Potassium is viewed by some as more important than nitrogen because potassium can “be out of balance” and can be leached out of the soil. Therefore, consultants believe potassium is required in significantly higher amounts regardless of plant response. I’m feeling like Rip again.

A recent study at Cornell University showed that turf treated with high rates of potassium (not in a 1-to-1 ratio with nitrogen) was significantly more susceptible to snow mold and slower to recover than turf that did not receive potassium. A subsequent study at the University of Massachusetts supported these findings.

**Science vs. Theory**

Most turfgrass managers attended a Soils 101 class during formal turfgrass education. One of the basic tenets of soil nutrient management is testing for nutrients in the soil that might be available to the plant and applying those nutrients to elicit a response. This fundamental principle of soil nutrient management that nutrients are applied to elicit a response makes sense. However, nutrient application based on some cation balance theory rather than scientific research, which is promoted by many soil consultants, is irresponsible.

If you are concerned about cation balances such as potassium, testing for pH levels is a simple method for evaluating how cation balance can be adjusted. The current trend to interpret soil tests based on cation balance was adapted from production agriculture and has never been proven to be significant for turf nutrient management. In fact, a few recent studies have refuted its application to turf.

Cation balance interpretations typically lead to application rates of nutrients such as calcium and potassium that are higher than necessary when compared with interpreting based on plant response. Potassium is viewed by some as more important than nitrogen because potassium can “be out of balance” and can be leached out of the soil. Therefore, consultants believe potassium is required in significantly higher amounts regardless of plant response. I’m feeling like Rip again.

**Diminished Stress Tolerance**

Potassium is an important ion for managing water. It is involved in cellular hydraulics as well as regulating stomatal conductance that governs water movement throughout the plant. A significant amount of research was conducted about 15 years ago on the subject of potassium’s role in water management throughout the plant. Research showed that adequate levels of potassium must be maintained in the soil to enhance a plant’s stress tolerance. The 6-to-1 potassium-to-nitrogen ratio that some turf managers have adopted since I fell asleep could be adversely affecting stress tolerance.

A recent study at Cornell University showed that turf treated with high rates of potassium (not in a 1-to-1 ratio with nitrogen) was significantly more susceptible to snow mold and slower to recover than turf that did not receive potassium. A subsequent study at the University of Massachusetts supported these findings.

**Simplify**

We can all learn something from Rip Van Winkle. When he awoke, there was much disbelief about him and his story and from him about how the world had changed. No one believed he had slept for 20 years, and he could not understand that he no longer was a subject of King George—and his nagging wife. He always had appreciated the simplicity of life and was more accepted by the younger members of society who could learn from his simple wisdom.

I find that I anger some people in the turf industry when I talk about how detrimental high rates of potassium can be to plant health. I can tell by looking into the eyes of those in the audience the turf managers who have embraced the practice of high application rates of potassium and those who never have understood why so much potassium was needed.

It’s time for our industry to take a step back to simpler times when potassium applications were not made gratuitously, but were based on science and expectations of performance. Maybe it’s time we all woke up.

— Frank S. Rossi

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**Rip Van Winkle**

**Dean Henry’s Response to Cornell Guidelines Language**

**Editor’s note** The following letter is from Susan A. Henry, Ph.D., the Ronald P. Lynch Dean of Cornell’s College of Agriculture and Life Sciences, in response to the publication of erroneous information in an official Cornell publication. It was written in July 2006.

Dear Mr. Diermeier:

Thank you for your letter of May 25 outlining the turfgrass industry’s issues with the most recent edition of Cornell’s 2005 Pest Management Guidelines for Commerical Turfgrass.

As Dean of the College of Agriculture and Life Sciences, I want you to know I share your frustration, and, indeed, anger regarding the inappropriateness of the language contained on pages 21-25. I am embarrassed that such egregious opinions were published and distributed in a publication from Cornell.

