

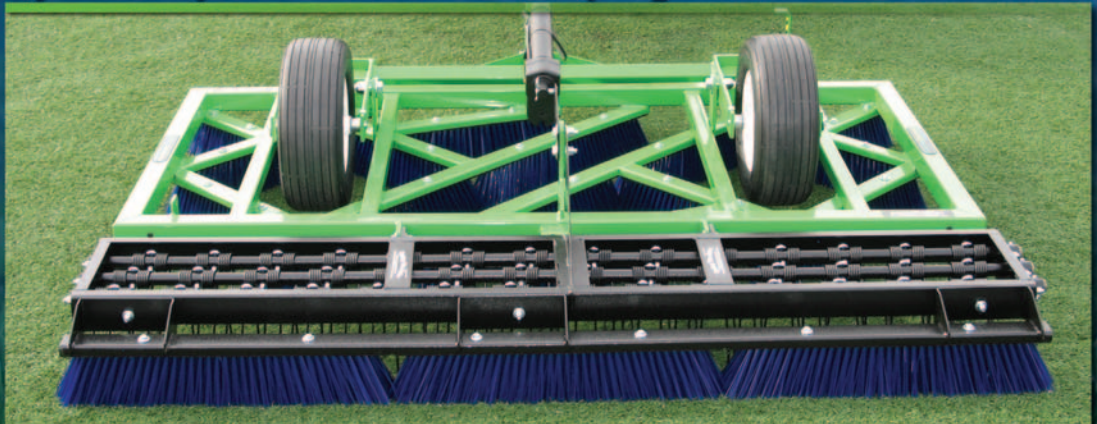
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SportsTurf Contents

JANUARY 2013 | VOLUME 29 | NUMBER 1

Field Science

- 8** Preemergence herbicide use on athletic fields
- 12** Managing summer annual weeds on high traffic sports fields
- 18** First-year turf review: Marlins Park in Miami

Facilities & Operations

- 22** Removing snow from synthetic and natural turf fields
- 28** Non-traditional funding alternatives for public athletic facility projects
- 32** Managing and maintaining your equipment fleet
- 36** Report: status of small school turfgrass education programs
- 40** 2012 Most Influential People in the Green Industry

Tools & Equipment

- 44** New battery-powered, high-pressure airless striper

Departments

- 6** From the Sidelines
- 7** STMA President's Message
- 17** John Mascaro's Photo Quiz
- 46** STMA in Action
- 47** Committee Corner
- 47** STMA Chapter Contacts
- 48** Marketplace
- 49** Advertisers' Index
- 50** Q&A



On the cover: Workers harvest sod to be used by the St. Louis Cardinals at Busch Stadium. Photo courtesy of Graff's Turf Farms, Fort Morgan, CO.



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From the Sidelines



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Fresh starts not that easy, worth an effort

HAVING SURVIVED THE MAYAN PREDICTION of the world's end last month (my deadline was 1 day before 12/21/12 so who knows?), I lived to greet New Year 2013. Simply another day to Mother Nature, January 1 offers us an annual marking period for life—the ultimate continuing education experience.

Goals are good I've been told many times and I have lists of goals written with the best intentions inside covers of old planners. Heading into 2003 I had seven goals, none of them specific enough measure of course, but they were in ink on paper so at least I had made that commitment. Generous scoring rules resulted in my having fully achieved zero of those seven.

I found no list of goals for 2004.

One year I had no list but did note an "objective" involving "tangible results" and "showing evidence." Into the circular archive with that one.

Another Schroder historical document source shows entries dated January 4-8, 1983, followed by August 10. Later that same document reveals steady work January 9, 1990, through the end of February before a big blank until June 24. No stranger to failure am I.

I give myself credit for still even considering New Year's resolutions with my track record. But having that vision of successfully making even the slightest good change in my life means a lot to me. I still believe in the possible.

