

PESTICIDE INCIDENT REPORTING AND TRACKING (PIRT)

REVIEW PANEL

SEPTEMBER 18, 2008 MINUTES

DEPARTMENT OF HEALTH

TUMWATER, WASHINGTON

(APPROVED BY PIRT 10/16/2008)

PANEL MEMBERS IN ATTENDANCE:

Robert Arrington, alternate (RA)	Department of Agriculture	(360) 902-2011
Cynthia Lopez (CL), Chair	Department of Health	(360) 236-3340
Steve Cant (SC)	Department of Labor and Industries	(360) 902-9166
Allan Felsot (AF) (phone)	Washington State University	
Rich Fenske (RF)	University of Washington	(206) 543-0916
Vince Hebert, alternate (VH) (phone)	Washington State University	(509) 372-7393
William Hurley (WH)	Washington Poison Center	(206) 517-2350
Barbara Morrissey, alternate (BFM)	Department of Health	(360) 236-3368
Karen Ripley (KR)	Department of Natural Resources	(360) 902-1691
Debby Sargeant (DS)	Department of Ecology	(360) 407-6139
Ann Wick (AW)	Department of Agriculture	(360) 902-2051
Liesl Zappler (LZ)	Public Member	(425) 739.8100 EXT. 481

PANEL MEMBERS ABSENT :

Bridget Moran (BM)	Department of Fish and Wildlife	(360) 902-2589
Vacant	Toxicologist	

OTHERS IN ATTENDANCE:

Debbie Carter (DC)	Northwest Horticulture	
Jim Fitzgerald (JF)	Far West Agribusiness	
Steve Gilbert (SG)	Independent Toxicologist	
Jim Halstrom (JH0)	Washington State Horticultural Association	
Heather Hanson (HH)	Washington Friends of Farms and Forests	
Uriel Inriquez (UI)	Commission for Hispanic Affairs	
Jim Jesernig (JJ)	Washington Potato Commission	
Alice Larson (AL)	Public	
Sherrise Martin (SM)	Department of Health	(360) 236-3360
Kirk Mayer (KM)	Washington Growers Clearinghouse Association	
Fran McBride (FM), Coordinator	Department of Health	(360) 236-3367

Joanne Bonnar Prado (JBP)	Department of Health	(360) 236-3172
Carl Schroeder (CS)	House Democratic Caucus	
Jennifer Sievert (JS)	Department of Health	
Bryan Stewart (BS)	Dow AgroSciences	

The meeting started at 9:34am. CL announced that FM is recording the meeting to assist with writing the minutes. The PIRT-approved minutes are the official meeting record. CL introduced DS, the new Ecology designee, who has been working with WSDA on a study of salmonid streams. CL ascertained that a quorum was present (CL, SC, RF, WH, DS, LZ, AW and KR). Members of the public introduced themselves. There were technical difficulties with the conference call system. CL reported that there was no news on the toxicologist position. Calls and emails to the Governor's Office have gone unanswered.

September 18 agenda: KR moved to add a discussion of the letter to Representative (Rep.) Campbell on roadside vegetation management to PIRT business. LZ seconded, all were in favor. KR moved to approve the agenda as amended. WH seconded, all were in favor.

July 15 minutes: FM will correct initials for a seconded vote on page one, and change "added" to "calculated" on page two. LZ moved to approve the amended minutes. AW, DS and RF abstained because they were absent from the July 15 meeting. (Abstentions do not affect the quorum.) All else were in favor.

July 17 minutes: CL gave additional language to a discussion on page four. KR had minor corrections to typos. KR moved to approve the amended minutes. LZ seconded, AW and DS abstained because they were absent from the July 17 meeting. All else were in favor.

August 7 minutes: FM will correct initials on page four and a typo on page five. WH moved to approve the minutes. AW and DS abstained because they were absent from the August 7 meeting. All else were in favor.

