

US EPA ARCHIVE DOCUMENT

November 26, 2012

Dear PPDC Members,

The attached summary of work done by the Workgroup on Pollinator Protection is provided to you as background materials in preparation for the PPDC meeting November 29-30, 2012. The Pollinator Protection Workgroup is a large and diverse group of committed stakeholders working hard to address the numerous and complicated issues associated with pesticides and pollinator protection. To better address the complexity of the topics, the workgroup was split into 4 subgroups, each one focusing on a specific aspect or category of issues: Labeling, Best Management Practices, Communication/Education and Training, and Enforcement.

The challenges before each of these groups differed and the summaries by the respective groups reflect this. There was some overlap in topics addressed by the different subgroups but will not result in duplicity.

The Workgroup will meet the day before the full PPDC and will continue to identify and clarify recommendations for action.

/s/

Richard Keigwin

Donald Brady

Co-Chairs of the PPDC Pollinator Protection Workgroup

### **Proposed Summary of the Labeling Subgroup**

Co-leads: Marylou Verder Carlos and David Epstein

Over the past months, the PPDC Labeling subgroup has taken a number of steps to identify and reach consensus on potential improvements to pollinator protection statements. Among the materials that it has developed and considered over the past year include:

- Overview of current pollinator protection statements used on EPA labels
- Overview of pollinator protection statements used in the European Union
- Survey of beekeepers regarding pesticide-related bee kills, including attractiveness of crops to bees
- Survey of state lead officials at a PREP course regarding pollinator protection statements
- Review and discussion of EPA's label review manual requirements for pollinator protection statements
- Review of proposal from WSDA regarding suggested revisions to EPA's label review manual requirements for pollinator protection statements
- Review of draft Pesticide Registration Notice 2000-X on pollinator protection statements and the public comments OPP received in response to that draft Notice.

#### **Issues Discussed by the Labeling Subgroup**

- The Subgroup identified that there was some variation in pollinator protection statements on product labels. The Subgroup also discussed throughout many of its meetings, the lack of clarity in certain pollinator protection terms. While the need for clearly defined terms applies to all parts and terms of the pesticide label, the Labeling subgroup talked about the challenges surrounding some of the current language, i.e., "visiting" and "actively visiting" and the burden to the grower or applicator who must interpret these terms without definitions as a guide.
- The Subgroup discussed the difference between, and implications of potential exposure between crops that require pollination and those that do not.
- The Subgroup discussed where pollinator protection language may be placed on product labels, e.g., certain language may be appropriate under the "environmental hazards" section and other may be appropriate to place in "directions for use."
- The subgroup discussed the need to strike a balance between protecting crops and protecting bees.
- Communication continued to be brought up as a key component for any scenario that did or may work in the future.
- The concept of residual toxicity and how it may be used to potentially reduce exposure was raised throughout the discussions of the subgroup. The Subgroup discussed where such information would be placed, and noted the difficulty in that this information is not available for all compounds.
- The subgroup also spent time discussing the draft Pesticide Registration Notice 2000-XX and the public comments OPP received from that notice. In general, many of the concerns and issues

discussed by the Subgroup were also identified in public comments submitted to OPP in response to draft PR Notice 2000-XX. The subgroup attempted to draw out primary concepts identified in its discussions and in the comments received from PRN 2000XX in order to find consensus in order to assist EPA with their development of proposed revisions to the existing pollinator protection statements. Where we found consensus we state it as such, where we did not we describe the discussion.

#### Issues Discussed Where Consensus Was Reached

- We acknowledge the difficulty of developing pollinator protection statements, and emphasize the importance of cooperation among all concerned parties. The Subgroup is in agreement that we need to protect bees from pesticide exposures and protect crops from pests. (The Subgroup discussed whether pesticide labels should be focused on protecting honey bees, managed bees, or all bees. Some participants felt that it was important to clarify that the honey bee is considered as a surrogate for non-*Apis* bees as discussed in EPA's White Paper for the Pollinator Risk Assessment for the FIFRA Scientific Advisory Panel.)
- The Subgroup is in agreement that there is a need for clearer pollinator protection statements and definitions for terms used by EPA.  
The Subgroup is in agreement that restrictions should be similar for pesticides with a similar risk to bees.  
The Subgroup is in agreement that providing a source of information for local BMPs to protect bees could be beneficial.

