involved in more reported incidents than any other active ingredients. These are the active ingredients found in mothballs and similar products. Among these, humans were more commonly involved than animals, including children under five years old (92).

For animal incidents, methoprene, permethrin, and pyriproxyfen were involved in the highest number of incidents. Note that methoprene and pyriproxyfen are rarely used singly. They are almost exclusively used in conjunction with other active ingredients like fipronil, or one of many pyrethroids.

In Table 11 below, the top 3 active ingredients for human and animal incidents are highlighted in orange.

Graph 11. Top 10 active ingredients for incidents

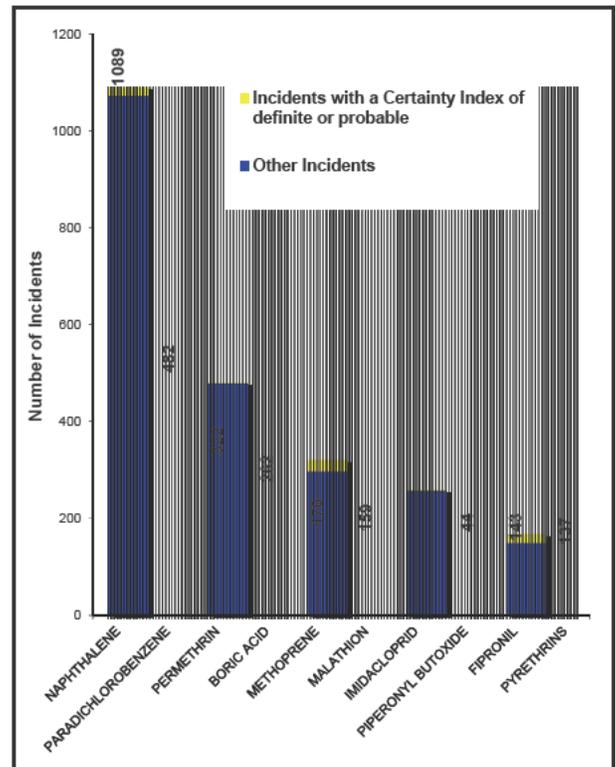


Table 11. Top 25 active ingredients for incidents to NPIC

Active Ingredient	Total Incidents ¹	Human Incidents ¹	Animal Incidents ¹	Other Incidents
NAPHTHALENE	1089(18)	478(18)	49(0)	372
PARADICHLOROBEZENE	482(2)	218(1)	19(1)	167
PERMETHRIN	322(23)	83(6)	83(17)	43
BORIC ACID	262(3)	91(3)	56(0)	9
METHOPRENE	170(19)	20(0)	87(19)	2
MALATHION	159(3)	59(3)	9(0)	50
IMIDACLOPRID	153(13)	19(2)	53(11)	20
PIPERONYL BUTOXIDE	144(14)	73(13)	21(1)	18
FIPRONIL	143(6)	14(0)	64(6)	10
PYRETHRINS	137(12)	72(11)	16(1)	18
PYRIPROXYFEN	132(20)	9(4)	67(16)	4
IRON PHOSPHATE	122(2)	7(0)	55(2)	3
CARBARYL	114(3)	39(2)	10(1)	30
DELTAMETHRIN	114(1)	48(1)	21(0)	10
CAPSAICIN	95(26)	49(26)	7(0)	7
2,4-D	92(0)	36(0)	17(0)	16
GARLIC OIL	86(0)	11(0)	15(0)	25
CAPTAN	85(2)	30(2)	6(0)	23
GLYPHOSATE	80(2)	29(2)	15(0)	12
PUTRESCENT WHOLE EGG SOLIDS	79(1)	11(1)	13(0)	24
ZINC PHOSPHIDE	76(5)	4(0)	34(5)	3
BROMETHALIN	75(0)	6(0)	35(0)	2
DRIED BLOOD	69(0)	10(0)	11(0)	21
DICAMBA	64(1)	25(1)	10(0)	13
ETHOFENPROX	59(12)	1(0)	33(12)	1
Total =	4403(188)	1442(96)	806(92)	903

¹ First number represents the total number of purported incidents regardless of certainty index (categorized by humans, animals, and other). The numbers in parentheses indicate the total number of incidents with certainty index of "definite" or "probable."

