

CHEMICAL LOG

New Chemistry Offers Lower Toxicity

By Helen M. Stone

A new class of insecticides promises sports turf managers season-long control of many common insect pests. If you battle grubs each spring and summer (including larvae of Japanese beetle, black turfgrass ataenius, chafer, and Oriental, Asiatic and May/June beetle) help is on the way. Likewise, crown-inhabiting insects such as billbugs and annual bluegrass weevils also are controlled.

Extensively tested in both the lab and field since 1989, imidacloprid has demonstrated excellent control of the above pests. The first compound developed for commercial use, Merit, received EPA registration in March of 1994. The insecticide is manufactured and marketed by Miles Inc. Specialty products.

Imidacloprid belongs to an entire new family of chemistry, the chloronitrobenzyls. The chemical controls insects by both ingestion and contact. It actually disrupts an insect's nervous system, resulting in its death. Because its mode of disruption is so specific, it has a very low toxicity level to mammals, birds and fish. For example, researchers have found imidacloprid to be 182 times less toxic to birds, 300 times less toxic to mammals and a staggering 247,000 times less toxic to fish than other soil insecticides. In addition, imidacloprid has no effect on cholinesterase.

The signal word on the label is "Caution."

Aside from its low toxicity, imidacloprid is applied at extremely low rates. For turfgrass, the recommended rate is .3 pound of active ingredient per acre, compared to two to eight pounds per acre for standard insecticides. One application in the spring to control billbugs or ataenius also will offer control for grubs later on, eliminating the need for multiple pesticide applications.

Application Techniques

Although imidacloprid can be used on a curative basis, best results are seen

when it is applied before egg-laying activity or insect populations become excessive. The soluble powder mixes readily with water and may be used in many types of application equipment. A granular formulation will be available next year.

Be sure that your spray equipment is accurately calibrated. A uniform, coarse droplet spray using low pressure will minimize or eliminate off-target drift. Imidacloprid is very toxic to bees, so be certain that it is not applied to blooming plants or weeds if bees are present. Although the toxicity to fish is low, do not apply it to bodies of water, or clean equipment or dispose of waste in water.

After application, irrigate within 24 hours to move the insecticide through the thatch and into the soil. Do not mow until

after this irrigation (or rainfall) has occurred, or you could affect the uniformity of application. If the soil is waterlogged or saturated, it will not move properly to the target zone, so application is not advised under these conditions.

If your responsibilities also include landscape plantings, imidacloprid has also shown excellent control of adelgids, aphids, mealybugs, thrips, whiteflies and several other ornamental insects. It can be used as a foliar spray or a soil drench.

With the general public's uneasiness about chemical applications and resultant laws and regulations, the advent of new pesticides that have a low impact on the environment can only benefit the turf professional. □

Finally, A Mid-Sized Topdresser for 1/3 the Price of the Big Boys.



For many turf managers, large-area topdressers are way too expensive, while "finesse" topdressers are too limited in what they can do. If that's what you've found, The Millcreek Topdresser/Spreader is your answer. First, it's about 1/3 the price of typical large-area topdressers. No it doesn't hold 6 cubic yards, but it spreads 2 cubic yards in 7 minutes and will easily topdress a football field in less than a day. It's safe and simple for a single operator. Plus it's unsurpassed for spreading compost, grass clippings, infield mix, lime, top soil, de-icing materials and more. With a 10-year guarantee on the floor, you get long-term spreading efficiency and versatility at a price you can handle today. Call for your FREE information.



Patented Spreading Action

Millcreek's patented "PowerBrush" action and adjustable directional fins enable you to spread almost any flowable material in paths from 3' to 10' wide. A single operator needs no tools for safe, easy adjustments. PTO or engine-drive. 2 cu. yd. capacity.



2617 Stumptown Rd.
Bird-in-Hand, PA 17505
1-800-879-6507
Dealer inquiries invited.