Science Corner: "Organic Diets Significantly Lower Children's Dietary Exposure to Organophosphorus Pesticides"

RF presented the paper "Organic Diets Significantly Lower Children's Dietary Exposure to Organophosphorus Pesticides" (see <http://www.doh.wa.gov/ehp/Pirt/pirt-meetings.htm>). In this study, researchers recruited twenty-three elementary school aged children whose families did not use pesticides in the home. During the fifteen-day study period, children consumed conventional foods on days one through three, were given organic foods on days four through eight, and went back on their conventional diets afterward. Parents were given organic food to replace items the children would normally consume. Twice a day, parents collected urine samples, which were analyzed for metabolites of organophosphates, pyrethroids and herbicides. Organophosphate exposure was the focus of this study, as this class of pesticides is known to cause neurological effects. All the children had detectable levels of metabolites of malathion and chlorpyrifos when they enrolled in the study. Median urinary concentrations of these metabolites decreased to the nondetect levels immediately after the introduction of organic foods, and stayed there until reintroduction of conventional foods.

Dietary intake represents the major source of exposure of these chemicals for infants and children. This study did not measure exposure per se, but measured metabolites in urine. There is much

uncertainty about the usefulness of metabolite assays. There is no easy way to accurately measure exposure, especially in children. Blood samples are not feasible, and testing is expensive. Urine samples are easily obtained. (At this point, AF, RA, DC, SG and AL were on the phone.)

Discussion: Metabolites are not the best measure for risk assessment. Determining what pesticide residues are in food when consumed is complicated. The study was simply designed to show whether there was a difference in pesticide exposure when an organic diet was substituted. It does not say anything about health of the children or whether or not they were harmfully exposed. There was no acute risk going into this study. The area of scientific uncertainty is children's neurodevelopment. There is much debate on what a safe exposure threshold is, and whether it is the same for different developmental phases.

2008 PIRT Report

WPC: WH presented this section. The number of calls to WPC about pesticide exposure has not changed significantly over the last four years. In the next version, he will comment on the increase in borate/boric acid calls in 2007 and list specific compounds in this category, mention the plateau in numbers of pyrethrin/pyrethroid cases, add a "death" severity definition, and describe the 2007 "major effect" and "death" outcome cases. BFM gave some details of the death case. Officially, glyphosate was ruled out as the cause of death, as none was detected in the patient's blood. The death instead appears to be from another herbicide and is consistent with toxicity of surfactant ingestion. WH will add that the patient drank the compound and subsequently died from either glyphosate or the inert ingredient.

RF thought it would be worth looking more closely at which compounds young children are exposed to. WH said that the 843 calls about pesticide exposure in children under age six parallels the overall experience of all WPC exposure calls. KR asked whether the denominator for various age groups and total population could also be listed.

ACTION: FM will add discussion of correlation of WPC insecticide calls to letter on foggers to possible agenda items.

WSDA: AW reported a significant drop in the number of complaints received by WSDA. 2007 had the lowest number since 1991. An increase in bee kills in 2007 may be a result of beekeepers observing their hives more closely due to Colony Collapse Disorder. Drift was the most common complaint. She clarified that although WSDA can determine that drift occurred, they cannot always take action on complaints. Detection of herbicide residue off target does not always result in a notice of correction. Proving the violator's identity could be difficult when there are a number of possible applicators. LZ asked whether fines for drift should be higher; AW replied that fines are set in statute based on human exposure and environmental health. Panel members suggested adding language to page five to indicate the number of drift cases that were verified, and providing more detail about endosulfan and azinphos methyl complaints on page twelve.

L&I: SC reported on this section. The transition to a new laboratory for 2007 cholinesterase testing makes it difficult to compare this year's data to prior years' data. The number of employers participating in the monitoring program has dropped off. One reason may be that employers have had an easier time identifying employees who need testing. The number of DOSH inspections doubled in 2007; these were predominantly in agriculture. Panel members suggested adding a link to the 2007 cholinesterase report, listing the number of consultations and the top findings from them

in a new table, and adding a sentence discussing the increase in cholinesterase action level alerts from 2006 to 2007.

