



DIVISION OF
Environmental Health



Division of Environmental Health

Pesticide Poisoning Prevention Newsletter

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Important Dates and Events:

- March 15, 2007- Pesticide Poisoning Prevention Working Group Conference Call
- March 18–24, 2007- National Poison Prevention Week

Progress Marks End of Year for Pesticide Exposure Surveillance and Prevention

Through collaborative activities and outreach initiatives, this has been a successful year for the Pesticide Exposure Surveillance and Prevention Program. Working with a variety of partners, we were able to accomplish our goals of expanding our data collection activities and improving our educational outreach efforts. With each strategic step, Florida moves closer to reducing pesticide related illness and injuries statewide.

Program Activity Highlights

Case Ascertainment:

- Created new Pesticide Incident Monitoring/Reporting Form - The newly revised version now include the department name and logo and additional fields for health effects, medical information and disease classification guide. This revised tool can be accessed on the program website: <http://www.myfloridaeh.com/community/pesticide/>
- Implemented process for receiving workers' compensation pesticide poisoning claims from all industries - Data will be supplied on a monthly basis by the Department of Financial Services (DFS) depending on the inflow of claims to the department.

Strategic Collaboration/Partnership:

- Hosted quarterly Pesticide Poisoning Prevention Working Group (PPPWG) conference calls featuring an informative exchange of pesticide-related discussions and topics among members.
- Attended monthly Interagency Farmworker Focus Group meetings and participated in the UF/Entomology bi-annual Integrated Pest Management work group meetings to support collaboration with other state agencies on pesticide-related issues.

Educational Outreach:

- Facilitated a health care providers' training through the Farm Workers' Association of Florida for staff at Collier County Health Department (CHD)/Immokalee on August 2, 2006.
- Launched "E News" - pesticide updates featuring state, national and global news which were sent electronically to CHD epidemiologists and environmental staff and PPPWG members.
- Designed "Pesticides and You" fact sheets for home and work settings. Developing "Are Pesticides Making You Sick" wallet cards and refrigerator magnets to increase awareness on pesticide-related illnesses and to promote preventative messages.

Special Projects:

- Collaborated on Birth Defect Study among babies born to farmworkers in Collier County.
- Evaluated 2006 cholinesterase testing reports from commercial laboratories to the determine percentage of reports that are indicative of pesticide poisonings.

Pesticide Poisoning Surveillance in Florida, 1998 - 2005

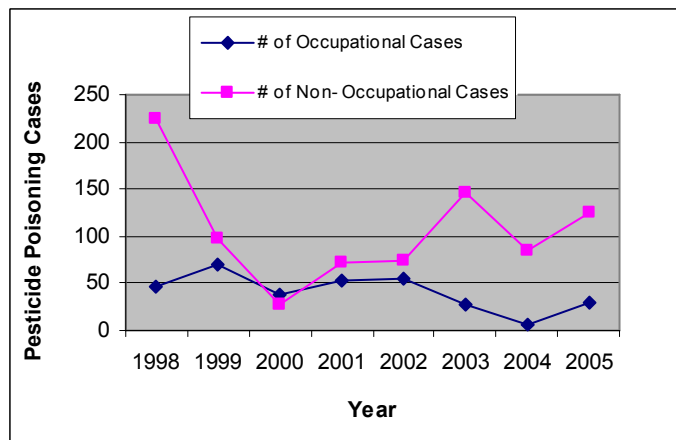
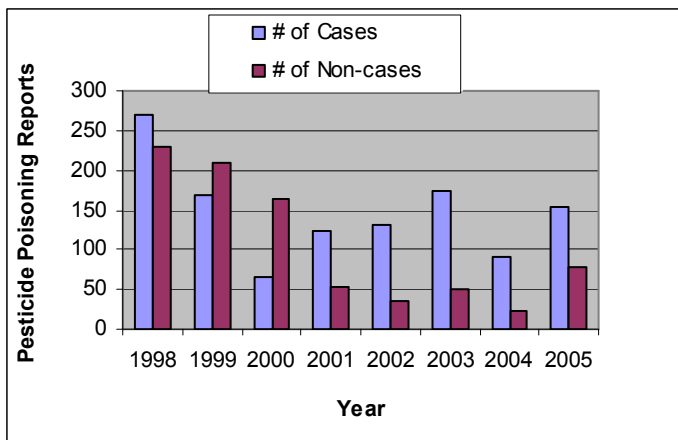
The pesticide poisoning surveillance aggregate report is based on passive ascertainment of pesticide poisoning incidents recorded over a period of eight years, from 1998 to 2005. There were 2,019 exposure incident reports collected from surveillance partners such as the Florida Poison Information Center Network and County Health Departments. Other reporting sources included exposed persons, public, media, and other non-traditional sources namely fire departments, and Emergency Response Services (EMS). The information reported were first screened for completeness. Additional information was collected by interviewing cases, witnesses or proxies and by reviewing medical records, laboratory reports, and regulatory field inspection reports. Pesticide toxicity information was gathered from pesticide toxicity profiles and texts and epidemiological case studies.