As was explained to me, approximately 50 pages of new information were added to the turfgrass guidelines this year. Some of this information originated in a series of articles published in 2004 in a turfgrass trade journal.

With the best of intentions, the Cornell turfgrass team felt that this information would be helpful to the professional turfgrass managers who use the guidelines. It was unfortunate and inexusable that they did not provide the information more carefully or remove the offensive language in the section on fungicide use before publication.

To address this issue, let me assure you we are taking appropriate steps to rectify the situation and to make sure this type of mistake does not happen again. Here are the actions that I and others have undertaken:

• I am conducting a personal investigation to determine how this language came to be published in the publication and who is responsible, and am taking appropriate actions to ensure this type of error does not occur again. Furthermore, I have spoken personally to the individuals responsible to ensure that they do not promulgate such opinions in the future nor allow such opinions to affect work associated with Cornell. I am taking administrative action commensurate with Cornell rules to hold these individuals responsible.

Let me assure you that Frank Rossi, who is the leader of Cornell’s turfgrass team, was not responsible for the situation. He feels even worse than I do and is working with me to ensure that this will never happen again. Immediately after the incident occurred, but prior to my being informed, Frank spoke directly with many individuals in the turfgrass and related industries who brought these concerns forward. He also published an acknowledgment of the concerns and a retraction in Cornell’s eS Rustic newsletter on May 23, 2005, which went to all NYSTA members and additional subscribers in the turfgrass industry.

The online version of the guidelines was edited, and the inappropriate language removed as soon as the concerns were raised.

The remaining copies of the 2005 turfgrass guidelines have been pulled from distribution. People interested in procuring them are being directed to the online version.

Frank Rossi is preparing a letter to all members of the turfgrass industry who received a copy of the guidelines that addresses the mistake. He will offer his expertise and the expertise of our director of communications, Linda McCandless, should someone be contacted by the media or an advocacy group.

Frank Rossi and the Cornell turfgrass team have developed a more rigorous editorial process to insure this type of mistake will not be repeated in the turfgrass guidelines.

The editorial process by which the entire Cornell guideline series is produced is undergoing a review to prevent this type of error in the future. I will insist that a single editor be identified for each guideline who will take responsibility for content.

As Dean of the College of Agriculture and Life Sciences, I want you to know I share your frustration, and, indeed, anger regarding the inappropriateness of the language contained on pages 21-25. I am embarrassed that such egregious opinions were published and distributed in a publication from Cornell.

— Susan A. Henry, Ph.D., Ronald P. Lynch Dean of Cornell’s College of Agriculture and Life Sciences
course are all 85%-15% sand-Profile. A shipping green has Champion Bermuda in one section, TifTifwarf in another, and TifEagle in another. Four of the fairways are planted to Zoysia. One par 3 fairway is Sea Isle paspalum. One fairway is Tifway 419, and the hybrid bluegrass called “Thermal blue” is planted in the rough of one hole. The par three tees were overseeded with ryegrass, and the fourth fairway was overseeded with ryegrass; one end of that fairway included trials of different overseeding practices.

Most tees, rough and fairways are TifSport Bermuda grass. Greens are A-1/A-4 bentgrass mix, although the practice green also has L-93 and G-2 in some sections and that practice green is also divided into three sections, each with different rootzone mixes.

I want you to know that we at Cornell recognize and greatly appreciate the valuable contributions your industry and turf managers make to the citizens of New York as environmental stewards. In addition to being knowledgeable and conscientious about integrated pest management, your industry provides recreational opportunities, preserves open green space, provides wildlife habitats, and prevents soil erosion. We applaud those efforts.

I also wish to express my sincere appreciation for the close working relationship between Cornell and the turfgrass industry. Your support of our extension and research programs is vital to the program’s success and one of the most valued partnerships in the college.