LOCATION & ENVIRONMENTAL IMPACT

12. Locations of Exposure or Accident

For incidents specialists record the location of exposure or accident. Of the 4,136 locations where exposures or accidents occurred, 89.5% occurred in the home or yard, and 1.8% occurred in an agricultural setting. Table 12 identifies the number of exposures or accidents reported to NPIC in a variety of other locations.

Table 12. Location of exposure/accident

Location	Total
Unclear/Unknown	110
Home or Yard	3702
Agriculturally Related	73
Industrially Related	16
Office Building, School	82
Pond, Lake, Stream Related	18
Nursery, Greenhouse	7
Food Service/Restaurants	5
Retail Store/Business	24
Roadside/Right-of-Way	10
Park/Golf Course	8
Health Care Facility	17
Treated Water	15
Other	49
Total =	4136

13. Environmental Impact

Table 13 presents the type of incidents reported for each type of environmental entity. By far, the most common environmental incident reported to NPIC involves pesticide misapplications to buildings by the residents (328). Many of these are related to mothballs and similar products.

Table 13 - Reported environmental impacts

	Misapplication by Resident	Misapplication by PCO	Misapplication by Other	Misapplication by Unknown	Spill - Indoor	Spill - Outdoor	Drift	Plant Exposure	Other
Soil / Plants / Trees	60	1	19	0	0	0	14	49	3
Home Lawn	31	1	11	1	0	2	3	12	1
Home Garden	131	8	4	0	0	1	31	130	0
Agricultural Crop	3	0	1	0	0	0	3	2	0
Treated Water	5	0	1	0	0	1	2	0	1
Natural Water	2	1	0	0	0	2	3	0	1
Building - Home / Office	328	20	65	12	55	4	8	0	11
Vehicle	13	0	2	1	13	1	1	0	1
Property	38	5	7	0	9	7	5	0	9

CERTAINTY INDEX

14. Certainty Index

Table 14 and Graph 14 summarize the certainty index assignments for all incidents. Human incidents are stratified by gender and group. Multiple entities may be discussed and documented for each incident.

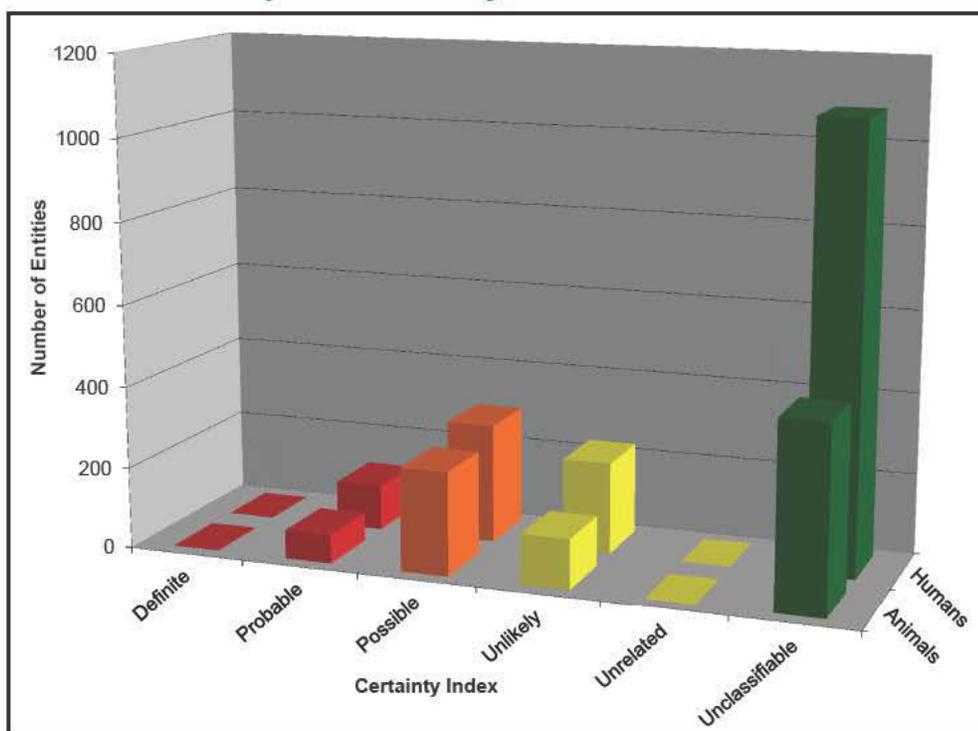
Of the total number of entities assigned a certainty index (2,659), 6.8% of the cases were assigned an index of definite or probable, 20.5% were assigned an index of possible, 13.1% were assigned an index of unlikely, and 59% were considered unclassifiable. Because none of the information reported to NPIC has been verified or substantiated by independent investigation, uncertainty is common. As a result, the certainty index assignments at both ends of the spectrum (definite and unrelated) are rarely assigned.

