Neonicotinoids

Neonicotinoids are a class of compounds which are similar in structure to nicotine and have been widely used in agriculture, commercial nurseries and for home use as pesticides. They were approved in the 1990's under "conditional registration," some testing to be done after release to the market. Unfortunately, as bee populations began to decline it was discovered that neo-nics may have **acute and/or chronic effects on bees and other pollinators**.

Neonicotinoids (neo-nics) are particularly concerning because they are **systemic** (dispersed throughout the whole plant), water soluble, non-selective, persistent, and widely used.

Neo-nics have been used by farmers and nurseries to prevent insect pests (such as aphids, white flies, beetles, etc.) and by homeowners and grounds keepers to prevent grubs. They are produced in a variety of forms: seed coatings, liquids and granules.

The chemical names of common neo-nics are:

Clothianidin, Imidacloprid, Thiamethoxam, Dinotefuran

Acetamiprid and Thiacloprid

Not all neo-nics are the same, but all should be avoided because:

- It is known that pesticides **in combination** with other chemicals can increase toxicity.
- All neo-nics can cause **pollution** to waterways and harm the life forms which inhabit them.
- There is **insufficient data** about long-term effects of pesticides on bees and other pollinators.

In 2016 the state of Connecticut passed the **Pollinator Health Act** restricting four neo-nics, clothianidin, imidacloprid, thiamethaxam, and dinotefuran, with the following outcomes:

- These neonics have been **reclassified as "restricted use"** only. This means that only licensed commercial and private applicators can purchase and use these products. As of January 1, 2018 these neo-nics are no longer available to the general public.
- These neo-nics are now **excluded on plants in bloom (for nurseries).**
- The state has made recommendations to offset the effects of *varroa* mites (a bee parasite).

- The Connecticut Agricultural Experiment Station compiled a **citizen's guide** to model pollinator habitats.
- DOT identified opportunities for **planting native grasses** along highways. They have also made some changes to **mowing practices** along highways to promote pollinator habitats.
- Concerning the planting of neo-nic coated seeds DEEP issued a **report for farmers** with information and alternatives.

While the state is to be commended for taking these measures, it is unclear if these reports are reaching their intended audience. Also, **enforcement** of some of the new provisions will continue to be an issue due to insufficient funding and staff.

At this time of restriction on neo-nics, many other classes of pesticides including organophosphates, are still on the market, some of which may pose additional risks to humans and wildlife. A state-wide **comprehensive review** of all available pesticides is advisable.

While states can make determinations about what is sold in their jurisdiction, towns can decide to adopt pesticide restrictions only on town-owned properties. So far only a few towns in Connecticut have done so. However, towns can be encouraged to reduce the public use of neo-nics and other harmful chemicals, **moving towards a more organic management program**.

As a homeowner, please check to see if you have any old products in storage containing neo-nics (look for the chemical name on the label). If so, please do not use them but **dispose of them appropriately** at Hazardous Waste Day. And as always, **read labels** carefully and use only as directed. Better yet, **find an alternative** that does not put you and your environment at risk.

Protect Our Pollinators www.propollinators.org

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