ACTION: Section leads will send revised sections to FM, who will email them to the panel at least two weeks before the October 16 meeting.

Public Comment

KM commented on the variability in cholinesterase results in 2004 and 2007, as these were the start-up years for testing in new laboratories. He suggested that SC note in the L&I section that no symptoms have been reported by participants since the monitoring program began.

SG complimented the panel on reviewing report sections early and talked about public dissemination of this information.

RF moved to break at 11:36. WH seconded, all were in favor.

The meeting resumed at 11:47. At this point, AF left the meeting and VH was on phone.

Air Monitoring for Organophosphates

RF gave an update on his air monitoring study for organophosphorus pesticides. The sampling for Phase One (early spring) took place in the Yakima Valley and in the greater Wenatchee region. The sampling for Phase Two (late spring) took place in the Yakima Valley only. In Phase One, four sites were sampled every day for approximately one month in each of the two regions. Three of these sites were near orchards and one was distant from orchards. Additionally, one application event was sampled using methods developed by the California Air Resources Board. Air samplers were placed around the perimeter of the orchard block. Samples were collected the day before application, on the day of application, and for two days post-application. In Phase Two, because the application period was much longer, samples were collected every third day. Phase One samples from every other day were submitted to the laboratory, in conformance with the recommendations of the Technical Review Panel. Alternate day samples are in storage. All Phase Two samples will be analyzed. Phase One samples have been analyzed for both chlorpyrifos and its oxygen analog, chlorpyrifos oxone. Phase Two samples are being analyzed now. Researchers are currently completing quality assurance activities.

In discussion of a public meeting on air monitoring in Yakima in conjunction with the PIRT meeting, it came to the panel's attention that a large meeting on agricultural health and safety takes place over November 13, the day of the scheduled PIRT meeting in Yakima. Discussion of rescheduling the November meeting took place later during this meeting. The panel decided to hold the public meeting on November 20, after the PIRT meeting in Yakima.

EPA Decision on Metam Sodium

VH summarized the EPA reregistration eligibility decision for metam sodium/potassium and its volatile breakdown product, methyl isothiocyanate (MITC). The EPA requires reregistration of pesticides that were first registered before 1984. Because reregistration entails more intensive evaluation, many of these older chemistries have been cancelled, or their uses have been seriously impacted. In July 2008, EPA determined that metam sodium is eligible for reregistration, providing certain information is provided. This means developing risk mitigation measures and filling data

gaps on risks to bystanders from MITC, and amending labels to implement these measures. Of most concern for Pacific Northwest agriculture are the requirements of increased buffer zones for mitigation, public notification, and ambient air monitoring. By 2010, the use of center pivot chemigation in a typical 120 acre crop circle will require a 700 foot buffer zone, and shank injection will require a 225 foot buffer zone. In addition, public notification of application will be required. In areas of high fumigant use, ambient air monitoring will also be necessary. The EPA will also require a number of toxicity studies for metam sodium. There is a tight timeline for implementing these changes.

BFM spoke about what these requirements mean for Washington. A Franklin County crop map was overlaid with a residential parcel map to show the number of homes within different buffer zones. For all potential potato growing fields in Franklin County, she gave an estimate of the number of homes and people that would be affected for different sized buffers. This could have a big impact on Washington growers. Over ten million pounds of metam sodium are applied here per year.

Discussion: AW: The EPA comment period on this decision goes through the end of October. The proposed buffers are of particular concern, as they may potentially cripple many agricultural industries, particularly the potato industry. WSDA is preparing a letter to EPA; she will share this with PIRT. As some MITC applications take two or three days, it is not practical to have residents leave their homes for that length of time plus forty eight hours after the end of the application. Buffer zones also cannot include roads. BFM said that the EPA is looking at different ways to notify diverse populations of upcoming applications. VH added that the EPA is not requiring a particular method for this, but is specifying that effective notification be done in a manner recipients will understand.