All certainty index assignments are reviewed by a quality assurance specialist, Carmen Boone. Dr. Sudakin provides additional consultation for human incidents, and Dr. Berman for animal incidents.

Table 14. Incident inquiries by certainty index (CI)

CI for All Categories of Entities			Breakdown of Human-Entity Incident Inquiries				
Certainty Index (CI)	Humans	Animals	Total	Male	Female	Groups	Gender Not Stated
Unclassifiable	1078	451	1585	405	550	114	9
Definite	0	1	1	0	0	0	0
Probable	111	70	181	48	59	4	0
Possible	291	253	544	113	166	11	1
Unlikely	225	123	348	98	122	5	0
Unrelated	0	0	0	0	0	0	0

Graph 14. Certainty index for incidents



What is the Certainty Index?

The certainty index is an estimate by NPIC as to whether an incident (including reported symptoms) was either definitely, probably, possibly, or unlikely to have been caused by the reported exposure to a pesticide, or whether the incident was unrelated to pesticides.

The certainty index is unclassifiable when one or more of the following criteria apply:

- An exposure occurred, but no symptoms were reported
- No active ingredient could be identified
- The presence or absence of symptoms was unknown

SEVERITY INDEX

15. Severity Index

Table 15 and Graph 15 summarize the severity of symptoms for all human incidents reported to NPIC.

For all symptoms reported in human pesticide incidents, 24.1% were minor, 20.7% were moderate, 1.1% were major, and no deaths were reported. In 46.8% of human incidents, the person reported that they did not experience any symptoms. Symptoms were unknown in 7.3% of human incidents.

Table 15. Human incidents by severity index (SI)

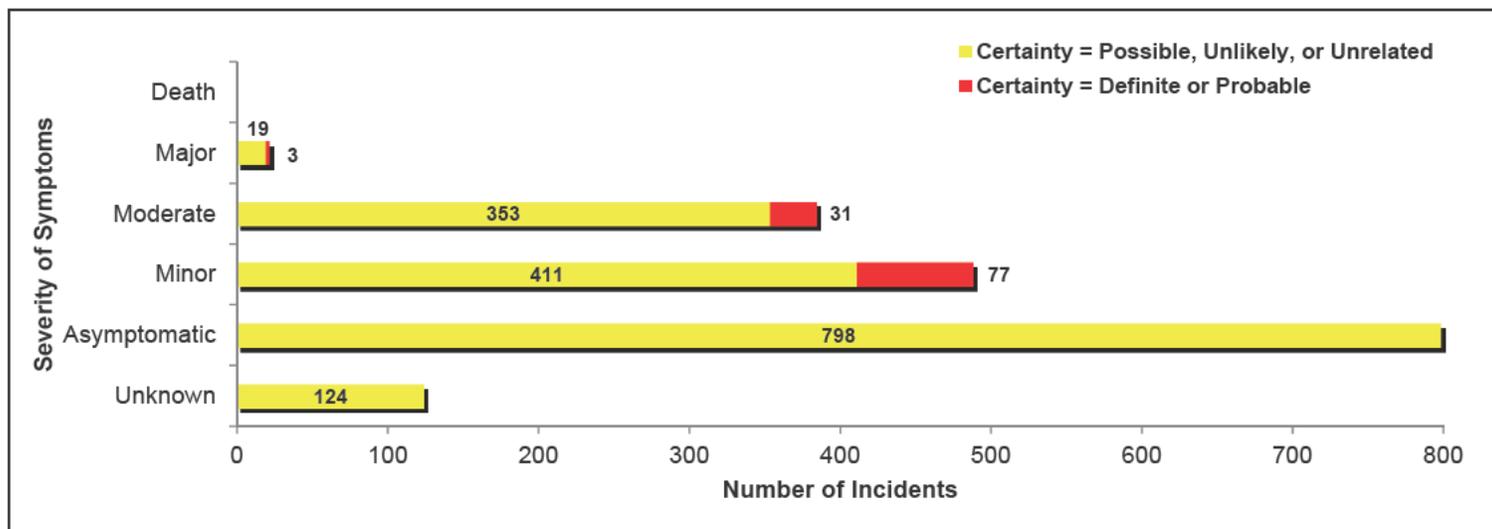
SI for All Categories of Entities		Breakdown of Human-Entity Incident Inquiries			
Severity Index (SI)	Humans	Male	Female	Groups	Gender Not Stated
Unknown	124(0)	40(0)	58(0)	18(0)	8(0)
Asymptomatic	798(0)	327(0)	388(0)	81(0)	2(0)
Minor	411(77)	164(37)	227(37)	20(3)	0(0)
Moderate	353(31)	123(10)	215(20)	15(1)	0(0)
Major	19(3)	10(1)	9(2)	0(0)	0(0)
Death	0(0)	0(0)	0(0)	0(0)	0(0)

