JACKLIN SEED by Simplot

Volume 15, Issue 5
October 2012

RESEARCH NEWSFLASH

How Much N do Golf Grasses Need?

by Doug Brede, Ph.D. and Christian Baldwin, Ph.D.

Christian Baldwin and technician Jami Mayer apply fertilizer treatments to bentgrass cultivars to determine their nitrogen requirement.

The quick answer to the question above is: "As little as possible to get the job done."

Nitrogen is a key element in putting green management. You have to apply it for appearances sake, to keep the green looking green and attractive. Nitrogen is also essential for repairing wear and tear that comes with normal golf traffic.

But apply too much N and bad things start happening. Topgrowth accelerates, causing mower scalping and slow ball roll. Thatch can accumulate, leading to a soft, spongy surface that harbors moisture and insects. So if less N less is better, how do you determine the correct amount?

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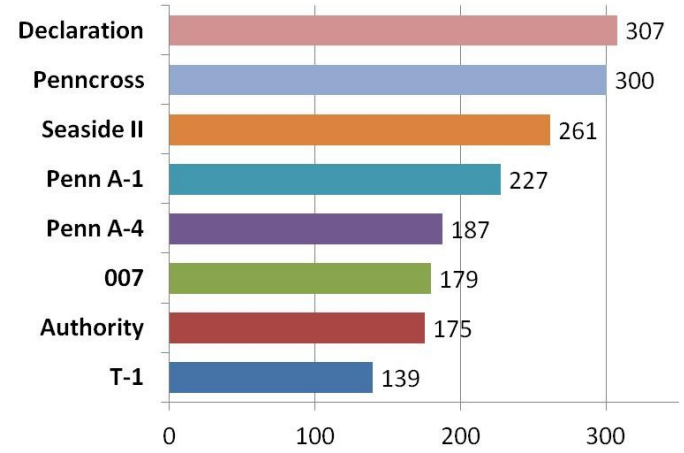

Nitrogen requirements of creeping bentgrass cultivars mowed at putting green height in Post Falls, ID, in September 2009 and 2010. Numbers indicate pounds of nitrogen per acre per year required to maintain an acceptable turf color rating of "7" or above. T-1 required the least N to maintain an acceptable appearance.

Sea Spray Seeded Paspalum Comes to Jacklin Seed

by Doug Brede, Ph.D.

Recently, Jacklin Seed acquired the exclusive rights to Sea Spray, the one and only patented seeded seashore paspalum (*Paspalum vaginatum*) variety. Other vegetatively propagated paspalum varieties are on the market worldwide, but Sea Spray offers the convenience and genetic purity of a seeded certified proprietary variety. Seed of Sea Spray is grown in Oregon, far from other paspalum or bermuda production, so there is guaranteed purity and no cross-contamination.

Seashore paspalum is a fine bladed warm-season, creeping perennial grass with a reputation for salt tolerance. After establishment, Sea Spray can be periodically irrigated using brackish or effluent water – at salt levels that would injure or kill many plants. Sea Spray is adapted for sports turf, lawns, and golf courses in Jacklin Seed's Zone 5 (Tropical) where bermuda is now grown.

Entire courses have been seeded to Sea Spray within a few days using standard planting equipment. Sea Spray can also be interseeded into existing grasses. Thin turf can be revitalized with minimal loss of play.

A wealth of management know-how can be accessed online at www.Seasprayinfo.com. Here are a few commonly asked questions about Sea Spray:

Q: How shade tolerant is Sea Spray?

A: Sea Spray is more shade tolerant

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Professional golfer Hunter Mahan of the United States hits a bunker shot during a practice round of the 94th PGA Championship at the Ocean Course on August 7, 2012 in Kiawah Island, SC. The Ocean Course started interseeding several years ago with Sea Spray, and the fairways are now up to 90% Sea Spray.