Regular golf partners of mine laugh at my overuse of the word "karma" during a round. Poking fun of another's OB drive before you hit off the same tee box is bad karma and increases your chances of hitting OB by at least 50%, for example. And raking a steep bunker for a guy coming off knee surgery is good karma that might at least help even out the luck in any round.

That's my approach (bad golf pun) to New Year's resolutions too: make an honest effort, even if I fall short of perfection, that continued effort will be rewarded some day.

PASSWORDS

Another list I made recently was of all the passwords I use at least a few times a year if not regularly. Three of the accounts are business related: a mail server, LinkedIn and Green Media's Twitter account (@GreenMediaMags). Others are retail, like iTunes, and household bill accounts or financial institutions. It's a long list.

My search for historical documentation also turned up an article I wrote for a college class on a manual typewriter; when you consider how we communicate 34 years later, it's astounding. I tell my kids someday there will be a screen conveniently embedded in our skins. No batteries needed, it runs on burned calories!

Happy New Year! ■

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I resolve to be responsibly cynical...

I AM SURE there are those of you out there that truly keep your resolutions and I admire you and curse you at the same time. I also know there are a lot of you that are like me and you have the best intentions in the world, but come the 2nd week of January (or maybe the 2nd day?) your resolutions are pretty much out the window.

What I have learned on the job now after 24 years of academia and 23 years of marriage is to be as realistic as possible regarding my resolutions from both professional and personal perspectives. As I began my career in academia, I remember being advised by a full professor to “undersell and over deliver” in my teaching and research efforts. I also remember one of the tenured faculty members at a departmental meeting saying “let’s get everything out of Goatley that we can before he figures out what is going on.” Neither of these perspectives made a lot of sense to me in the late 1980s, but they certainly have a lot more meaning in my career at this point in time.

When you are young and ready to conquer the world, one of your biggest challenges is to figure out an appropriate balance between work and home (my wife would say that it took a while but I’ve finally figured this out). I admire our students and the young professionals in the sports turf industry and your gusto for your profession and life in general. You all inspire and motivate many of us more, shall I say, “mature” members. However, I join others that are my age and older to remind you to take your time and soak things in as much as possible as the opportunities present. I always remind my students that I doubt they will ever be as smart as they are than the day they graduate from college—when the real education begins.

What? No inspirational New Year’s message for success? I do encourage you to identify a few “must do” goals in your personal and professional lives and try to find a balance between ones that you know you are going to achieve, and those that you really want to achieve IF things go as planned. I truly anticipate great things for STMA in 2013 and it is because we have such a well-defined strategic plan to take us forward for the next 2 years. It has what I think is the appropriate balance of “must do” and “what if” goals and we have an immensely qualified staff, a great Board, and some of the most dedicated members of any association with whom I have ever worked. I wish everyone only the best for 2013. And I want you to know, I am not really a stick-in-the-mud. I am fulfilling my resolution of being “responsibly cynical.” Trust me; you’ll probably get there one day yourself. ■



Preemergence herbicide use on athletic fields

SPRING IS A TIME FOR ATHLETIC FIELD MANAGERS to focus on control of summer annual weeds such as crabgrass (*Digitaria* spp.) and goosegrass (*Eleusine indica*). These species complete their life cycle in 1 year, germinating from seed in spring, growing throughout summer, and finally setting seed in fall. If left uncontrolled, both crabgrass and goosegrass can reduce the aesthetic and functional quality of warm- and cool-season athletic field turf.

Research conducted at the University of Tennessee Center for Athletic Field Safety (CAFS) in 2012 illustrated that high-use areas of fields comprised of predominately crabgrass lose approximately 10% cover after each traffic event compared to only 1% for those containing predominantly Tifway hybrid bermudagrass (*C. dactylon* x *C. transvaalensis*). These losses in cover were associated with increases in surface hardness (measured as Gmax), a property linked with head injury incidence.

An effective means for controlling summer annual weeds is the use of preemergence herbicides. A list of preemergence herbicides labeled for use on warm- and cool-season turfgrasses commonly found on athletic fields is presented in Table 1.