¹ First number represents the total number of purported incidents regardless of certainty index. The numbers in parentheses indicate the total number of incidents with certainty index of "definite" or "probable."

What is the Severity Index?

The severity index is an estimate by NPIC as to the severity of symptoms reported for human incidents. The severity of symptoms can be categorized as asymptomatic, minor, moderate, major, death, or unknown. The NPIC severity index is based on criteria used by poison control centers in their National Poison Data System (NPDS).

Graph 15. Severity index for human incidents



DESCRIPTION OF ENTITIES

16. Description of Entities

The chart and graphs below provide a summary of entities involved in pesticide incidents. Of the 3,578 entities involved in incidents reported to NPIC this year, 47.7% were human, 25.1% were animals, and 27.2% were environmental nontarget entities. Other entities (13) are miscellaneous items (i.e. sidewalk, food). Pesticide incidents may involve multiple entities.

Graph 16.1. Humans

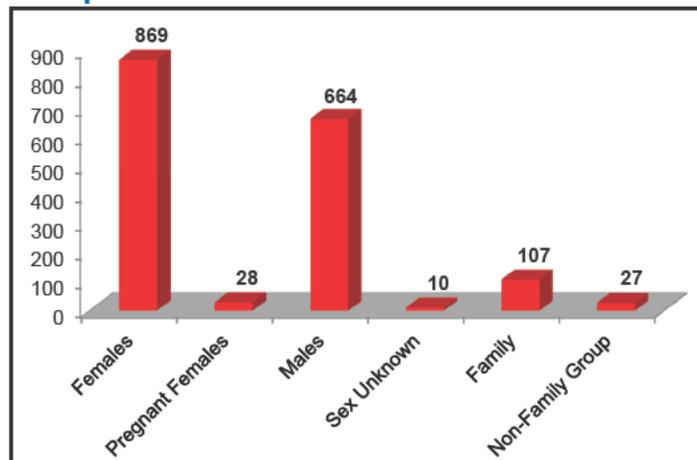
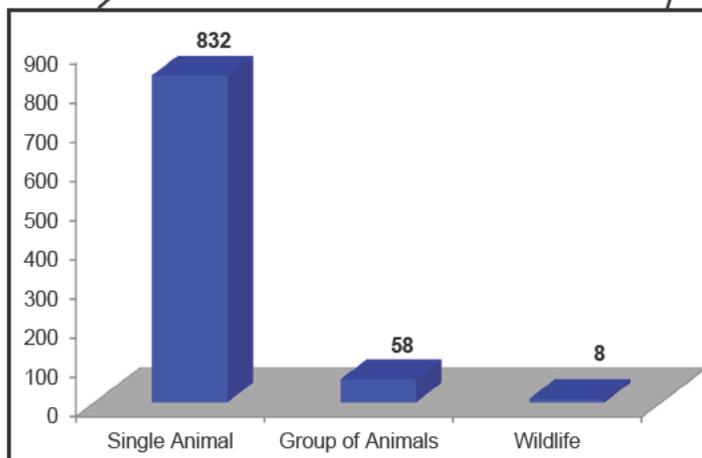
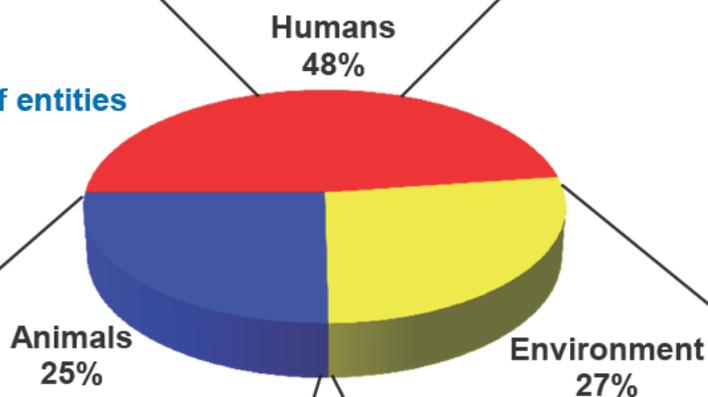
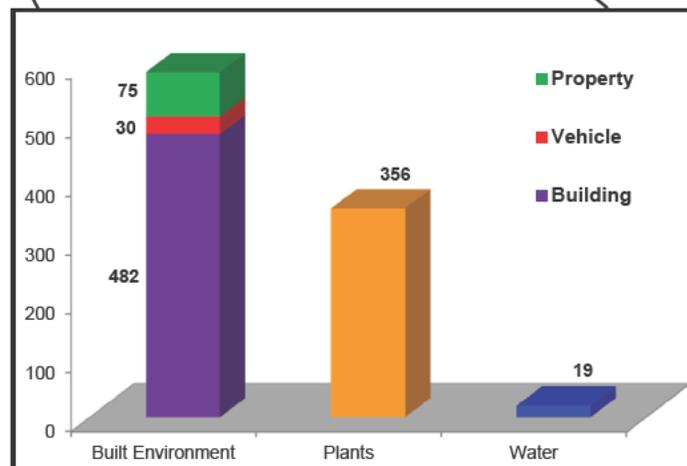


Chart 16. Description of entities



Graph 16.2. Animals



