

Fall is the perfect time to tweak maintenance practices and tweak your turf before winter sets in.

You can feel it in the air and under your feet. The days are shorter, the nights longer. Summer's brutal temperatures have moderated. There are fewer golfers on the course. Superintendents don't have to be weathermen to know when autumn is nigh.

Fall is an ideal time to not only restore the vigor of turfgrass, but also get it prepared for the next full growing season. A superintendent's management practices during the autumn months can have significant positive effects on the quality of grass, especially cool-season varieties, the following season. Density and growth rebound in turfgrass during the fall and fertilization is a vital factor that aids in the process.

Mike Luccini, greens superintendent at Franklin Country Club in Franklin, Mass., begins his winter preparation of turf shortly after Labor Day weekend.

"Most of what we attempt to do is derived from plant physiology 101. We try to increase the solid matter in the plant and minimize the liquid levels. Minimizing the liquid obviously involves trimming



A solid fall fertilization program can mean the difference for a quick green up next spring.

Cooling off for
FALL

by John Torsiello

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— Mike Luccini, Franklin Country Club, Franklin, Mass.

the irrigation way back. We have dense tree lines, thus irrigation is rarely necessary after the third week in September, save for some spot watering.

“In terms of timing for late season nitrogen, we wait until after the first frost then apply roughly one pound of nitrogen to all of our greens, tees, and fairways. At this time of the season, there will be minimal top growth, and most of the nitrogen will be utilized to produce root growth. Late October, our first snow mold application goes down on our greens and tees. All told, we’re usually fully wrapped up just prior to Thanksgiving.”

Patrick Daly, superintendent at Framingham Country Club in Framingham, Mass., will typically fertilize fairways sometime in September with a granular and continue with any liquid applications when he sprays late into the fall.

“The goal for tees is to apply two half-pound nitrogen applications once mid-September comes with one application when we aerify tees. Greens will be fertilized with a granular product when we aerify/DryJect the last week in September. Depending on the summer and what we are seeing for late fall weather, we might try to sneak out two to three weeks after with another granular product but will continue supplement with our soluble program as needed into the fall.”

Bret Proctor, superintendent at Oak Tree National in Edmond, Okla., also begins his fall fertilization program in September. But fertilizer application is just one step he takes to help his turf recover from the rigors and vagaries of summer and heal before winter sets in.

“I apply potassium to all Bermuda grass areas. Mowing heights are raised and traffic control is regulated in the higher traffic areas, so winter damage is limited and the dormant turf provides a quality playing area until spring. We have three holes that we restrict cart traffic on because of the limited sunlight on these holes through the winter.”

Proctor says that restricting cart traffic to certain areas that receive minimal sunlight during the winter months is a must.

“The lower angle of the sun causes limited sunlight to reach the turf through the trees

in winter. This, combined with cooler soil temperatures, delays the break in dormancy compared to areas that are more open. These areas are typically two to three weeks behind the rest of the golf course and if cart traffic is not removed or limited in these areas it is early summer before there is a good stand of grass. Cart traffic through these areas in the winter months can create unnecessary damage.”

Chris Snyder, superintendent at Stonebridge Golf Club in Rome, Ga., applies fertilizer early enough to help prepare his Bermuda grass for dormancy. He believes a pre-emergent application must be applied before temperatures and rainfall amounts are conducive to annual bluegrass germination.

“Tees and green surrounds receive fertilizer and a pre-emergent application around the third week of September. The bentgrass greens are treated with Bensumec after aerification in September with a follow-up application in October. November would be too late for our area since annual bluegrass has already begun germinating due to lower temperatures and rainfall amounts in October.”

Ron Frecking, superintendent at Devou Park Golf Course in Covington, Ky. says, with warm season grasses, they let them grow a little long before dormancy and put down potassium. With cool season grasses, they fertilize heavily in the fall to recover from the summer and grow roots.

“We mow one last time as late as possible, keep free of leaves and get down a good broad spectrum fungicide just before dormancy,” he says. “The last cut of the year should be the best cut of the year with sharp blades for a crisp, clean cut.”

Michael Daugherty, superintendent at Sunset Hills Country Club, Edwardsville Township, Ill., aerates his course’s cool season turf areas, including greens and rough.

“Our fairways and tees are zoysia, which is a warm season grass,” he says. “The only thing we do to them in the fall is apply a fungicide for the prevention of zoysia patch disease that comes around in the moist spring months. We also let the height of our warm season turf grow up before it goes dormant to allow the

turf a better chance of survival in the winter. All of the cool season turf areas receive fertilization in late September to early October to establish good growth going into the winter.”

Brett Chapin, superintendent at Redding Country Club in Redding, Conn., has taken a different tack the last few years and altered his fall fertilization program based upon University of Wisconsin-Madison and Penn State research. Their research found that late and heavy nitrogen applications were likely wasteful and/or not as beneficial as has been taught.

Chapin supplies nitrogen through quick release forms, such as ammonium sulfate or urea.

“Forty to 60 percent of my yearly nitrogen totals are applied with these applications,” he says. “All of my fertility programs are geared toward bentgrass management. I want to avoid providing nitrogen when *Poa annua* desires it the most. In my location, September is a very important month for *Poa annua*, as it begins to recover from the summer stresses. Adding nitrogen at this time will assist in the recovery efforts of the *Poa*, while causing an undesirable flush of growth from the bentgrass.”