Table 1. List of active ingredients labeled for preemergence control of annual grassy weeds in warm- and cool-season turfgrasses commonly used on athletic fields.

KEYS TO SUCCESS

There are two keys to effectively controlling summer annual weeds with preemergence herbicides. First, be sure to apply these materials before weeds have emerged from soil (i.e., before they are visible). These herbicides do not prevent weed seed germination; rather they prevent germinated seedlings from developing into mature plants. Considering that the timeframe between germination and emergence can be quite short, it is often recommended that these herbicides be ap-

Active Ingredient	Trade Name [†]	Formulations ^{‡,¶}	Labeled Species
prodiamine	Barricade	FL, WG	Bermudagrass Seashore Paspalum Tall Fescue Kentucky Bluegrass Perennial Ryegrass
dithiopyr	Dimension	EW, WP	Bermudagrass Seashore Paspalum Tall Fescue Kentucky Bluegrass Perennial Ryegrass
prodiamine + sulfentrazone	Echelon	SC	Bermudagrass Seashore Paspalum Tall Fescue Kentucky Bluegrass Perennial Ryegrass
pendimethalin	Pendulum	FL, G, EC	Bermudagrass Seashore Paspalum Tall Fescue Kentucky Bluegrass Perennial Ryegrass
pendimethalin + dimethenamid-P	FreeHand	G	Bermudagrass Seashore Paspalum
oxadiazon	Ronstar	G, FL, WSP	Dormant Bermudagrass (FL, WSP only) Bermudagrass (G only) Seashore Paspalum (G only) Tall Fescue (G only) Kentucky Bluegrass (G only) Perennial Ryegrass (G only)
indaziflam	Specticle	WSP, FL	Bermudagrass

[†] Active ingredients may be available under multiple trade names. Mention of trade names or commercial products in this publication is solely for the purpose of providing specific information and does not imply recommendation or endorsement by the University of Tennessee Institute of Agriculture. The omission of a particular trade name is not intended to reflect adversely, or to show bias against, any product or trade name not mentioned.

[‡] FL = flowable; WG = water dispersible granular; EW = concentrated emulsion; WP = wettable powder; WSP = water soluble powder; SC = soluble concentrate; G = granular (not on fertilizer).

[¶] Many preemergence herbicides are sold on granular fertilizer carriers. Be sure to follow label instructions to ensure that the correct rates of active ingredient and nutrients are supplied to turf when using these materials.

Table 1



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plied once soil temperatures are favorable for crabgrass seed germination. Athletic field managers should make their first pre-emergence herbicide application as soon as soil temperatures (at approximately 2 inches) measure $\geq 55^{\circ}\text{F}$ for a minimum of three days in spring.

Ornamental forsythia plants can be a helpful indicator of when this benchmark soil temperature has been reached. Forsythia plants produce distinctive yellow blooms at soil temperatures similar to those that facilitate crabgrass seed germination. Thus, the presence of yellow petals on forsythia plants serves as an indicator of when pre-emergence herbicides for summer annual weed control should be applied in spring. Athletic field managers should be sure to apply pre-emergence herbicides before forsythia plants have completed flowering.

A second key to effectively controlling weeds with pre-emergence herbicides is to water them into the soil after application. Most labels require that 0.25 to 0.50 inches of irrigation or rainfall be applied within 24 to 48 hours after application. These herbicides are absorbed by germinating seedlings in the soil profile so moving them into the rootzone is critical. Failure to irrigate after application can also lead to material being lost due to volatilization. On fields without irrigation, try to time pre-emergence herbicide applications around a period of rainfall.