Graph 16.3. Environmental entities

REPORTED DEATHS

17. Reported Deaths

In 2011, no human deaths were reported (Table 17.1). Of the 898 animal entities involved in pesticide incidents, there were 39 reported deaths. Methoprene, pyriproxyfen, fipronil, and permethrin were most commonly reported (Table 17.2).

Table 17.1. Reported deaths

Reported Deaths	Total
Human Deaths -	
Male	0(0)
Female	0(0)
Total Human Deaths =	0(0)
Animal Deaths -	
Single Animal	34(10)
Group of Animals	4(1)
Wildlife	1(1)
Total Animal Deaths =	39(12)
Total =	39(12)

Table 17.2 - Active ingredients involved in three or more animal deaths

Active Ingredient ¹	Number of Deaths	Active Ingredient ¹	Number of Deaths
METHOPRENE	10(3)	TETRACHLORVINPHOS	6(0)
PYRIPROXYFEN	9(3)	ETHOFENPROX	4(2)
FIPRONIL	6(1)	BACILLUS THURINGIENSIS	3(0)
PERMETHRIN	6(4)	IMIDACLOPRID	3(1)

¹ Note that a pesticide product may contain more than one active ingredient.

18. Entity Age

Table 18 and Graph 18 summarize information about the ages of people involved in incidents reported to NPIC. Of the 1,595 people with ages available, 24.6% were less than 5 years of age (primarily consisting of ages 1-2), 5.2% were between the ages of 5 and 14, 5.8% were between the ages of 15 and 24, 48.9% were between the ages of 25 and 64, and 15.4% were over the age of 65.