Dustin Riley, superintendent at Oconomowoc Golf Club in Oconomowoc, Wis., spoon feeds his greens with liquid fertilizer every seven days until Thanksgiving. He applies one pound of granular nitrogen mid-October following aeration. Tees and fairways are fed with one pound of granular nitrogen during mid-October following aeration. The goal is to increase root production, store carbohydrates and the treatment is timed to minimize plant growth. After November, lime is applied to tees and fairways to help correct pH. This results in a quicker green-up during the spring.

Daly pays close attention to weather conditions to determine when to fully implement his fall maintenance plan.

“The weather is the determining factor in all maintenance practices,” he says. “I would rather wait or skip an application until the weather conditions are in my favor. We monitor predicted snowfall for our final snow mold application on greens, tees and fairways.”

“Ideally, we like to have everything completed prior to the first snowfall,” says Luccini. “In our part of the country it’s possible to have permanent snow cover by Thanksgiving, thus we target the third week of November as a completion time for our winter prep.”

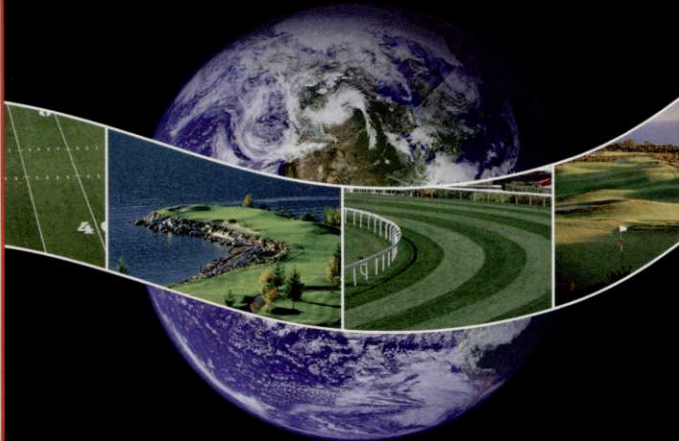
Snyder tries to apply fertilizer early enough to help prepare the Bermuda grass for dormancy. The pre-emergent application must be applied before temperatures and rainfall

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amounts are conducive to annual bluegrass germination.

Luccini says weather is the biggest factor. "I constantly monitor it throughout the season. We play the weather here and call a lot of audibles, so to speak."

Fall fertilization can vary from tee to green.

"We place the highest emphasis on our greens and tees, and lesser emphasis on fairways," says Luccini. "This translates into the number of plant protectant applications being higher on greens and tees and lower on fairways."

"Greens do not receive the same application as the Bermuda areas because they are bent grass," says Riley. "Spoon feeding greens with liquid fertilizer has increased root production during the fall months. Greens will be aerated twice, verticut heavily and receive a double drill and fill. It is very important we recover and maintain plant health."

"On fairways and tees," says Daly, "we have used an organic that is mixed with seed during aerification. It is applied after we mow but before we aerify. It is then dragged in with the plugs and allows us to better incorporate seed into the holes. We use this process with any approach and fairway expansions as well."

Frank Marra, superintendent at Pine Ridge Golf Club in Coram, N.Y., uses a combination organic and synthetic dormant feed with a goal of getting down one pound of potassium sulfate/M for winter hardiness on his greens.

"The nitrogen source won't release until



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soil temps begin to go up in the spring, which leads to a nice steady spring green up. The treatment is purely for the sand-based greens. This program would be too costly for the tees and fairways. Timing is critical. On the greens, we shoot for the turf to be entering dormancy, usually following two to three heavy frost events. Our traditional timing on fairways and tees is in early October, which is prime growing season."

Chapin also changes up his basic maintenance practices once autumn arrives.

"Once the weather cools and top growth slows, I'll increase mowing heights a little, approximately 15 to 20 percent on greens. I will substitute an extra roll or two each week to help maintain putting smoothness and speed. When possible, I'd prefer to have the bentgrass producing and storing energy, not repairing mowing damage."

Daly likes to aerify whenever possible in the fall and continues to apply light rates of sand topdressing depending on weather and the growth rate on the greens.

"I aim to apply sand topdressing on greens and tees prior to covering," he says. "We'll

aerify and topdress our practice tee once it closes in the fall and prior to covering, which helps it come out of the winter ready for early spring practice. Cutting heights are raised and smooth front rollers are used once we perform our aerification on greens in the fall. We slowly allow our fairways, tees, and approaches to grow a little, reducing mowing frequency depending on weather and wear issues due to low light and surface moisture."

Marra typically adjusts cutting heights up slightly going into the late fall due to reduced sunlight and colder temps.

"Our goal with aerification is to go into winter with no open holes. We want a nice tight turf canopy to minimize invasion of unwanted species in the spring and protect against winter desiccation."

Fall maintenance sometimes includes trial and error.

"We cover greens each winter, and a late winter application, if necessary, revolves around the ability to have the granular product break down without the aid of irrigation since we blow out our irrigation around Thanksgiving," says Daly. "The worst thing I could do is apply a granular application and then drag it around when installing our greens covers. I am planning to play around with higher rates of solubles in late fall to determine if that is a tool I have been underutilizing."

Luccini attempted late core aeration and topdressing back in 2003 and paid a price.

"With the course practically dormant around Nov. 1, we core aerated, top dressed, and filled the holes with sand. Little did I realize we would incur one of the most severe and damaging winters ever. I feel the dragging we did to incorporate the sand bruised everything and exacerbated the winter kill problems we had next spring.

"We had a lot of sand on the greens the next spring and no turf growth, thus it took weeks to get the sand entirely incorporated into the turf. In the meantime, our mowers were dulled from the sand, which just added to the challenges. Our equipment tech was re-sharpening reels daily until all the sand was dissipated." GCI



Work with the weather to find the right temperature for the final applications before and even during the first frost of the winter season.