

ResearchOn ▶ New Products for 2007



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Niche products deliver

Advances in golf turf management technology continue to help improve course conditioning. However, as conditions improve, our product needs often become more specialized.

A few important niche products are or will be available in the near future to fill important, albeit specialized chemical and mechanical needs.

Selectivity

One could argue that the development of chemicals for the selective removal of weeds from existing stands of desirable turfgrass was a seminal event. No longer would golf courses be covered in dandelions, clover and crabgrass.

In a way, the removal of the aforementioned weeds from turf is relatively easy. Harder yet is the selective removal of cool-season grassy weeds from a stand of cool- or warm-season turf. As the physiology of the plants becomes more similar, the more challenging selective removal with minimal injury to the existing, desirable turf becomes.

Lately, this has been the trend in herbicide technology. At first a combination biotech and chemical technology was tried in Roundup Ready creeping bentgrass, but that advancement for selective removal of annual bluegrass appears to be in serious jeopardy.

However, more traditional chemical approaches are being developed. **Velocity**, a post-emergent herbicide from Valent USA, was approved for use in 2005 for the selective removal of annual bluegrass from creeping bentgrass. Research is under way to expand our understanding and use of this chemical, from reducing injury to expanding the label to include putting surface applications.

A more recent development could be as significant on and off the golf course. Syngenta is actively developing a naturally derived phytotoxin, Mesotrione (scheduled to be labeled as Outplay), for several selective options.

Many new or existing courses at which renovations are taking place often establish new areas with Kentucky bluegrass sod. In a perfect world sod is delivered weed-free. But

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There have been few options for the selective removal of these grassy weeds from Kentucky bluegrass, but Outplay is showing promise. Studies conducted across the country have shown that multiple late-season applications to established Kentucky bluegrass can provide excellent control of annual bluegrass and creeping bentgrass with no injury to Kentucky bluegrass.

Besides the obvious practical benefits of this selectivity, there are important environmental aspects of being classified as a biorational pesticide derived from a naturally occurring phytotoxin. In addition, this offers sod growers the advantage of adding value to their product prior to delivery.

Interestingly, a few studies in both cool- and warm-season turf have demonstrated the potential for Outplay to be used at seeding as a selective pre-emergent herbicide for grass and broadleaf weeds. Again this represents a significant advancement where only a compound developed in the 1960s, (siduron – trade name Tupersan) offered any selectivity in the seedbed, i.e., the ability to discriminate between germinating seeds.

Herbicide application during seeding has been shown to reduce long-term weed issues and with Outplay can be followed up as a post-emergent application for continued performance without injury to desirable turf.

The wave

Having conducted trials on turf establishment, renovation and recovery from injury, I consider myself adequately qualified to say

that slit seeding rarely inspires my confidence. I believe that a significant percentage of the seed applied does not make it into the slit made by the seeder. This lack of delivery reduces soil-to-seed contact and limits successful establishment.

Recently I have seen results of trials conducted with Turfco's TriWave 60 overseeder. This overseeder might lead me to rethink my position on slit seeding into existing or injured stands of turf. First, the Turfco design includes three 19-inch floating seeding heads that follow the contour of the turf.

The benefit of a floating design is that these heads can provide variable down pressure to ensure that the seed is delivered beyond any organic layer that could reduce the incidence of seed soil contact.

The TriWave also has a waved blade that appears to make a clean square slit that exposes more soil, collects more seed and further ensures more seed-to-soil contact.

Finally, the seed-delivery system looks similar to other systems but a study conducted at the University of Minnesota has shown that seed rates can be significantly reduced with the TriWave compared with traditional methods. This suggests that more seed is entering the slit and establishes.

I am not sure that I would use this on greens, but for fairway and tee renovations or enhancing turf density in the rough, the TriWave could afford significant enhancement over traditional seeding methods.

As a researcher I often see early aspects of product development, many that never make it to market. I am intrigued when turf managers expand the use and application of new technology beyond the intended use to deliver additional results. Outplay and the TriWave are examples of such advancements that could deliver increasingly more exciting results as turf managers' needs change and they experiment with new ways to use them.

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