Graph 18. Age of people involved in reported incidents

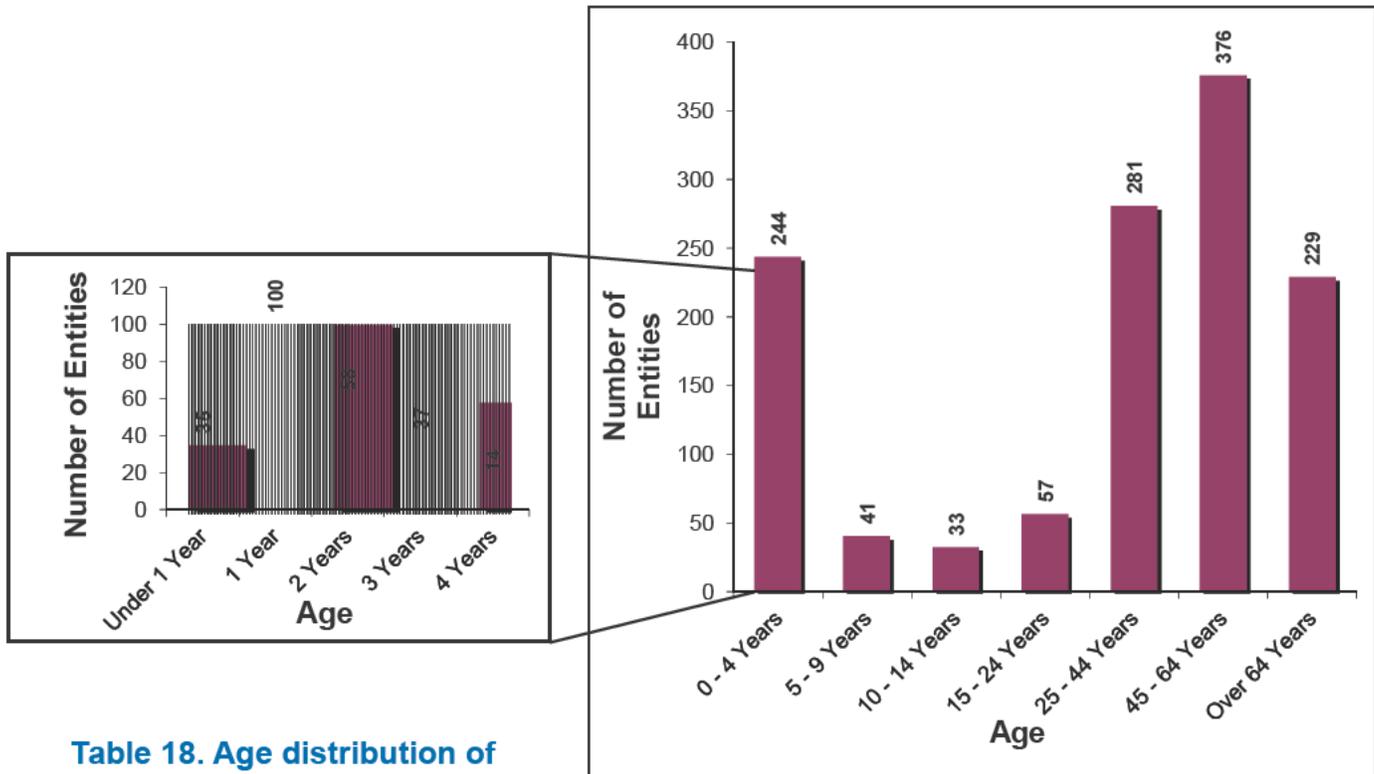


Table 18. Age distribution of people involved in reported incidents

Age Category	Total
Under 1 Year	35
1 Year	100
2 Years	58
3 Years	37
4 Years	14
Total (0 - 4 Years) =	244
5 - 9 Years	41
10 - 14 Years	33
15 - 24 Years	57
25 - 44 Years	281
45 - 64 Years	376
Over 64 years	229

