

# University of Idaho Pest Management Center *Newsletter*



## **Pesticide and Pest management News Update**

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## **What are Biopesticides**

<http://www.epa.gov/pesticides/biopesticides/>

Biopesticides types of pesticides derived from natural materials as animals, plants, bacteria, and certain minerals. For example, canola oil and baking soda have pesticidal applications and are considered biopesticides. In 1998, there were 75 registered biopesticide active ingredients and 700 products.

### **Biopesticides fall into three major classes:**

#### **(1) Microbial pesticides**

Microbial pesticides consist of a microorganism (e.g., a bacterium, fungus, virus or protozoan) as the active ingredient. Each active ingredient is relatively specific for its target pest[s]. For example, there are fungi that control certain weeds, and other fungi that kill specific insects. The widely used strains of Bt. produce a different mix of proteins, and specifically kills one or a few related species of insect larvae. While some Bt's control moth larvae found on plants, other Bt's are specific for larvae of flies and mosquitoes. The target insect species are determined by whether the particular Bt

produces a protein that can bind to a larval gut receptor, thereby causing the insect larvae to starve

#### **(2) Plant-pesticides**

Plant-pesticides are pesticidal substances that plants produce from genetic material that has been added to the plant. For example, scientists can take the gene for the Bt pesticidal protein, and introduce the gene into the plants own genetic material. Then the plant, instead of the Bt bacterium, manufactures the substance that destroys the pest. EPA regulates both the protein and its genetic material; the plant itself is not regulated.

#### **(3) Biochemical pesticides**

Biochemical pesticides are naturally occurring substances that control pests by non-toxic mechanisms. Conventional pesticides, by contrast, are synthetic materials that kill or inactivate the pest. Biochemical pesticides include substances, such as insect sex pheromones, that interfere with mating, as well as various scented plant extracts that attract insect pests to traps. Criteria for classification as a biochemical pesticide often is difficult and

EPA has established a special committee to make such decisions.

### **Examples of Biopesticides**

EPA complete list of biopesticides:

<http://www.epa.gov/pesticides/biopesticides/>

Chitin-- is used for controlling soil nematodes on ornamentals, and food and non-food crops at commercial and residential sites. The active ingredient is isolated from the shells of crustaceans, especially crabs and shrimp.

Acetic acid -- is a common chemical found in all living organisms. Many people are familiar with acetic acid in its diluted form--vinegar. Pesticide products containing acetic acid are used in controlling a diverse group of weeds, including some grasses

Insect Growth Regulators-- Insect Growth Regulators prevent insect larvae from developing into adults. Some are toxicity to fish, aquatic invertebrates, and amphibians.

Floral Attractants, Repellents, and Insecticides-- Natural substances isolated from flowers and other parts of plants. All of them have distinctive odors that give them their attractant and repellent properties.

### Biopesticides Website

Another website that lists many biopesticides is University of Florida:

[http://schoolipm.ifas.ufl.edu/tech\\_np.htm](http://schoolipm.ifas.ufl.edu/tech_np.htm)

The site lists control of pests such as Yellowjackets, Hornets and Bees, Weeds, Ants, Birds, Cockroaches, Flies, Fleas, Mosquitoes, Repellents, Rodents, Stored Product Pests, Termites.

### **Advantages of using biopesticides**

Biopesticides are usually inherently less harmful than conventional pesticides. Biopesticides generally affect only the target pest and closely related organisms, in contrast to broad spectrum, conventional pesticides that may affect organisms as different as birds, insects, and mammals. Biopesticides often are effective in small quantities and decompose quickly, resulting in lower exposures and avoiding the

pollution problems caused by conventional pesticides. When used as a component of Integrated Pest Management (IPM) programs, biopesticides can greatly decrease the use of conventional pesticides, while crop yields remain high. To use biopesticides effectively, however, users need to know a great deal about managing pests.

### **EPA encourages development biopesticides**

Since biopesticides tend to pose fewer risks, EPA generally requires much less data to register a biopesticide than to register a conventional pesticide. In fact, new biopesticides are often registered in less than a year, compared with an average of more than 3 years for conventional pesticides. The Agency requires that registrants submit a variety of data about the composition, toxicity, degradation, and other characteristics of the biopesticide.

### **Mexico Eliminates DDT Use**

On May 18, 2001 the North American Commission for Environmental Cooperation (NACEC) announced that Mexico has managed to eliminate 100% of its DDT use, thanks to a plan developed by the NACEC, not to mention "bold yet prudent leadership in the face of malaria."