#### Issues Discussed Where Consensus Was Not Reached

- Need to provide pesticide applicators with the length of residual toxicity (RT<sub>25</sub>) for the pesticide formulation. (Generally, participants in the Labeling Subgroup seemed to feel that this information would be useful. However, some participants felt that this information should not be placed on the label, while other participants felt that it should be placed on the label.)

#### Issues That Were Identified but Not discussed

- Need to address pesticide drift onto blooming plants.
- Greater restrictions to protect bees are warranted for pesticides that have an extended residual hazard to bees (RT<sub>25</sub> greater than 8 hours) when they are used on blooming plants. Restrictions for pesticides that do not have an extended residual hazard to bees (RT<sub>25</sub> 8 hours or less) could be more flexible.
- Consider developing different pollinator protection statements for other uses of pesticides (such as pesticides intended for use by homeowners).

## Summary of Considerations of the Best Management Practices Subgroup

Co-chairs: Bret Adee and Rich Bireley

Discussions of the BMP Subgroup have evolved over numerous calls during the past year. The Subgroup initiated discussions by identifying BMP's which are protective of bees and applicable to pesticides applied to commercial agricultural crops. Later conference calls included discussions regarding mechanisms to disseminate BMP's, and BMPs that were applicable to in-hive use of pesticides. The group recognized that BMP's are not considered regulatory requirements, however, the Subgroup also agrees that when BMPs can be shown to provide direct benefits to the users, the BMP(s) often are adopted rapidly by stakeholders. Discussions of the BMP Subgroup also touched upon topics that were discussed in other subgroups. For example, the Labeling Subgroup also discussed residual toxicity time (RT25), and the Education/Communication Subgroup discussed the need for improved education materials for stakeholders. (The convergence and overlap of topics, between Subgroups, is indicative of issues and concepts that are complementary and mutually supportive.) The Subgroup also notes that some of the issues it discussed were also raised at the National Stakeholders Meeting on Honey Bee Health, held October 15 – 17, (e.g., the importance of communication and information organization and dissemination). Below, is a summary of the findings and considerations of the BMP Subgroup, where the issues have been organized into "General Recommendations" and "Key BMP Recommendations". Finally, note that while early in the process, group consensus was not generally achieved, the group believes the following recommendations and suggestions have full group consensus.

### General BMP Recommendations/Action Steps

1. *Develop a Plan to Coordinate and Distribute BMPs.* This could be accomplished by the following methods:

- A. Create a national BMP portal at either EPA or USDA. This portal would target federal such as BLM, Forest Service, Fish and Wildlife, and others. In addition, more regional BMPs would be targeted for states, crops and pesticides. A national portal would likely require a staff person to maintain, update and ensure links are life. See below for more details. This portal would allow stakeholders to select a state or region and drill down to get regional and crop-specific BMPs to enhance pollinator protection. The stakeholder could bookmark the regional and crop-specific information to save steps in the future. EPA or USDA could/would coordinate with state, regional, or university-generated BMP sites to capture local BMPs. BMPs are best if based on local conditions. The NC State site managed by Wayne Buhler was discussed as a high link or possibly a model of what is needed. Another source of BMP information includes: [http://www.extension.org/bee\\_health](http://www.extension.org/bee_health).
- B. Alternatively, encourage USDA/EPA to create BMPs for stakeholders and distribute BMPs to existing websites. This would negate the need for staff to maintain and update sites. Staff would find, collate and distribute pollinator protection BMPs to any interested group with a website. A coordinated effort with NAPPC and Pesticidestewardship.org might be effective.

- This link (<http://www.pollinator.ca/canpolin>) is to a Canadian portal that is rather simple but is similar in design to what the BMP subgroup discussed.
- Model for BMP regions could follow current EPA region designations.
- The Subgroup encourages EPA and the USDA to provide one or two links on their respective websites to top BMP sites such as the Pesticide Environmental Stewardship (PES) web site. The PES site already lists many federal and state BMP links. USDA has its own portal called eXtension. This site has BMPs and some links but may not be quite as accessible as the PES site.

2. *Standardize training for Pesticide Advisors and Pesticide Applicators across the U.S. to include more information on the protection of pollinators.* Note that honey bees and non-*Apis* bees need protection in non-contract crops so they will be available for crops that require pollination.