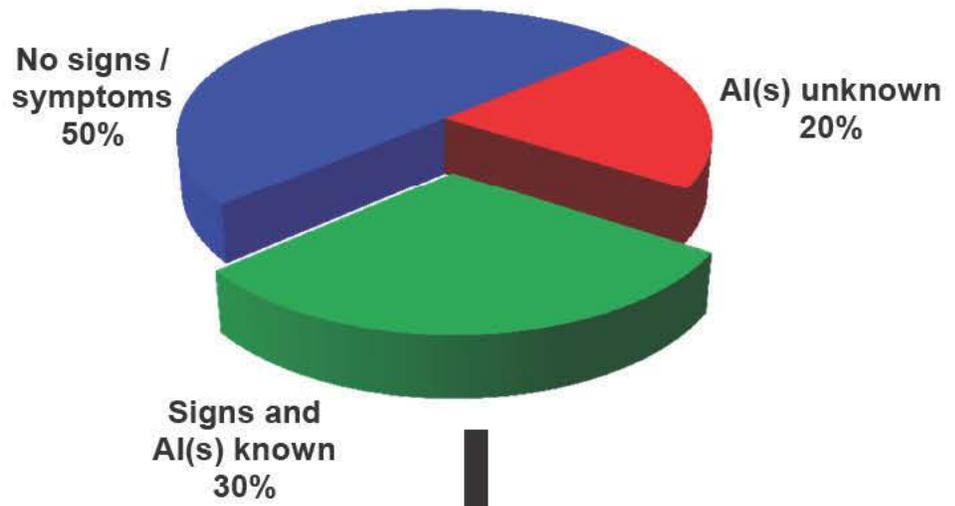
NOTABLE EXPOSURES

19. Notable Exposures

There were 3,579 entities exposed in 2,533 incidents.

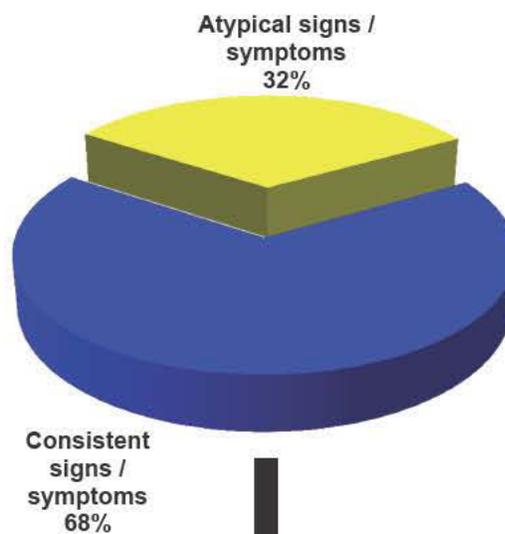
Total = 3,579 entities

There were 1,072 exposed entities with symptoms and identifiable products / active ingredients.



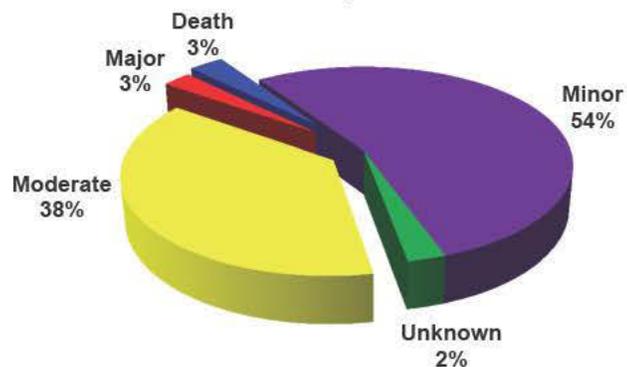
Total = 1,072 entities

There were 725 entities with consistent symptoms for the described exposure and active ingredient.



Total = 725 entities

Among these, 315 entities reported symptoms with severity ranging from "moderate" to "death." A 2011-2012 supplemental report describes these 315 entities.



VETERINARY REPORTING

20. Veterinary Incident Reporting Portal (VIRP)

NPIC developed a web-based portal for veterinarians to report adverse reactions to pesticides among animals in 2009. NPIC does not verify or conduct quality assurance of the information submitted into the VIRP. NPIC provides more detailed reports about VIRP incidents to its Project Officer.