ACTION: AW will share the WSDA comment letter with PIRT.

Public Comment

SG encouraged PIRT to think long term about how to manage the increase of residential areas encroaching on agricultural regions. AW said that Washington is sharing information with Idaho and Oregon on a response to the EPA fumigation rule proposal, as all the potato industries in the Pacific Northwest are similarly affected. She commented that industry and research organizations are looking at other pest management methods beside fumigants, but the implementation date of 2010 makes it hard to transition to those methods quickly. CS asked whether providing information on the Northwest experience might persuade the EPA to adjust its buffer criteria. AW said WSDA will be providing that information to the EPA; readjustment of buffer criteria is up to the EPA. The Washington Potato Commission has been providing extensive comment. CS asked about whether there was information on geographic distribution of the forty-five percent of the potato producing acres next to housing. SG would like to see proximity data in PIRT report of residential areas to agricultural areas for the need for pesticide use notification, and stressed the importance of pesticide use reporting. KR informed the panel of the USFS study on land use change in Washington, in which structures are counted and documented. The dataset will show how the number of structures in proximity to agricultural land has changed over time.

ACTION: KR will provide the link to the USFS study to the panel.

DOH Expedited Cases

JBP from the DOH Pesticide Program presented a proposal for moving toward expedited case investigations for certain types of pesticide exposures. The proposal draws from eighteen years of experience in pesticide illness monitoring and investigation. Cases with defined, well-understood scenarios would be routed to an expedited investigation process upon receipt in DOH. The time recouped from expedited case investigation could be used for prevention activities or more extensive data analyses.

JBP sorted WPC report data for non-occupational, residential, and low illness severity, and found about thirty of these cases per year. She randomly selected twenty cases that had previously been investigated, gave these to DOH investigators, and had them determine the outcome, severity and type of pesticide involved, based only on WPC report data. Typically, case investigation involves acquiring medical records, patient interviews, and obtaining the EPA product registration number. She compared these outcomes to findings from complete investigations, and found a seventy-five percent agreement on severity (most DOH cases are low under the NIOSH scheme), and a seventy percent agreement on the product used (though there was some loss of product specificity without the EPA registration number) available. Expedited investigations had a forty five percent definite, probable and possible outcome agreement with the complete investigation. There was a tendency to underestimate outcomes in expedited cases.

DOH needs to consider whether product specificity information is required for these types of cases and whether adequate monitoring requires a final outcome decision. The NIOSH outcome scheme used by DOH was developed for cross state comparison of occupational cases, not residential. Investigators voiced concern about missing educational opportunities with patients and physicians. The Pesticide Program will continue to refine and test the expedited investigation process and document the amount of time it saves, and work toward its implementation in January 2009.

Discussion: Pesticide illness numbers have been generally trending downward. But for past few years, residential cases have been flat. Population increase may be one reason for this. JBP spoke of the time saved versus the loss of specificity and depth of information. There would still need to be some discretion on the part of the investigator as to whether additional information is required. WH will work on providing patient contact information on WPC reports, as they do not always list that information, and on possibly adding the EPA registration number. He also encouraged partnership between DOH and WPC in helping each other with investigation and prevention activities.

ACTION: DOH and WPC will report in two months about collaboration between the two agencies.

Agency Updates

Agriculture: AW reported that a student of MK is conducting a survey on why daycares did not choose to participate in the notification project. This report should be out in a month.

Health: CL reported that the pesticide program is close to finalizing the 2007 cases. The next step is data analysis for the PIRT report. FM reported that she is working with DS on obtaining pieces for the Ecology section.

Labor and Industries: SC reported that the 2008 cholinesterase monitoring season ended. Dr. Dave Kalman from University of Washington is doing comparative analyses with previous years' data.

CL suggested the topic of Colony Collapse Disorder, as mentioned in the WSDA report discussion in this meeting, as a potential 2009 agenda item.

ACTION: FM will add this to the list of potential agenda topics.