The organization issued its statement just days before an international array of environment ministers signed a treaty to ban 12 persistent organic pollutants (POPS). The effort to eliminate global DDT use has drawn fire from some quarters because it was viewed as an attempt to protect people in developed countries from toxic chemicals at the expense of lives lost to vector-borne diseases, like malaria. However, working through NACEC's Sound Management of Chemicals program, the three North American Free Trade Agreement nations--Canada, Mexico and the United States--devised an action plan that enabled Mexico to start phasing out DDT use while, at the same time, revising its mosquito control programs. As a result, Mexico was able

to eliminate DDT use well before the target date set by the North American Regional Action Plan (NARAP).

"Given that DDT had been banned in Canada and the United State in the early 1970s, the focus of action has been in Mexico, where, until recently, DDT was still used to control malaria," NACEC says. "The NARAP guided Mexico in building on its national DDT reduction program by using and evaluating the effectiveness of alternative chemicals and, in particular, various non-chemical controls." "These included community participation in the environmental management of mosquitoes, the use of bacilli and nematodes to control the insects, and improving the Mexican Health Secretariat's surveillance, diagnosis and treatment system," NACEC adds. "Over the past two years, without relying on DDT, malaria cases have been reduced due to this alternative, integrated malaria control process.

Through NARAP, Mexico had committed to an 80% reduction by 2000 and to stopping its use by 2002. The program was so successful that it completely stopped using DDT two years ahead of the plan's goal." Stock- piles of DDT are safely stored or destroyed," NACEC says. "North America is well on the way to being essentially a DDT-free zone, putting it ahead of its commitments under the international POPs treaty." (Source: *Pesticide & Toxic Chemical News*, May 28, 2001)

## EPA Update on Chemically Treated Wood

<http://www.epa.gov/pesticides/citizens/1file.htm#protocol>

Chromated Copper Arsenate (CCA) is a chemical mixture consisting of three pesticidal compounds (arsenic, chromium, and copper) registered for wood preservative uses. EPA is currently reassessing CCA as part of its ongoing reregistration program for older pesticides. EPA's current comprehensive review includes evaluating the potential risks to children on play-

structures made of CCA-treated wood and potential occupational risks from working with CCA-treated wood. Through the Consumer Safety Information Program, the Agency, along with the American Wood Preservers Institute (AWPI), is currently working to strengthen information available to consumers for CCA-treated wood. This program includes placing labels on all pieces of CCA-treated lumber, establishing in-store displays, and making additional information available to the public.

## Approved Section 18 and 24c Labels for Idaho

### Section 18

Name	Crop	Pest
chlorine dioxide Section 18 SLN	Potatoes	Late Blight

### Section 24c

Name	Crop	Pest
Admire 2 (Imidacloprid) Section 24c	Hops	Hop Aphid

Details of all section 18 and 24(c) labels can be found at:

<http://www.agri.state.id.us/agresource/section.htm>. For more information contact George Robinson, Agriculture Program Manager (Pesticide Registration), Idaho Dept. of Agriculture. (208) 332-8593.

### Pesticide Labels and Databases

PICOL: A searchable database that provides pesticide label information for Washington and Oregon. <http://picol.cahe.wsu.edu/>

Kelly Solutions: A searchable database for pesticides registered in Idaho. Database is not complete. <http://www.kellysolutions.com/ID/>

## **Pesticide Labels Online:**

CDMS:

<http://www.cdms.net/pfa/LUpdateMsg.asp>

Greenbook : <http://www.greenbook.net/>

Bluebook Ornamental:

<http://www.bluebooktor.com/>

## **EPA Issues Notice on Spray Drift**

After years of delay, EPA's Office of Pesticide Programs last week issued a draft Notice proposing to clarify and enhance its guidance on generic, spray drift label statements.

The draft available on August 17, does not apply to fumigants or adulticides. There has been a constant call from some sectors, including activist groups and organic growers, for greater regulatory efforts to mitigate the adverse effects of agricultural pesticide drift.

"Pesticide spray drift continues concern to EPA in its responsibility to ensure that pesticide use does not cause unreasonable adverse effects to human health and the environment," says the draft. "Each year, states receive about 2,500 complaints from individuals.

The drift issue has been vexing growers, and their neighbors, for decades. OPP expects improved and more consistent label statements for controlling pesticide drift and protect human health and the environment."

OPP acknowledges, however, that downstream jurisdictions are best suited to address unique situations like regional weather and population density. "Many states and tribes," says the draft, "have restrictions and policies for controlling spray drift, including requirements of no-spray zones for certain or all pesticides, maximum spray release heights, and allowing applications only during certain wind speeds.

EPA does not intend for its new guidance to conflict with or supersede more stringent restrictions by states or tribes." OPP notes that the draft "does not apply to products labeled

solely for indoor use; products labeled for outdoor use which are applied in a form other than a spray or dust, such as a granular formulation; fumigant products, due to their different physical state and behavior (vapor rather than liquid or solid particles); and mosquito adulticide products labeled solely for use in public health programs. These and certain other products will require special consideration for appropriate labeling."