- Training to include how bees can visit non-pollinated crops and/or weeds near target crops and be unintentionally impacted there by both direct spraying and pesticide residues. Include education on the toxicity of various pesticides and encourage least-toxic alternatives.
  - Aerial Applications:
    - Include training materials on when and how to make safe pesticide applications at night.
    - Address tools such as GPS and lighting.
    - Use onboard aircraft weather information (wind speed, direction, humidity, temperature) as tools to reduce drift.
  - Encourage clean-up following applications to ensure bee attractive puddles are not left. Consider adding vinegar to the puddles if there is potential for pesticide residues in the puddle water.
  - Recognizing that growers need to manage pest infestations, encourage growers to avoid and/or minimize pesticide use altogether during bloom where possible.
  - Encourage growers to avoid pesticide use altogether during bloom if possible.

3. Organize or identify non-crop refuges, free of pesticides, for honey bees and other pollinators. A registry could be developed on a state basis that lists land that will not be treated with pesticides such as federal or state lands or private property. Consider that public easements and CRPs could be included. These include rights of way along roads and highways. Local agencies may need guidance on how to better manage herbicide applications to these areas. Sources of information include NAPPC and the Syngenta pollinator protection guidance. Recommendations include: integrated vegetation management (IVM) practices on Federal and state highway right-of-ways (ROWS) managed by State Departments of Transportation (DOTs) as well as along gas line and electrical line right-of-ways. IVM practices include enhancing plantings of native forbs, grasses, and particularly, legumes that provide habitats for pollinators. While legumes may not be native, they are a lower cost alternative that provides excellent forage for honey bees, in particular.

4. *Support Research and Initiatives that Demonstrates Benefits of BMP's.* BMPs are more likely to be adopted if they can be shown to maintain or increase yields. Therefore, demonstrations and case studies should be used to determine if there is a difference and how to best integrate specific BMPs into specific cropping systems. Funding might be possible through a variety of sources, including CalDPR, U.S.EPA, and USDA.

*5a. Support the Development of Additional Data on Residual Toxicity (RT25)*

Knowledge of the residual toxicity of a compound is an important element of BMP's. The Subgroup recommends that, if not currently available, research is conducted on the effects of humidity, sunlight intensity, wind, and heat on the residual toxicity time.

b. The Subgroup supported the idea of creating a tool (in the form of an information chart or wheel) to help calculate the residual toxicity based on the formal foliage test and combined with the appropriate local environmental conditions that affect the length of time foliage is toxic to pollinators. These parameters could be used as a guide to either extend or reduce the RT time for site-specific conditions. Example: high humidity and overcast conditions may increase RT time for some pesticide classes. This chart could be available online or through licensing education hours.

*6. Work to Research and Implement Measures to Reduce Dust Drift.* "For compounds applied as seed dressing, follow label directions for the proper application of the products by the seed treatment facility, use and follow instructions found in the user's manual for the proper operation of planting equipment, and consider climatic conditions such as wind speed and wind direction during planting, to minimize the creation and emission of dust from the treated seeds." Continue research into better seed coatings and equipment designed to reduce potential dust off from treated seed. Create new and improve BMPs to reduce potential dust. Continue efforts by equipment manufacturers, seed coating companies, and pesticide registrants to reduce potential dust due to treated seed plantings.

**General Recommendations***1. Create a National Bee Coordinator*

*2. Explore Possibilities to Improve Alternative Forage for Bees.* Organize or identify non-crop refuges, free of pesticides, for honey bees and other pollinators. A registry could be developed on a state basis that lists land that will not be treated with pesticides such as federal or state lands or private property. Consider that public easements and CRPs could be included. These include rights of way along roads and highways. Local agencies may need guidance on how to reduce herbicide applications to these areas. Sources of information include NAPPC and the Syngenta pollinator protection guidance. Recommendations include: integrated vegetation management (IVM) practices on Federal and state highway right-of-ways (ROWs) managed by State Departments of Transportation (DOTs) as well as along gas line and electrical line right-of-ways. IVM practices include enhancing plantings of native forbs, grasses, and particularly, legumes that provide habitats for pollinators. While legumes may not be native, they are a lower cost alternative that provides excellent forage for honey bees, in particular.