PIRT Business

Letter to Rep. Campbell on Pesticide Use Reporting and Roadside Spraying: CL reported that she interviewed people involved in pesticide use reporting in California, Oregon and New York. The pesticide use reporting subcommittee has not been able to meet. PIRT discussed sending the letter to Rep. Campbell on roadside vegetation management separate from the pesticide use reporting letter. There were no changes to the roadside vegetation management letter since the last meeting. AW moved that the panel send this letter. CL seconded, and clarified that the motion authorized the roadside spraying subcommittee to send the letter and left last minute changes to KR's discretion. All were in favor. The pesticide use reporting subcommittee (AW, CL, WH and LZ) will meet and present the draft letter at the October meeting. RF and DS volunteered to review the letter. AW clarified that she is willing to serve as a resource but not provide recommendations on the topic.

ACTION: FM will add the pesticide use reporting letter to the October agenda. FM will provide PIRT letterhead and other assistance to KR for the roadside spraying letter.

October Agenda

- WPC, L&I and WSDA revised sections
- Ecology section
- Executive Summary discussion and subcommittee (forming a subcommittee of members who do not contribute a chapter to the PIRT report (KR, LZ, AF, RF, BM and toxicologist, if available. KR will chair.)
- Discussion of November agenda
- Pesticide use reporting letter

SC moved to approve the October agenda, and AW seconded. All were in favor.

November PIRT Meeting in Yakima

A scheduling conflict with a large NIOSH event will prohibit several PIRT members from attending the November 13 meeting in Yakima. CL moved to move the meeting ahead to November 20. RF seconded; all were in favor. FM will schedule an air monitoring public meeting on or around this date. PIRT agenda items will include Dr. Anneclaire De Roos on the agricultural health study, and the 2008 PIRT report. SC moved to approve the agenda; AW seconded. All were in favor.

Public Comment

Uriel Inriquez, director of the Commission on Hispanic Affairs, mentioned fear of employer dismissal as being a factor in underreporting of incidents and accidents in eastern Washington. He asked that agencies continue to work to protect workers so we can obtain more accurate information and make decisions based on valid numbers. Another issue is the relationship between physicians

and people receiving treatment. Agricultural workers expressed concern about misdiagnosis and lack of clinician knowledge about pesticide issues. He asked that information from the PIRT report be provided in terms more easily understood by the general public. He was also disturbed about the problems associated with the death case discussed earlier.

CL replied that DOH and WPC worked together extensively to investigate why DOH did not immediately receive the report of the death case. The mandate is to provide the PIRT report to legislators, agency heads, and the Governor's Office. PIRT could do better in terms of providing a summary of the executive summary or a fact sheet in layman's terms, and a Spanish translation.

CL suggested adding a brainstorming session and panel discussion at the November meeting to figure out how to work together on underreporting. AL stressed the importance of asking farm workers and growers for their input, doing outreach in the community to encourage people to attend, and finding out from the community the best means to communicate with the public. Underreporting occurs at both the agricultural worker and the clinic level. RF will talk to Dr. Matthew Keifer about his collaboration with DOH on underreporting by hospitals and knowledge base of clinicians.

CL proposed one hour on this topic, with multiple speakers and a panel with people from clinics and people in the field. AW suggested leaving time flexible for public comment. LZ seconded, all were in favor. AW recommended contacting Mike Gempler, who has experience with the migrant population and labor needs.

ACTION: FM will reschedule the meeting for November 20 and contact Dr. Anneclaire De Roos about the schedule change. She will schedule a public meeting on air monitoring proximate to the November PIRT meeting.

ACTION: CL will contact Mike Gempler.

KR moved to adjourn the meeting. AW and LZ seconded, all were in favor.

Future 2008 PIRT Meetings

October 16	Labor and Industries	Tukwila
November 20	Department of Agriculture	Yakima

See <http://www.doh.wa.gov/ehp/Pirt/pirt-meetings.htm> for agendas, directions and meeting materials.