### **Proposed Label Statements**

The label statements proposed by the draft for products applied as sprays (except home and garden products), include:

- "Do not allow dust to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals."
- "For orchard/vineyard airblast applications, do not direct spray above trees/vines and turn off outward pointing nozzles at row ends and outer rows. Apply only when wind speed is 3-10 mph at the application site as measured by an anemometer outside of the orchard/vineyard on the upwind side."
- "For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3-10 mph as measured by an anemometer. Use (registrant to fill in blank with spray quality, e.g. fine or medium) or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or the crop canopy."
- "The applicator also must use all other measures necessary to control drift." The label statement proposed by the draft for hand-applied products, including home and garden products to be applied as sprays or dusts, are:

- "Do not allow spray (or dust) to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals. Apply only when wind speed is not more than 10 mph. For sprays, apply largest size droplets possible."

In explaining its rationale for the label statements, OPP says it addressed the most important variables affecting drift: wind speed, nozzle placement, spray quality or droplet size, and application height. "

The Agency believes wind speed should be measured at the application site with an anemometer, an inexpensive instrument for this purpose. Measuring wind speed outside of orchards and vineyards and on the upwind side, rather than inside, gives a measure before trees or bushes obstruct the wind and is relevant to drift that may move above the orchard canopy or beyond the rows. Specific application technology is constantly changing and was not incorporated into label statements to give applicators flexibility in using a choice of evolving technology to achieve the desired results. EPA supports the use of new application equipment and methods to improve pesticide applications and reduce risks.

"Some stakeholders," the draft continues, "have expressed concerns that specific application restrictions may be impractical in certain application situations, such as in areas where windy conditions are very typical. Also, some enforcement authorities may be unable to determine whether or not an applicator followed certain specific application requirements, such as proper application height. However, the Agency believes the importance of these application restrictions generally outweighs these concerns because when followed these application practices will significantly reduce drift and therefore potential risks to people and the environment."

OPP has slated Oct. 1, 2003 as the completion date for approving drift statements on labels. OPP had not published a Notice of Availability and a docket number for the draft.

(Source: *Phil Zahodiakin in Pesticide & Toxic Chemical News*, August 20, 2001)

## **EPA Federal Register Notice**

(Sept 7 – Sept 19, 2001)

### **Comment Period for Azinphos-methyl and Phosmet**

<http://www.epa.gov/fedrgstr/EPA-PEST/2001/September/Day-13/p23004.htm>

EPA released several Benefits Assessments for azinphos-methyl and phosmet. The documents are a biological and economic assessment caused by potential modification to existing use patterns. This Interim Eligibility Decision (IRED) is a partial decision on 17 of the 43 use sites for phosmet. The Agency is making a partial decision on this pesticide because phosmet and azinphos-methyl benefits are linked. The phosmet use sites that are not addressed in this document will be addressed once the azinphos-methyl IRED is completed. Comment period ends November 13, 2001. Contact Diane Isbell, (703) 308-8154; and e-mail address: [isbell.diane@epa.gov](mailto:isbell.diane@epa.gov). Or Carol Stangel (703) 308-8007; and e-mail address: [stangel.carol@epa.gov](mailto:stangel.carol@epa.gov).

### **Comment Period for Endosulfan**

<http://www.epa.gov/fedrgstr/EPA-PEST/2001/September/Day-13/p23002.htm>

Risk assessments developed as part of EPA's process for making pesticide Reregistration Eligibility Decisions (REDs) and tolerance reassessments for endosulfan. Comment period ends November 13, 2001. Further Information Contact: Stacey Milan: (703) 305-2505; e-mail address: [milan.stacey@epa.gov](mailto:milan.stacey@epa.gov).

### **Comment Period for Butylate**

<http://www.epa.gov/fedrgstr/EPA-PEST/2001/September/Day-11/p22754.htm>

EPA released risk management decision for butylate, and the human health risk

assessment. EPA indicates that butylate itself, poses no risk concerns, therefore, no risk mitigation is needed. The existing butylate tolerances remain in effect, until a full reassessment of the cumulative risk from thiocarbamate pesticides, including butylate, may be needed and is considered. Comments period ends October 11, 2001.

**Clethodim - Established Tolerances**

EPA established tolerances for combined residues of clethodim in or on green onion, leaf lettuce, Brassica, head and stem, subgroup, flax seed, flax meal, mustard seed, canola seed, and canola meal. <http://www.epa.gov/fedrgstr/EPA-PEST/2001/September/Day-17/p23086.htm>