A case was defined as a person who experienced acute adverse health effects resulting from pesticide exposure. Cases were classified based on the exposure evidence, adverse health effects and pesticide toxicity per National Institute of Occupational Safety and Health /Sentinel Event Notification System for Occupational Risk (NIOSH/SENSOR) case definition guidelines. Poisoning severity was determined using the same guidelines and was based on the number of days hospitalized and/or number of days absent from work or normal activities. Routine descriptive analysis was performed to determine disease trends and distribution. Categorical variables such as case classification, disease severity, chemical group, occupation type, and other characteristics typical of the disease were used to describe cases. The relationship between exposure outcome and age and gender was also examined.

Of the 2,019 exposure incidents, 1,175 (58%) were classified as cases and 844 (42%) as non-cases, (Graph 1). For all cases (1,175), 153 (13%) were definite, 176 (15%) probable, and 846 (72%) possible. Of the 1175 cases, 851 (72%) were due to residential exposures (non-occupational) and 324 (28%) were as a result of work-related exposures, (Graph 2). Among the 324 occupational cases, 138 (43%) were agricultural workers (Graph 3). Qualitative assessment of the tasks at the time of poisoning, indicated that most agricultural workers were exposed from pesticide drift while working in the fields or nurseries and not from mixing/loading or applying of pesticides. The most frequent task that contributed to poisoning in residential cases was application of over-the-counter pesticides which included insecticide foggers.

Graph 1: Pesticide Poisoning Cases vs. Non-cases Florida, 1998-2005

Graph 2: Pesticide Poisoning Occupational Cases vs. Non-occupational Florida, 1998-2005



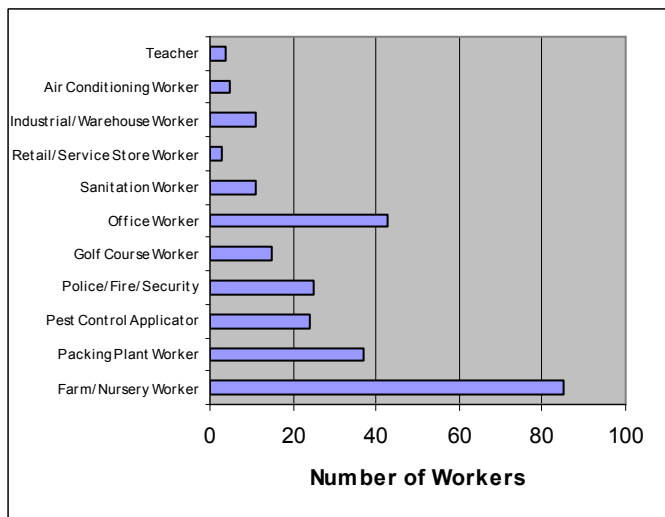
Most of the non-occupational exposures occurred in Manatee, Miami-Dade, Palm Beach, and Duval counties whereas Collier, Manatee, and Pinellas counties reported most occupational cases.

A descriptive analysis of all cases, indicated 45% male and 54% female with 1% missing gender fields. The age groups 30–39 years and 40-49 years had the largest percentage of poisoning incidents (17% and 20% respectively). The age group with the least poisoning incidents (5%) was 70 years old and older. Children (0-9 years) accounted for 7% of all poisoning cases. Age data were missing for 14 % of cases.

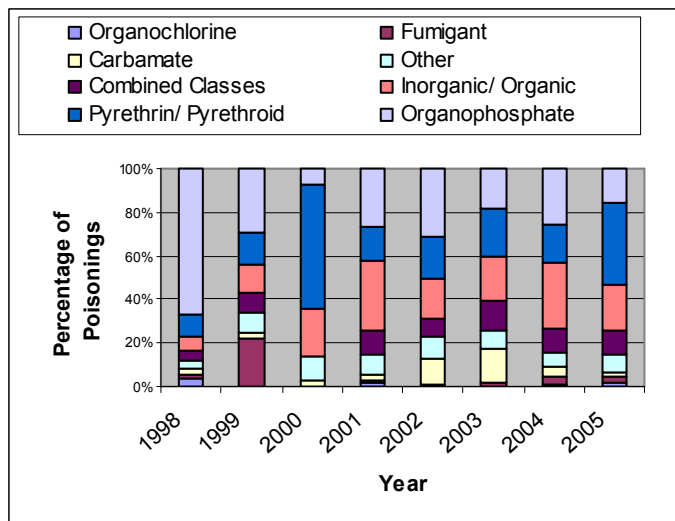
Most of the non-occupational exposures occurred in Manatee, Miami-Dade, Palm Beach, and Duval counties whereas Collier, Manatee, and Pinellas counties reported most occupational cases. The high number of cases in Manatee were due to a single incident of Malathion poisoning in 1998.

