uptake, transformation, or fate within plants and soil.

Although new root development was significantly reduced by prodiamine application, we could not detect significant differences in nitrogen uptake on any sampling dates between prodiamine-treated, dithiopyr-treated or untreated plants. Greater nitrogen uptake was detected in oxadiazon-treated plants compared to other herbicide treatments on week eight, likely resulting from the increased root development.

It's likely these results could vary by location, environmental conditions and soil. However, our data indicate that while not necessarily apparent through observations of surface quality, certain spring-applied preemergent herbicides have the potential to influence new root initiation within established warm-season turfgrass stands.

In particular, superintendents who would like to manage bermudagrass through the spring transition period with the healthiest root system may want to reconsider the use of prodiamine in their early-spring herbicide programs.

From a broader environmental standpoint, these data reveal a couple interesting observations about the bermudagrass system. First, despite the abnormally cold spring temperatures during this study, a newly developing root system and low rates of shoot growth, nearly half of the nitrogen supplied to plants was taken up within 24 hours of application. This demonstrates a remarkable capacity for bermudagrass to rapidly acquire moderate quantities of nitrogen fertilizer during the spring transition period, well before rapid shoot growth is occurring.

Secondly, that herbicide-induced reductions in root growth by prodiamine didn't translate to significantly decreased nitrogen uptake appears to highlight the importance of the thatch/mat layer of turfgrass for intercepting nitrogen before it leaches deeper into the soil profile.

Benjamin Wherley is a research scientist in turfgrass management at Texas AgriLife Urban Solutions Center in Dallas.

Greater nitrogen uptake was detected in oxadiazon-treated plants compared to other herbicide treatments.

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NTEP Changing the Ground Rules With Its Trial Guidelines

By Curt Harler, Managing Editor

For years, the National Turfgrass Evaluation Program (NTEP) trials have been the standard reference for turfgrass performance. Starting this year, golf course superintendents will see some major changes coming to the long-established guidelines for the program.

The NTEP (www.ntep.org) trials were set up to develop and coordinate uniform evaluation varieties and to look at promising selections in the United States and Canada. Results often are used to determine if a cultivar is well adapted to a local area or particular use on a golf course.

"Recently, NTEP has experienced a reduced number of entries," says Kevin Morris, executive director of the program headquartered in Beltsville, Md. In addition, many of the cultivars being released these

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PHOTO BY: STEPHANIE RICCA

There will be less emphasis on the beauty-contest aspects of the testing, Kevin Morris says.

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days are quite similar, he adds.

"As a result, companies do not promote as much," Morris says. "If a seed firm doesn't expect to find a marked advantage for its cultivar, it's unwilling to invest money in a multi-year program which will yield it no promotional benefit."

Typically, NTEP testing programs have been five years long. That gives plenty of time, at multiple locations, for a cultivar to experience all sorts of environmental stress. It's likely the cultivar will experience dry months and wet months, as well as disease pressure and insect infestation.

NTEP is a fee-based program. With less money available for data analysis, cutbacks were dictated.

Probably the major difference is a cutback from five-year testing to four-year testing in a number of tests. The focus of the tests will change, as well.

"There will be less emphasis on the beauty-contest aspects of the testing," Morris told a group of crop and soil scientists late last year.

To preserve value, there will be more focused, trait-specific testing done. For starters, NTEP will run a drought trial for cool-season species at five locations across the country. The test was established in fall 2009 and will run for two years.

Perennial ryegrass will be tested again in 2010, with Kentucky bluegrass being established in 2011.

In 2012 Morris plans a series of tall fescue trials. In each of these areas, the emphasis will be on evaluating specific traits, such as salt, drought and significant diseases.

In addition to the drought testing, expect to see a series of NTEP tests on herbicide screening, which will be done on the same sites as completed variety trials. The completed rye plots may be the first of the varieties to undergo herbicide testing.

NTEP is also looking at working with the Lawn Institute to come up with WaterSense - labeled grasses. These would be varieties that would meet the Environmental Protection Agency standards for reduced water use.

While the majority of the time and effort put into WaterSense so far by EPA has been aimed at indoor water-use efficiency (low-flow shower heads, water-saving urinals), for outside building projects, turf is a stated target for water saving. It's the only crop specifically mentioned by EPA.

At the moment, the program focuses on single-family homes, not golf courses or sports turf. The EPA's Landscape Design Criteria give a builder a water budget. EPA developed a tool to help contractors figure these calculations to support the criteria. The first version of the tool, released in November 2008, was based on methodology developed by the irrigation industry. A second version incorporates additional research and recommendations suggested by stakeholders as part of the public comment process.

Whether the recommendations will drift from home lawns to golf courses remains to be seen. Even if the government doesn't make the requirements mandatory beyond home lawns, it does provide a handy crib sheet for state water regulators and, as such, could turn up in regulations that do have an effect on superintendents.

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