

Non-Overseeded Ultradwarf Bermudagrass Greens — Faster, Smoother, Sooner

But managing them in the winter can be tricky.

BY BRIAN WHITLARK

In the desert Southwest, eliminating overseeding on ultradwarf bermudagrass greens is rapidly becoming the new trend, partially due to poor bermudagrass recovery after overseeding, but mostly because golfers have discovered that non-overseeded greens offer better surfaces for more golfing days. In the fall, when many overseeded greens are slow, wet, and prone to pitch marks, ultradwarf greens are at their best. When the overseeded turf is weakening the following summer and ball roll becomes inconsistent, non-overseeded greens often perform far better. However, there are more than a few misconceptions with respect to non-overseeded greens, both from an agronomic and playability perspective, that need be addressed before we move on and discuss specific management strategies.

As a few leading turf managers have already discovered, managing

non-overseeded greens in the winter can be tricky, and there are a number of pitfalls that must be avoided. Several misconceptions and pitfalls are summarized in the following points:

Misconception: Greens Firmness.

In informal surveys, most golfers, golf professionals, and even most turf managers perceive that non-overseeded greens are firmer and therefore less receptive to golf shots than overseeded surfaces. This is simply not true. In fact, in every case where this author has quantified the firmness using the USGA TruFirm® on both overseeded and non-overseeded surfaces on the same green, the non-overseeded portion is always less firm. Most likely, the non-overseeded surface is softer, a result of more thatch mat, which leads us to the next bullet point.

Misconception: The practice of overseeding greens creates more

thatch and organic matter than when not overseeded — true or false? Based on personal observations, it appears this statement is false. Although there is no research data to confirm this, experience with measuring thatch and organic matter levels on both non-overseeded and overseeded greens shows that the non-overseeded surfaces always produce more thatch, at least in the desert Southwest. The bermudagrass grows for more days without competition from the cool-season turf and therefore produces a greater thatch mat.

Misconception: Traffic Damage.

Course officials often express that their primary fear with non-overseeding is the damage from traffic, the potential for weak turf, and even bare ground. This is not the case. One golf property that regularly sees more than 60,000 rounds per year (80% between November and May) had no issues



Ball marks on non-overseeded surfaces (left) are far less noticeable than on their overseeded counterparts (right), especially in the fall, when the overseeded greens are immature.

with traffic damage on non-overseeded ultradwarf surfaces.

Misconception: Ball Marks. Given that non-overseeded greens are likely softer than their overseeded counterparts, one would assume that ball marks will be more prevalent. However, this has not been the case. In fact, all the turf managers that contributed to this article were in agreement that complaints about ball marks were non-existent or decreased substantially once overseeding was eliminated from the greens program.

Pitfall: Winter color. Right or wrong, the desert Southwest market demands green. This should not be a deterrent to eliminating overseeding from the program; it is merely an additional challenge the turf manager must address. Turf colorant technology has come a long way in recent years, and superintendents are now offering cosmetically attractive, non-overseeded greens in the dead of winter. Several turf managers offer their colorant strategies later in this article.

Pitfall: Green speed. One very real concern in the desert Southwest is excessively fast green speeds during extended periods of cold weather and negligible growth. However, with a sound fall setup program, green speed can be maintained at an acceptable pace throughout the winter. Fall is the time to increase mowing heights and reduce mowing frequency. When growth stops in December or January, it is likely too late to increase heights.

Pitfall: Scarred hole plugs. Another concern when not overseeding greens is that old hole plugs recover slowly. If plugs are high and scalped, recovery will be slow, although colorants often hide such scars fairly well. Furthermore, if thatch is not aggressively controlled throughout the year, the turf around the outside edge of the hole plug often deteriorates in a half-moon pattern, forming a scar. This issue is seen throughout the year where horizontal stolons are allowed to grow unabated, but this is most problematic in the winter. Unfortunately, if hole scars are an issue at your course, substantial improvement will likely require several years of more aggressive surface grooming practices.



Which one of these surfaces has been treated with a colorant? In June (above) the Champion bermudagrass is growing aggressively, but during the first week of January (below), when the bermudagrass is dormant, the aesthetics of the painted surface are excellent, and, more important, the greens are smooth and true.





Surface management practices, such as sand topdressing, continue in the winter, although less aggressively and less frequently than during the primary growing season.