In closing, let me reiterate my commitment to the College’s future relationship with the turfgrass industry. We will continue to support turf managers as environmental stewards with research, education and extension. We will help your members educate the public on the value of the turf industry to the environment and the economy of New York. These shared values with Cornell’s Land Grant mission are vital to both of us and another reason why this current situation is so difficult.

I trust we can weather the current strain in the relationship between Cornell’s College of Agriculture and Life Sciences and members of the turfgrass industry produced by this unfortunate incident so we can move forward with the same positive momentum we have all worked so hard to build and sustain in the past. We look forward to solving current difficulties so we can continue to grow together.

Please contact my office with ideas as to when we might meet and who should be involved.

Sincerely,

Susan A. Henry, Ph.D.
The Ronald P. Lynch Dean
College of Agriculture and Life Sciences

Farmlinks
A Remarkable Place

We spent one more night and played golf again the following morning. For turfgrass managers, Pursell Farms and Farmlinks Golf Club really are a 3,500 acre recreation and education facility, as advertised on their website. Farmlinks is a remarkable place and the products of the sponsoring companies are not over sold, although one is certainly aware of what companies have made this experience possible. I would encourage anyone who has the opportunity to visit there to do so. Farmlinks is almost an amusement park for golf course superintendents. The combination of sport, turfgrass education, product demonstrations, and Southern hospitality is hard to beat.

M. Isaiah Woods

Dean Henry
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An Aspirin a Day for Heat Stress?

As the summer months progress our cool season turfgrasses begin to experience typical signs of temperature induced decline. This decline is associated with depressed rates of photosynthesis (energy production) due to its inefficiency in fixing carbon at high temperatures into useful energy. However, heat stress produces a multifaceted stress response that involves a number of metabolic activities leading to cell death.

Researchers at Rutgers University have been exploring the heat stress phenomenon for several years and have identified a number of factors that will reduce overall stress. Recently, a study was conducted investigating the application of salicylic acid (SA), the active ingredient in aspirin, for improving heat tolerance of Kentucky bluegrass.

The researchers applied several rates of SA to bluegrass growing in a greenhouse and measured a number of physiological stress responses. They found that there were significant reductions in the amount of free oxygen radicals that indicate the reduction in stress response.

Oxidative damage is well known to be a key aspect of heat stress. Other products, such as cytokinin-based products including seaweed-derived fertilizers, have also been shown in the Rutgers program to reduce injury associated with heat stress. More research is needed to validate the benefits of this approach under field conditions, but the mechanism for improving this stress tolerance appears to be well understood.


Air Cooled

Heat stress and plant moisture management often includes regular light applications of water, often called syringing. Syringing is thought to provide temporary reductions in surface temperature thereby alleviating the stress associated with drought and heat. In southern climates, where heat stress of cool season turfgrasses is orders of magnitude greater than in northern climes, fans for air movement are often used to reduce stress.

Researchers at Auburn University have been investigating the use of syringing and air movement as a means of reducing surface temperatures of creeping bentgrass putting greens. A two-year study was conducted in Auburn, AL investigating the effect of fans alone, syringing alone and fans plus syringing on a creeping bentgrass putting green.

Soil temperatures were reduced significantly by any treatment that included fan use. Syringing alone had little to no effect on soil temperature and in some cases was shown to decrease root length density. Fans plus syringing reduced the time the soil temperature was at or above the critical temperature for injury by two to three hours compared to no cooling or syringing alone.

The use of fans does not receive the attention it deserves as a means of improving heat stress tolerance and it appears, based on this study, that syringing is overrated.

The use of fans does not receive the attention it deserves as a means of improving heat stress tolerance and it appears, based on this study, that syringing is overrated.


Farmlinks
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I CONpell University Turfgrass Times

Howard Wood

2005 Empire State Green Industry Show
November 15-17, 2005
Rochester Riverside Convention Center, Rochester, NY
www.nyssta.org/greenshow/program.htm

Scanning the Journals

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Will You Be There?

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