The most common pesticides that resulted in poisoning among cases (poisoning by a single pesticide) were organophosphates (33%) and pyrethrins (21%), (Graph 4).

Graph 3: Pesticide Poisonings by Occupation
Florida, 1998-2005



Graph 4: Pesticide Poisonings by Chemical Class
Florida, 1998-2005



Poisoning incidents consisting of two or more pesticide chemical classes (combined classes) accounted for 9% of all cases. The severity of illness among cases were 12% moderate (3-5 days loss time) and 88% low (less than 3 days loss time).

A considerable number of exposure reports (844, 42%) did not result in cases. The discrepancy stemmed from lack of supporting evidence (e.g. exposure verification records, presence of health effects, pesticide type) to classify cases. The small percentage of confirmed (definite) cases (153, 13%) is due to the absence of medical and/or laboratory confirmation of the illness. Most people who become poisoned by pesticides do not seek medical care. First aid treatment is most commonly used among cases and most people recover from their illnesses within hours to a few days. This also contributes to the high percentage (1034, 88%) low poisoning severity rate among cases.

Most pesticide-related cases reported were from residential exposures (324, 28%). These residential exposures were mainly due to indoor air contamination from pesticide application. There were insufficient exposure information for some work-related cases. Access to workers to conduct person-to-person health-related interviews and to gather more detailed description of exposure events was limited. Among the occupational cases, migrant and seasonal farm workers are at highest risk for acute pesticide poisoning especially those who do hand labor such as planting and reaping of plants and vegetables. In such instances, the most common route for pesticide poisoning is pesticide drift. A few cases reported working in areas where pesticides were being applied or were recently applied.

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Recommendations for Prevention and Control of Pesticide Poisonings

1. When applying pesticides, applicators should read the label and apply appropriate precautions to limit exposures. Workers should observe signs for restricted and treated areas.
2. Fogging devices should be used only if necessary. Ready-to-use products (i.e., no mixing is required) should be used whenever possible.
3. People who use or come in contact with pesticides should practice personal hygiene (wash hands, body, hair and clothing after using pesticides).
4. First aid should be applied for immediate response to poisoning incidents and medical care should be sought when symptoms persist or become severe.

Source: Pesticide Exposure Surveillance and Prevention Program Website:
<http://www.myfloridaeh.com/community/pesticide/>

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For more information, visit the Program Website:
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2006 Surveillance Update

A total of 562 pesticide poisoning reports have been received from January 1 to December 30, 2006. More than 80% were reported through the Florida Poison Center Information Network.

A complete report of 2006 pesticide poisoning cases will be available in Spring 2007.

Program Mission: to effectively monitor acute pesticide-related illnesses and injuries in Florida for the identification of potential problems associated with the use of pesticides and to develop, implement and evaluate intervention and prevention strategies to minimize these risks and reduce illnesses.

Program Strategy: to build partnerships with state agencies, academia, community service groups and other stakeholders and interest groups to reduce the incidence of pesticide poisoning by:

1. Capturing relevant information to accurately define the magnitude and distribution of acute pesticide poisonings and to determine the risks of exposures.
2. Providing education to workers and public on how to minimize risks and limit exposures.
3. Facilitating interventions to prevent and control pesticide poisonings.

The Pesticide Poisoning Prevention Working Group is organized to assist in the implementation of the program strategies. By working together we hope to reduce exposure by increasing awareness about risks and to prevent illness by promoting risk-reduction practices.

Pesticide Poisoning Prevention Tips



1. When using pesticides:

- Always read the label first.
- Strictly follow the directions.

2. Use pesticides safely:

- Don't use products for pests that are not indicated on the label
- Don't use more pesticide than directed by the label.
- Don't think that twice the amount will do twice the job.

3. Use protective measures when handling pesticides as directed by the label:

- Wear impermeable gloves, long pants, and long-sleeve shirt.
- Change clothes after applying pesticides
- Wash your hands immediately after applying pesticides.

4. Before applying a pesticide (indoors or outdoors):

- Remove children, their toys, and pets from the area to be sprayed.
- Do not put items back until the pesticide has dried or as specified by label instructions.



Feedback

We are open to suggestions for improving the newsletter and providing information on topics that may be of interest to you.

Please email your questions, concerns, and recommendations to Rosanna.Barrett@doh.state.fl.us.