SPLIT APPLICATIONS

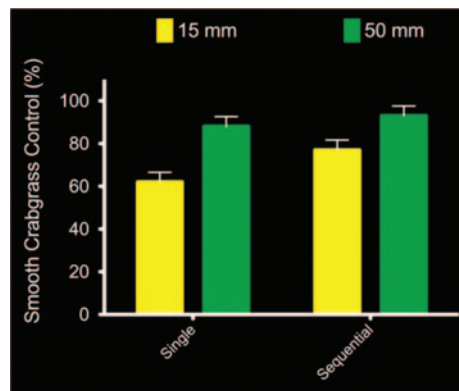
Split (also referred to as “sequential”) application programs of pre-emergence herbicides tend to provide more consistent control of summer annual weeds throughout a growing season. These programs typically apply the total amount of active ingredient for the season in two applications spaced 8 to 10 weeks apart. A single herbicide application in spring for pre-emergence control of crabgrass will slowly be broken down by soil microbial activity over the course of a summer often leading to crabgrass breakthrough by fall. Split application programs delivering active ingredient two times throughout a season tend to provide a longer period of control. Additionally, split application programs will control species germinating later in the year than crabgrass (e.g., goosegrass, etc.).

MOWING HEIGHT

Research conducted at CAFS in 2012 evaluated the effects of mowing height on the efficacy of single and split applications of pre-emergence herbicides for crabgrass control. A total of six different herbicides were evaluated. At a 0.6 inch mowing height, split application regimes provided greater crabgrass control than single applications regardless of product. When mowing height was increased to 2 inches, no significant differences were detected between single and split application regimes regardless of product (Figure 1).

Five of the six herbicides tested provided greater crabgrass control when applied to turf maintained at 2 inches compared to 0.6 inches regardless of application regime. While this experiment will be repeated again in 2013, these preliminary results indicate that split application regimes provide better control than single applications at low (0.6 inch) heights of cut. Additionally, increasing mowing height can improve the efficacy of pre-emergence herbicides for crabgrass control. Increases to 2 inches may reduce the need for split application programs altogether; however, this height of cut may not be acceptable on all athletic fields.

Figure 1. Smooth crabgrass (*Digitaria ischaemum*) control 5 months after initial pre-emergence herbicide treatment at CAFS in Knoxville in 2012. Means from the 0.6 inch (15 mm) and 2 inch (50 mm) heights of cut were pooled across six different herbicide chemistries.



CONCERNS OVER TRAFFIC TOLERANCE

It is well documented that many of the pre-emergence herbicides used to control an-

nual grassy weeds can inhibit bermudagrass root growth. Reductions in root growth in the uppermost portion of the soil profile could potentially compromise bermudagrass traffic tolerance and recovery; thus, rendering the benefits of effective weed control moot.

Research was conducted at CAFS during 2009 and 2010 evaluating the effects of four pre-emergence herbicides on Tifway hybrid bermudagrass traffic tolerance and recovery. Over the course of the 2-year study, no differences in smooth crabgrass (*Digitaria ischaemum*) control were detected among herbicide treatments after being subjected to athletic field traffic in spring; control measured 95 to 99% by 5 months after treatment. Moreover, no differences in Tifway traffic tolerance or recovery were reported in either year.

We hypothesized that this response was due to Tifway recovering predominately from below ground rhizomes rather than stolons. Follow-up research was initiated in 2012 evaluating the effects of pre-emergence herbicide applications in spring on Tifway traffic tolerance in fall. After the first year of the study, no differences in fall traffic tolerance were detected due to herbicide treatment in spring. To date, these findings illustrate that use of pre-emergence herbicides to control weeds on bermudagrass athletic fields does not affect traffic tolerance or recovery.

Numerous pre-emergence herbicides are available for controlling annual grassy weeds on athletic fields. Always refer to the product label for specific information on proper use, tank-mixing compatibility and turfgrass tolerance. Mention of trade names or commercial products in this publication is solely for the purpose of providing specific information and does not imply recommendation or endorsement by the University of Tennessee’s Institute of Agriculture. For more information on turfgrass weed control, visit the University of Tennessee’s turfgrass weed science website at www.tennesseeturfgrassweeds.org.

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