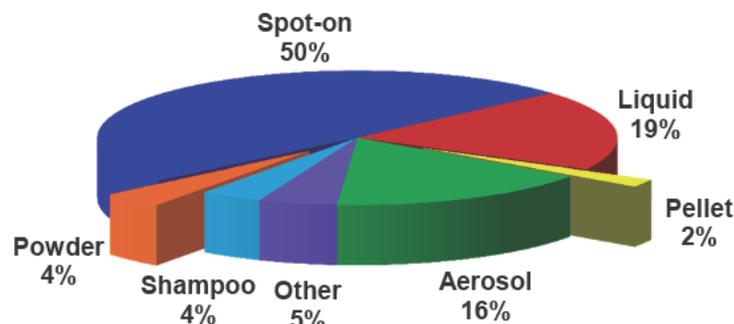
In 2011, veterinarians submitted 99 incident reports to the Veterinary Incident Reporting Portal (VIRP) involving 107 animals. Of those, 81 were dogs and 23 were cats.

Table 20.1 and Chart 20.1 summarize the formulation of products that were involved in the incidents reported by veterinarians. Almost half of the products were liquid spot-on treatments for pets (49.5%). About 19% of products were pelleted, and 16% were other liquids, not intended for spot-on application.

Table 20.1. Product formulations as reported in VIRP

Formulation	Number of Products
	2011
Spot-on	51
Pellet	20
Liquid	17
Other	5
Shampoo	4
Aerosol	4
Powder	2
Total =	103

Chart 20.1. Product formulations reported in VIRP



VETERINARY REPORTING

Table 20.2 and Chart 20.2 show the types of animal symptoms reported to VIRP. Symptoms are classified as dermatological (irritant, sloughing, ulcer), gastrointestinal (diarrhea, vomiting), neurological (depression, excited state, seizures, tremors), none or other. Multiple symptoms may be reported for each animal. Of the reported symptoms, 43% were classified as neurological. Nineteen (19%) percent were classified as dermatological, 15% as gastrointestinal, 15% as other and 9% as none.

Table 20.3 and Chart 20.3 summarize the outcomes associated with each animal incident reported in the VIRP. Multiple animals may be involved in each VIRP report; thus totals reflect the number of animals, as opposed to the number of reports.

Of the total number of animals involved in VIRP incident reports, 58% of the cases were ongoing or the affected animals had recovered (21%) at the time of the report. Twelve percent (12%) of the animals experienced continuing illness, 5% resulted in the death of the animal, and two animals recovered with sequelae.

Table 20.2. Animal symptoms as reported in VIRP

Symptom	Number of Animals
	2011
Dermatological: Irritant	25
Dermatological: Sloughing	3
Dermatological: Ulcer	5
Dermatological Total	33
Gastrointestinal: Diarrhea	8
Gastrointestinal: Vomiting	17
Gastrointestinal total	25
Neurological: Depression	27
Neurological: Excited	10
Neurological: Seizure	12
Neurological: Tremor	24
Neurological Total	73
None	15
Other	25
Total =	171

Chart 20.2. Animal symptoms as reported in VIRP

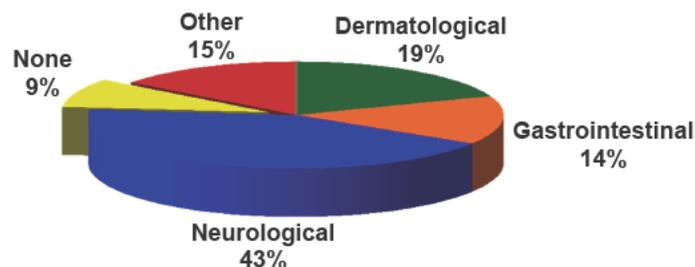
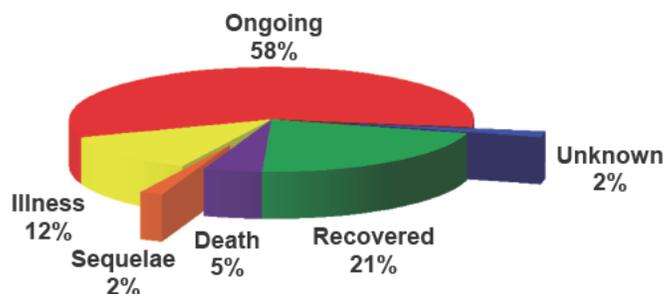


Table 20.3. Incident outcomes as reported in VIRP

Outcome	Number of Animals
	2011
Ongoing	62
Recovered	23
Illness	13
Death	5
Sequelae	2
Unknown	2
Total:	107

Chart 20.3. Incident outcomes as reported in VIRP



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