*3. Maximize the Benefits of Reserved Land for Pollinators by Ensuring it is not Treated with Pesticides.* Ensure that an untreated, non-crop area, close to the treated crop, is available for pollinators to flourish. CRP acreage in close proximity to a row crop should not be sprayed with pesticides. Minimize herbicide applications that reduce floral abundance.

*4. Support Research on Repellents.* Repellents could be added to bee-toxic pesticides to keep them from foraging in a treated crop or the surrounding weeds.

**Key BMP Recommendations**



1. *Apply Pesticides When Bees are Not Foraging* Wherever possible, based on local conditions, applications of bee toxic pesticides to blooming or nectar producing crops should be done after bees are done foraging for the day and preferably at night (but with a predicted RT interval that is likely to protect bees the following day, based upon forecasted weather conditions).
2. *Clean Water for Bees.* Beekeepers and growers should discuss and address the need for clean drinking water for bees in fields, particularly when the weather is warm. This should include multiple stations. Water does not have to be limited to human-made stations (i.e., a river, lake or pond, if it provides clean water, would do).
3. *Avoid Pesticide Drift.* Keep the product on the intended area/crop.
4. *Employ RT25 Information to Protect Bees.* When applying bee toxic pesticides with a listed RT25 refer to the *Environmental Impacts on Residual Toxicity Chart/Wheel* so that the period of toxicity does not overlap the time when bees are present (see 5b, above for more information).
5. *Compounds with Extended Residual Toxicity.* Do not apply pesticides with Extended Residual Toxicity when that toxicity will extend into the period of bloom.
6. *Resistance Management for Varroacides.* Varroa mites are the key pest that currently impacts bee health and survival. Treatments are commonly required. It is highly recommended to rotate varroacides to reduce/avoid resistance to existing and new products.



## **Summary of the Communication, Training and Education Subgroup**

**Co-leads: Wayne Buhler and Ray McAllister**

In the past year, the Communication subgroup has identified potential improvements to EPA's education and training resources and communication methods with respect to pollinator protection. The subgroup has discussed existing pesticide applicator training programs and targeted effective pollinator protection messages for pesticide applicators, beekeepers and others. This subgroup is focused on identifying vehicles for communicating the findings of the other subgroups as well as strengthening the pollinator protection message across websites, training materials and outreach materials.

### **Summary of Subgroup Findings/Discussions:**

- 1.) There is "no shortage" of materials for training on protecting pollinators from pesticides. It's likely that each state has its own resource(s) through their Land-Grant Univ/Extension Service, and there are many professional societies and non-profit organizations that have materials online or in print.
- 2.) EPA has developed a pre-certification pesticide applicator training manual but it does not elaborate on pollinator protection (1/2 page or so) due to the wide breadth of subject matter covered in the manual. Some states have taken the manual and tailored it for their needs or have chosen to retain/revise their own training manual(s).
- 3.) The best approach to standardizing training is to encourage a uniform and consistent message that correlates to outcomes/outputs from the BMP and Labeling subgroups. In other words, we want to make sure the training is consistent with labeling terms and BMP principles.
- 4.) There is interest in having a centralized website in which BMP's, a glossary of terms, and training resources could be located and easily accessed by educators, pesticide applicators, beekeepers, crop advisors and homeowners. All parties mentioned above could be considered the target audiences, but we agreed that the emphasis should be placed on protecting pollinators from pesticides applied by growers or commercial applicators.
- 5.) We discussed features of two websites: The Pesticide Environmental Stewardship Website (<http://pesticidestewardship.org>), and Project apis m. (<http://www.projectapism.org>), among others, that provide general information on pollinator protection and links to other resources.
- 6.) The subgroup will work with the PPDC Pollinator Workgroup (esp. Labeling and BMP subgroups) to develop a glossary of pertinent terms, BMP's that work in specific areas or regions, and resources available electronically or in print. The resources can be divided into areas that are appropriate for certain audiences, such as professional applicators, growers, and homeowners. The outcomes from the other subgroups are needed to embellish this site and provide a consistent message as indicated above. One example of a website portal to resources is:

<http://pesticidestewardship.org/PollinatorProtection/Pages/Resources-and-Suggested-Reading.aspx>. At this site, there is a collection of articles and fact sheets from various governmental agencies, NGOs, professional associations, agrichemical industry, and Land Grant Universities/Extension Services. Information from these sources can be reviewed and integrated into a single web resource, as appropriate. Decisions on content will need to be made in cooperation and collaboration with the Labeling and BMP subgroups.

