During Tough Economic Times...

Stay With the Basics!

By John H. Foy

According to the news media, there are signs that the national economy is beginning to recover. Yet, for many clubs and courses throughout Florida, rounds and membership levels are still down. Thus the struggle continues for providing the level of course conditioning and quality desired with reduced operating resources.

USGA Green Section agronomists from across the country have compiled conservation strategies in an effort to assist courses in surviving these challenging and difficult economic times. Regardless of the region, turfgrasses being managed, and type of club or course, getting back to and staying with proven and agronomically sound basic programs and practices is a key component of these conservation strategies. Traditionally applied products such as fertilizers, pesticides, water — and even plant growth regulators — have a long history of use; and their value has been proven through many years of research.

Unbiased research is always needed to determine if the benefits of new or non-traditional products justify their cost. In preparation for writing this article, I went online to the Turfgrass Information Center at Michigan State University and did a literature search on the subject of biostimulants. For anyone who is not familiar with the Turfgrass Information File (TGIF), this is a resource database that contains a range of electronic and printed articles from published, peer-reviewed sources on turfgrass research. The biostimulant search resulted in 235 records of articles starting in 1989 up through January, 2010. I would like to summarize a few points noted during my review of the literature.

Always use an untreated check plot to compare results when applying new products. Photo by John Foy

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Defining "biostimulant" is in order. To paraphrase the definition used by Dr. Wayne Kussow, emeritus professor of soil science, University of Wisconsin - Madison used in the introduction of his article, Biostimulants: Yes or No published in the May/June 2009 issue of the Grass Roots magazine, a biostimulant is "anything that promotes the growth, development, or general health of turfgrass." Dr. Kussow further refined the term to "non-traditional" substances and materials, and again excludes traditional products such as fertilizers, pesticides, water, and plant growth regulators. Previously a University of Georgia scientist reviewed the labels of 15 biostimulant products for turf and found 59 different ingredients. The most common active ingredients of biostimulant products are hormones, carbon sources, humates, and microbes.

As noted earlier, the term biostimulant began to appear in literature back in 1989, and over the past 10 to 15 years, there has been increasing interest in materials that provide enhanced turfgrass growth and health or increased stress tolerance of especially cool-season turfgrasses such as bentgrass. However, there has been some work done here in Florida with bermudagrass. In the 1996 summer issue of the Florida Green, Dr. Monica Elliott and Marcus Prevatte provided a summary of their evaluation of two commercially available, seaweed-derived biostimulants applied to a Tifdwarf bermudagrass putting green. "A consistent lack of response was observed over the two year study" was the summary of their research.

A more recent study was a USGA

funded project, "Evaluation of Cytokinin Plant Extract Bio-stimulants: Iron and Nitrogen Products for their Effectiveness on Summer Creeping Bentgrass Summer Quality." The research was conducted by Drs. Derek Settle and Peter H. Dernoeden and can be accessed through the USGA's Turfgrass and Environmental Research On-Line at http://usgatero.msu.edu/vo8/no1.pdf.

This field study examined the impact of six products that contained cytokinins, and other plant extracts nitrogen or iron, or various combinations thereof on their impact on creeping bentgrass putting green color and summer quality. These products were compared to urea (N) and evaluated in Lemont, IL, and College Park, MD, in 2007 and 2008.

In the report summary, a key point that caught my attention was: When data were averaged over the season in both IL and MD, urea alone and treatments containing urea generally provided best summer quality. There were, however, no significant differences among urea alone, Iron Roots plus urea, Roots Concentrate plus urea, or Panacea Plus and urea at either site." Product application costs were also included in the report and ranged from $7.50 per acre for urea to $29.00 to $170.00 per acre for the other products used in the study. This information reiterates the point that significant cost savings can be achieved without compromising quality by using basic materials.

Even in the Information Age, keeping up with the most current research can be challenging. Also, every course has unique characteristics, and thus on-site evaluation of products should be performed.

This does not have to be a large and time-consuming process; but in order to fairly evaluate a product, an untreated control — or check — plot is needed. This can easily be accomplished by using a sheet of plywood to cover temporarily the same area of turf each time before application of a new product. Having a side-by-side comparison makes it easy to decide if real benefits are being provided.

Organic Fertilizers and Pesticides

By Joel Jackson

In an age, where the term 'Going Green' takes on many aspects, organic-based products are making their way into golf course fertilizer and pest-control maintenance programs.

Some of the more recent products like Ecumen are a direct result of the loss of Nemacur as the predominant nematicide used on golf courses.

As Nemacur was being phased out, several superintendents like Steve Wright at Boca West, Alan Puckett at Eaglerooke and Steve Ciardullo when he was at Mountain Lake tried the product NeoTec to supress nematode activity and reported various levels of success. Recently Bill Kistler at Tampa Palms told me they had applied DiTerra this past June and reported significant reductions in sting nematode counts in follow-up samples.

On the nutrient side, who among us hasn't applied Milorganite sometime in our careers? And we have seen additional organic fertilizer blends emerge like Nature Safe and Bovamura among several others. These just happen to be some of the brands I have heard about or seen advertised. And these are just the granular products, there are also numerous liquid blends used in foliar feeding programs.

The timing of this topic during the current recessionary trend is perhaps unfortunate since budgets have been scaled down at most clubs, so discretionary spending on all products and programs in general is under closer scrutiny. So getting the biggest bang for your buck is critcial.

At the USGA Green Section program out in San Diego this past February, one of the presentations concerned ways to economize and yet still provide good playing conditions, and the take-home message was, stick to fulfilling basic agronomy needs for the health and performance of the turf."

One example was that if soil and tissue samples showed you needed to apply nitrogen, then apply urea and not a full blend with other macro and minor nutrients if the test doesn't call for it; and the same goes for potash, phosphorous, etc.

I know we can't generalize too much because each course is different with its soil profiles, water quality, micro-environments, etc. There are situations like the loss of Nemacur that call for trying other products and other than Curfew, some of the organic products might deserve a look as a useful tool for your particular course.

In a companion article in this section, John Foy, director of the Florida Region of the USGA Green Section talks about doing your due diligence in selecting and using organic based products. They may have a place in your programs. Just make sure they're the real McCoy and a good fit for your course and your budget.