

Toxicity of Insecticides to Honey Bees & Bumble Bees

Do NOT apply on blooming plants or when blooming weeds are present	Apply ONLY during late evening when temperature is below 70°F	Can be applied at any time with reasonable safety to bees
Acephate (Orthene) Bifenthrin Carbaryl (Sevin) Clothianidin* Cyfluthrin Esfenvalerate Gamma-Cyhalothrin Imidacloprid* Lambda-cyhalothrin Permethrin Thiamethoxam*	Acetamiprid* Deltamethrin Horticultural Oils Insecticidal Soap Malathion Neem (Azadirachtin) Pyrethrins Spinosad	<i>Bacillus thuringiensis</i> ("Bt") Capsaicin (Hot Pepper Wax)

*Neonicotinoid insecticides

Adapted from: PNW 591 "How to Reduce Bee Poisoning from Pesticides"

For More Information

Oregon State University

Extension Service

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Oregon Sustainable Beekeepers

<http://oregonsustainablebeekeepers.org>



What Are Neonicotinoids?

Neonicotinoids are insecticides labeled to control a broad range of insect pests on a wide variety of ornamental plants & some edible plants as well. Recent research suggests neonicotinoids may harm pollinators such as honey bees.

The European Commission temporarily banned several neonicotinoids until further research can evaluate their safety to pollinators. Regulatory agencies in the United States are actively conducting similar research, & although they have not chosen to ban these products, we are choosing to identify products containing one or more of the following active ingredients as...

NOT BEE SAFE

- Clothianidin
- Imidacloprid
- Thiamethoxam

NOTE: Acetamiprid also is a neonicotinoid, but it degrades much more quickly in the environment than the three neonicotinoids listed previously & poses less of a potential hazard to pollinators.

Soil-applied neonicotinoids are of particular concern, because even if they are applied when plants are not in bloom, they may be present when plants bloom later on.



What Are the Alternatives?

Start by providing good growing conditions for your plants. Healthy plants are more resistant to pests of all sorts – not just insects.

Grow the right plants in the right places. For example, sun-loving plants are not likely to thrive in the shade. Proper watering, fertilizing, pruning & other cultural practises go a long way toward preventing many common plant problems.

If you encounter a problem, determine its cause so you can take appropriate action to solve the problem rather than simply treating the symptoms. For example, don't assume that holes in leaves are the result of insects; some diseases as well as hail can cause similar symptoms. If you need help identifying the cause of a problem, good resources include your local garden center & the Oregon State University Extension Service.

Once you've determined the cause of a problem, determine if there is a need to do something about it. A single aphid on a rose bush does not warrant action, but the presence of hundreds may. Are natural predators present? The larvae (juvenile form) of lady bugs are effective predators of aphids & often are found on roses along with aphids.

If you determine the need for action, start with the least toxic, yet effective approach. This may be simply hand picking insects. Occasionally you may determine the need to use an insecticide.

The table on the next panel categorizes commonly available insecticides by their toxicity to honey bees & bumble bees. Whenever you choose to use a pesticide, always read & follow all label directions.