### **Summary of the Enforcement Subgroup**

#### **Co-leads: Darren Cox and Gabriele Ludwig**

The enforcement subgroup has been working on the complicated issues associated with enforcement of pesticide regulations with respect to pollinator protection for the past year. There are two main areas of focus: specialized training for the states and a modification of the FIFRA Enforcement Manual for investigating beekill incidents. The subgroup's preliminary recommendations overlap with efforts currently underway in the Agency, specifically, Region 5 is developing guidance on investigating bee kills and Region 7 is leading the Agency's efforts to update the FIFRA Enforcement Manual. In terms of beekill investigations, there is a need for traceability of information from the county to the state to the EPA region to EPA headquarters. Beekeepers have been frustrated at the extreme variability in how seriously state lead agencies (SLAs, i.e. the state department with responsibility for pesticide law enforcement) take requests for investigations of possible pesticide related bee kills. Terms on pesticide labels are often unclear and inconsistent, making enforcement of them difficult.

Based on those experiences, the subgroup has had many discussions. Ideas for process improvements include:

- Develop a check list and standardize training manual for how a bee kill investigation should take place
  - o OECA is in the process of revising the federal enforcement manual for FIFRA. The subgroup has provided discreet suggestions for improvements of the manual by adding relevant pollinator protection information.
    - Also need to look at what individual states have in place already, e.g. WA has provided comments; CA may have relevant materials, but need more states to pay attention the issue.
  - o Separately a check list and/or guidance document that provides more detail should be developed for all states to use
- Develop a method for keeping track of who dealt with what aspect of the incident/investigation/enforcement action. An audit trail.
  - o Example given is that when call 911 there is a log of the call, if there is any police action then there is a log of that action, if determined no action necessary, that is logged. So can assess who has done what or not.
  - o Mi, WA have such procedures in place for their investigations. Can they be emulated, what are other states doing?

- Ensure the requester of an investigation receives a document stating what actions were taken and what conclusions were made.
- Develop guidance for when an incident/investigation/enforcement should or should not be forwarded to EPA.
- EPA or Regions could ask for more information on reports of incidents or investigations.
  - Clarified that an 'incident' is when someone calls to alert they think something was done wrong with a pesticide but don't file a complaint.
  - "Investigation" is when a complaint is filed and the SLA sends out an investigator to interview/take samples/review documents to assess whether something wrong was done, or if something went wrong.
  - "enforcement action" is when as a follow up to the investigation occurs
  - This variability in when something gets reported is leading to confusion how wide spread a problem bee kills are or are not.
- Develop procedures to make it easier to know when what pesticide was used where by both growers and bee keepers.
  - This would reduce the burden on the SLA in conducting investigations as currently may need to ID all landowners within a certain radius and contact each individually to get some idea of pesticide usage. Especially burdensome where many smaller landowners.
  - Not sure what mechanism best to use as pesticide use reporting can't be mandated by EPA per FIFRA.
    - Are there any alternative routes or mechanisms to require growers and bee keepers to keep records of the pesticides they use that are available for EPA or SLA to review up request?
- Clarify whether each state has adequate authority to obtain necessary information to conduct a proper investigation. If not, develop such authority
  - Not clear to subgroup whether all states have authority to go beyond what is required by FIFRA which is access to records of usage of restricted use materials.
    - Some states such as WA and CA clearly require more recordkeeping by growers.

The other issue discussed, was how to get the States more engaged in these discussions. While some states are, others are not at all. Some suggested that the regular SFIREG meetings be the forum to be used to communicate with states about enforcement issues.

- The next SFIRG should be used to encourage comment and improvements on the bee kill investigation aspects of the FIFRA Enforcement Training Manual that OECA is currently revising.
- SFIREG is where the issues of how states conduct investigations are discussed and to determine where better standardization is possible. Can request information on what practices various

states already have in place to see what can be used for development of check list, development of more detailed guidance/training document, development of audit trail procedures, etc.