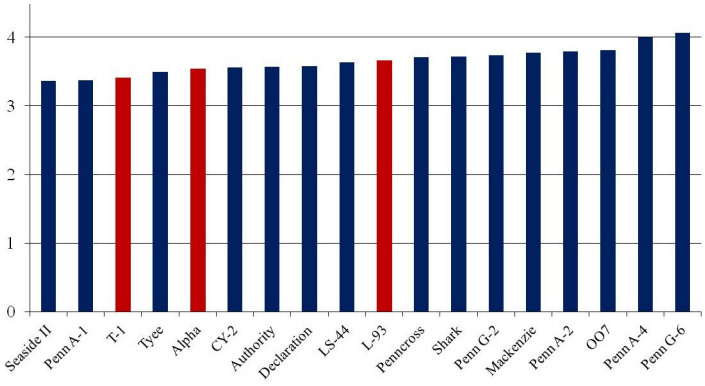
Nitrogen, continued

A comprehensive article on putting green N use was published by Dr. Baldwin and me in the Sept./Oct. edition of the refereed scientific periodical, *Agronomy Journal.* The study examined the performance of 18 popular bentgrass cultivars and how each responded to 3 levels of nitrogen. The investigation was unique in that it looked at several putting green attributes, not just one single trait. The attributes included: chlorophyll content, visual color, putting green speed, topgrowth, lateral regrowth, and thatch accumulation. In the net analysis, Jacklin Seed's T-1 scored in the top statistical grouping combined across all traits.

The graph on page 1 shows results for color. The experiment applied liquid nitrogen fertilizer every other week from spring until fall at rates of 1, 3, or 6 pounds per 1000 ft^2 per year. Next, a computer program was used to calculate a line through those three nitrogen rates to estimate the minimum N dosage required to achieve a color of "7" or above. Seven was considered acceptable color for a putting surface on a 1 to 9 scale.

As expected, higher nitrogen rates resulted in more chlorophyll, more clippings, faster lateral regrowth, and a shorter ball-roll distance. Thatch accumulation was not statistically influenced by N, although there was some trends in the data. The short, two-year lifespan of the experiment was probably the reason for few thatch differences. The variety plots themselves had been in place for two years prior, to provide a solid turf surface before fertilizer treatments commenced.

The graph below shows T-1 and Alpha having slightly less thatch than other varieties despite their higher density. Earlier researchers had worried that today's higher density varieties might have problems with thatch. However, the study concluded that "newer cultivars with increased shoot density were no more prone to thatch accumulation than older, more open-canopy cultivars." A 2010 study at Purdue by Cale Bigelow arrived at a similar conclusion.



Four years of thatch buildup on 18 cultivars, averaged across 3 nitrogen rates. T-1 and Alpha had slightly less thatch than other varieties. Thatch (left side of chart) is expressed in terms of kilograms of organic matter per meter square (1kg/m^2 equals roughly 2 lbs. per 10 ft^2).

Sea Spray, continued

than bermuda. It is particularly useful in areas of the world with an overcast rainy season, where bermudagrass becomes unthrifty and basically stops growing.

Q: How salt tolerant is Sea Spray?

A: Sea Spray can withstand saline soil and effluent water once established. Mature turf can tolerate up to 5,000 ppm when properly managed. When using saline water, it is important to periodically flush the salts in order to keep the soil profile from plugging. Also, it is important to watch where your sprinklers throw water. Trees and flowers can be sensitive to saline overspray.

Sea Spray can handle low levels of salinity during seedling grow-in. But it is best to irrigate with potable water. Salinity above 1,500 ppm TDS can slow the speed of grow-in.

Q: How does Sea Spray do in the cooler part of the year?

A: In general, paspalum goes dormant slower than bermuda, which aids in winter color and spring greenup. In areas of the world where paspalum goes totally dormant, Sea Spray has been found to transition well from ryegrass winter overseeding.

Seashore paspalum is not as winterhardy as common bermudagrass. In the US, its adaptation is limited to the Carolinas, Georgia, Florida, and across the South to Texas and California.

Q: What is the shelf-life of paspalum seed?

A: Like all seeded warm-season grasses, paspalum does not tolerate storage in dampness and heat. "Longevity really depends on storage," says paspalum expert, Gordon Zielinski. "We still have viable germs on seed from 2002. On the other hand, we have seen seed sent to Hawaii lose germ in 6 months. I have seen it last for a number of years in other warm-season areas. We recommend storing the seed in cool and dehumidified conditions." Paul Raymer at the University of Georgia recommends 400 to 500 lbs. of KNO_3 per acre in the preplant fertilization to encourage germination.

Q: What are the normal seeding rates on a golf course?

A: For greens 2 lbs./1,000 sq. ft. (10 g/m^2) of coated seed, and for fairways, 1 to 1.5 lbs. (5–7.5 grams).

Q: How long does it take for a typical golf course to grow-in Sea Spray from seeding to open for play?

A: "We have had some projects open in 120 days, but they were not really fully established. Six months is usually sufficient. The greens are the trick. Also the temperature and seasonal climate have an impact on the speed of growth," says Zielinski.