After reading the above-mentioned summary, the primary fears about not overseeding greens should have been addressed. Turf managers should take note of the pitfalls mentioned, including winter color, green speed, and scarred hole plugs. With this in mind, the remainder of this article will focus on strategies that three turf managers have employed in the Southwest Region to overcome such pitfalls and endear golfers to non-overseeded ultradwarf greens.

FALL MANAGEMENT (THE SETUP PERIOD)

Fall, which for the sake of this article includes October, November, and a few weeks into December, is an important setup period for preparing

for the onset of winter dormancy. The fall months are essential to encourage late-season growth, increase heights, employ what are likely the last surface grooming practices for the year, and begin using colorants.

How do you encourage late-season bermudagrass growth and color?

Charlie Costello, superintendent, Phoenix Country Club: We spray urea and/or calcium nitrate to supply about 0.10 lbs. of N/1000 ft² every 7-10 days. Green spray dye is applied year-round, which warms the surface in the fall and encourages growth. Primo applications continue on a biweekly schedule, although rates drop from 14 oz./acre/month during the growing season to as low as 3 oz./acre/month in the winter.

Rob Collins, superintendent, Paradise Valley Country Club: Nitrogen inputs are increased from weekly applications at 0.10 lbs. of N/1000 ft² to 0.25 lbs./1000 ft² beginning in October and continuing through the end of November. Rates drop to 0.10 to 0.15 lbs. N/1000 ft² during the winter. Green pigment applications begin sometime in mid-November when growth has slowed, but the turf remains green.

Bill Rupert, superintendent, Alta Mesa Country Club: Nitrogen is applied every two weeks at 0.10 lbs. of N/1000 ft² during the summer. Once the humidity decreases and growth slows, nitrogen inputs are increased to 0.20 lbs./1000 ft² on a biweekly schedule. Green spray dye applications begin in early to mid-November.

How do you manage green speeds prior to winter dormancy?

Charlie Costello: Greens are double-cut daily with fixed-head mowers set at 0.110 inch through most of the fall. Target green speed ranges from 10 to 11 feet as measured by the Stimpmeter. In early November, mowing height is adjusted up to between 0.115 and 0.120 inch. Double-cutting is no longer employed when growth slows substantially, usually in mid-November.

0.005 inch per week until we reach a maximum height of 0.130 to 0.140 inch in the winter.

Do you conduct any late-season surface grooming practices?

Charlie Costello: Fairly aggressive verticutting is employed once per month, using the “backtrack” method, but the last of these practices is completed in late August/early September. Grooming blades continue to run daily

We always test an area a day or two before and adjust in 0.005-inch increments. Topdressing with medium-sized sand is practiced weekly and will likely continue into the winter, although the frequency may be reduced. We groom 3-4 days per week through early November. Brushing, both with gear-driven models and front-mounted brushes (used on alternate days), is practiced 3-4 days per week, but we will reduce the frequency based on clippings and weather.

Bill Rupert: Grooming continues through the fall at even or 0.005 inch below mowing height. Verticutting is practiced every three weeks through September at 0.010 inch below the height of cut and will resume in February.



On ultradwarf bermudagrass greens, the turf may senesce in a “half-moon” pattern on the outer perimeter of old hole plugs, often in the down-grain direction. Superintendents in the Southwest Region report that this is the primary source of complaints during the winter on non-overseeded greens.

Rob Collins: We discontinue double-mowing when growth slows in November. Mowing heights may increase by 0.010 to 0.020 inch, but green speeds must be maintained above 11 feet. It was interesting that last winter we had to lower mowing heights during the first week of January as green speeds slowed to about 10 feet when temperatures increased for a few days.

Bill Rupert: We mow with floating head mowers and double cut and double groom daily at a height of 0.070 inch through the summer and into the fall. When overnight temperatures consistently stay in the mid 60s, heights progressively increase by about

through October, set at or slightly below mowing height. The frequency reduces to 4-5 days/week through November. No grooming is conducted in December and January, but brushing continues 4-5 days per week. Sand topdressing with medium-sized sand is applied twice monthly through November with walking rotary spreaders set wide open in two directions. Topdressing frequency drops to once per month in December and January, and the rate is reduced considerably — only one pass is made and the spreader setting is reduced a few notches.

