Study shows pesticides break down quickly in turf

The results of a three-year study show that high levels of organic matter and microbial activity in turfgrass help pesticides degrade faster than when applied to bare soil.

Bruce Branham, associate professor of turf at the University of Illinois, conducted the study. His research focused on the dissipation of pesticides in turf settings vs. production agriculture, where chemicals are applied directly to the soil.

Branham says the half-life of many pesticides is dramatically reduced when the chemical is applied on dense, well-maintained turf.

Quebec bans non-farm pesticides

Quebec will ban the use of most non-farm pesticides by 2005. Quebec Environment Minister Andre Boisclair said the province will immediately move to ban the use of 30 highly noxious pesticides on public lands, including parks and schools. The ban will be extended to private and commercial lands by 2005, but pesticide use on agricultural land will not be affected.

NGCOA, NGF announce results of rounds study

The National Golf Course Owners Association and the National Golf Foundation recently released the results of their joint rounds played study. According to the results, 518 million rounds of golf were played in the United States at regulation facilities in 2001.

All 15,720 U.S. facilities were invited to participate in the survey and data was received from 2,426, a response rate of 15 percent with a +/- 2% margin of error.

BAYER ENVIRONMENTAL SCIENCE BEGINS OPERATIONS

Josh Weeks has heard from superintendents, and he says their feedback regarding Bayer AG's acquisition of Aventis CropScience has been positive.

Bayer AG's long-awaited purchase of Aventis was finalized in early June. The deal led to the creation of Bayer CropScience, which is divided into three business groups — Bayer Environmental Science, Bayer Crop Protection and Bayer Bio Science. Weeks, who served as vice president of Aventis Environmental Science's Chipco Professional Products group, is the new head of the professional products unit for Bayer Environmental Science in North America, based in Montvale, N.J.

“I received phone calls from superintendents who just felt the need to say something,” Weeks said. “In general, they asked what [the merger] means to them. What I said, and what we believe at Bayer, is that we’re still structured in a focused way to serve the specialty markets. We’re not an agricultural company providing products to the specialty markets. We’re a specialty company serving [superintendents and others].”

Bayer Environmental Science offers a line of herbicides, insecticides, nematicides and plant growth regulators. There’s been much speculation to what Bayer’s acquisition of Aventis will mean to superintendents, especially regarding fipronil. As part of the deal, the Federal Trade Commission required that Bayer divest two active ingredients — fipronil and acetamiprid — over the next several months. But Bayer Environmental Science will have the chance to license back fipronil rights for turf segments. “This will allow for the potential for a co-exclusive arrangement between Bayer and the new company that purchases the product,” Weeks says, adding there is "significant and vigorous interest" in the product, although he wouldn’t reveal what companies are interested.

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Droughts have impacted many areas throughout the United States and Canada. We hear about ground water being depleted, wells going dry and rainfall amounts being dangerously below average. Many areas are experiencing rising temperatures and increasing sun and wind.

How do prolonged dry weather patterns affect soils? Under "normal" conditions, sufficient rainfall occurs to keep soils from becoming nonwettable. This residual moisture is enough to keep the organic coatings from drying out and becoming irreversibly hydrophobic. With the current drought conditions and water restrictions in place over the past year, however, soils are getting less water less regularly and are drying out more often. As a result of this lessening hydration pattern, soils are becoming increasingly water-repellent.

Critical water content or critical moisture content is the point at which a soil transitions from being wettable to nonwettable. When a soil reaches this point, hot spots or water-repellent regions appear and will not wet. Water runs off the surface and little, if any, will penetrate the soil profile. While these hot spots show clear signs of hydrophobicity (water repellency), the green areas around the hot spots may appear to be fine. Don't be fooled, however. These soils are also hydrophobic but have not yet hit the critical water content point. If not treated, they will quickly become hot spots.

Soil surfactants have gained acceptance in the last decade as a tool for reducing water use while still keeping turf and landscapes healthy. But, like most turf-related products, surfactants may call for different rates and/or application practices when extreme weather conditions prevail. The longer drought conditions persist, the more organic coatings accumulate on the soil particles, causing a greater shift toward water-repellency. To combat this higher accumulation of hydrophobic material, higher rates or more frequent applications may be required.

When extreme water-repellent conditions are present, soil surfactant selection is critical. Not all surfactant types are formulated to address severe problems associated with water-repellency. Some are formulated to move water off the surface and into the soil. When dealing with season-long or longer-lasting surfactants, keep in mind that additional applications may be necessary under extremely dry conditions.

Use caution when applying soil surfactants at high, one-time rates during hot and dry conditions as some may have a tendency to burn.

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