Rob Collins: Weekly verticutting with blades set at 0.020 inch below zero will continue until mid-October.

WINTER MANAGEMENT (THE DORMANCY PERIOD)

December, January, and portions of February coincide with minimal growth or complete dormancy for ultradwarf greens in the desert Southwest. Turf managers often continue to supply nitrogen in light amounts in the event that sporadic warm temperatures may encourage growth. The biggest concerns during the winter months are excessively fast greens, lack of recovery on old hole plugs, and winter color. Our contributing superintendents share their winter tactics in the following discussion.

How do you manage greens speeds during the coldest months of the year?

Charlie Costello: Mowing height is increased to 0.130 inch in December, and that height is maintained through February. Greens are mowed six days per week and rolled the seventh day. Green speeds often range from 12 to 12.5 feet as measured by the Stimpmeter. We can slow them down by brushing.

Rob Collins: Mowing frequency changes to only once per day, and we may skip one day per week. Heights may increase, but only by 10 to 20 thousandths. We track growing degree days (GDD, base 55) (<http://ag.arizona.edu/azmet/heatunits.pdf>) and weigh clippings daily. When the

GDD units drop into single digits, growth slows and speed increases. We will see periods of double-digit GDD, in which several days later the clippings will increase and we may need to lower heights or roll to maintain our target speeds of about 12 ft.

Bill Rupert: We mow 2-3 times per week in the winter. The greens are cleaned of debris the remaining days for play and sometimes rolled, depending on their pace. Our floating-head mowers are set to 0.130-0.140 inch. The target green speed ranges from 10 to 11 feet.

How do you preserve the integrity of old hole plugs?

Charlie Costello: This is our biggest challenge and the primary source of complaints we may hear. The regular green dye applications seem to help, but we recognize that more aggressive and more frequent cultural practices must be employed during the growing months to see real improvement.

Rob Collins: More aggressive thatch and organic matter reduction practices over the last three years have really reduced this problem, although it may never entirely go away. We paint the soil above the hole liner daily and reduce the hole changing frequency to 5 days per week during December, January, and a few weeks in February.

Bill Rupert: Scarred hole plugs is my number-one complaint. We have tried a number of tactics to reduce this problem, but nothing seems to work very well. Ultimately, we need to be more aggressive in managing horizontal growth throughout the year.

How do you maintain green color during the winter months?

Charlie Costello: Green dye is applied on a 7- to 10-day schedule. A walking boom sprayer is set to apply 1.5 oz. of Green Toes[®] dye/1000 ft² (about 6 quarts over 3 acres) and 0.20 lbs. of N/1000 ft², using flat fan nozzles. The sprayer is pulled behind the applicator to avoid foot prints and wheel marks. Three minutes of water is applied, with overhead irrigation following each application.



In July of 2010, rectangular areas where desiccation had occurred during the winter remain noticeably weaker than the surrounding turf. Turf colorants were applied in these areas during the winter to evaluate color and performance. The colorants warmed the surface and expedited soil drying.

Rob Collins: We have tried painting and pigments. With our roller-coaster weather pattern, we have mowed the paint off in the past, so it did not last long. Using the pigments on a weekly schedule produces more consistent color. The rates will depend on the color response. A word of caution when using colorants: Be prepared for the soil to dry out faster, which may result in desiccation. Check soil moisture with a portable moisture meter regularly.

Bill Rupert: Green Toes[®] spray dye is applied at 2 quarts over 3 acres every 7-10 days. We don't have the ability to close the course to paint, so we use the dye prior to play in the morning.

CONCLUSION

Non-overseeded ultradwarf bermudagrass greens have the potential to provide smooth, consistent, and fast putting surfaces for more golfing days when compared to the same greens when overseeded. However, endearing golfers to non-overseeded surfaces has not been easy in the desert Southwest. Probably the biggest complaint

from golfers is the scarred hole plugs and the color difference when compared to overseeded greens, but those comments fall to the eye of the beholder. The late Steve Jobs once was quoted saying, "Most people make the mistake of thinking design is what it looks like — 'Make it look good!' That's not what we think design is. It's not just what it looks like and feels like. Design is how it works." Much in the same way, putting green presentation is not all about how it looks; a great putting surface offers a combination of cosmetics and playability.

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