

Questions from the Field

by Doug Brede, Ph.D.



Doug Brede, Jacklin Seed Research Director for 23 years, examines a seed production field of Nu Destiny Kentucky bluegrass.

Q: We are hearing more and more about rust on golf course roughs and sod farms. Any particular varieties prone to rust? Are there any that do not get any?

A: We've tried for years to breed for rust resistance. Trouble is, there are so many different species and races of rust that breeding for one gives you no guarantee of resis-

tance to others. For example, if this year you go to your state university and jot down the orange rusty plots, chances are when you go again next year, a different set of plots will be orange.

Fortunately rust tends to be an establishment-year issue, like seedheads in the stand. That's why you see it a lot on sod farms. It's uncommon to see rust after the stand is older than 1 year -- unless you're going cold turkey on fertilizing or water. Most (but not all) times, a shot of NPK+S at the first sign of rust will kick the turf into drive and avoid the rust. Remember, rust is a true parasite and only persists on tissue that's standing still. New, growing leaves are generally rust free.

Questions from the Field is a recurring column in the *NewsFlash* that deals with real questions from customers and real answers from our Research Director

Chart-toppers against stem rust are **Solar Eclipse** (ranked #2 overall), **4-Season**, **Everest**, **Nu Destiny**. Our best varieties against crown rust are **Award**, **EverGlade**, **Limousine**. Best against leaf rust are **Total Eclipse**, **Freedom III**, **Rugby II**. Like I said above, each rust species has its own "preferences."

Q: We shipped a seed mixture to a customer who found nematodes inside the seeds. Our client is asking what do we know about it and how they can respond to the authority? Suggestions?

A: Nematodes (pinworms) can be routinely found in grass seed. These nematodes are of little consequence to the health and vitality of the resulting turfgrass stand. They are specific to *Poa*, *Lolium* and *Festuca* and are not the *Aphelenchoides besseyi* nematodes that harm rice, etc.

When grass seed is planted and kept mowed, the seed-borne nematodes have no way to propagate to the next generation and quickly perish. Also they are not highly mobile and thus do not flee to neighboring crop land.

If they need to eradicate the nematodes for mandatory phytosanitary reasons, nematodes in seed are controllable with a 60 minute bath in 50 C hot water.

Q: One sod grower customer had a lot of seedheads this spring in their bluegrass blend while a second-year field nearby was showing no seedheads. This customer is doing a lot more renovations with the golf courses, and superintendents want no seedheads on their course. Would you recommend a blend that has varieties that are showing very little or no seedheads in the production field?

A: I don't often get comments about our varieties having seedheads in the turf. In 15 years of National Testing, our varieties have consistently had the fewest seedheads in the turf among hundreds of others (www.ntep.org/data/kb00/kb00_06-11f/kb0006ft45.txt). Generally the Baron/Shamrock/Merit-type or common varieties have seedhead issues in turf.



Seedheads in mowed turf

There are four other things that can influence headiness: (1) week of the year, (2) stand age, (3) seeding rate, and (4) fall fertilization. Each variety has a certain week that it puts up heads. Baron and its sister varieties do it in mid May. Our varieties send up heads in early June. Other varieties about a week later. A blend may look heady one week and another blend the following week.

Page 2

Everything You Ever Wanted to Know about 'L-93' Creeping Bentgrass

by Christian Baldwin, Ph.D.

L-93 creeping bentgrass is seeded on more golf course fairways throughout the world and has over a decade of proven performance. Researchers at universities across the country continue to use **L-93** in their trials. I have been compiling and summarizing research papers into a user friendly format from a variety of sources, which include industry trade magazines and peer-reviewed scientific journals. Topics you will find in the **L-93 Creeping Bentgrass Research Update** online document include thatch control, wetting agents, fertility, disease management, plant growth regulators, and soil amendments during **L-93** establishment. To learn more, visit www.jacklin.com and follow the links to **L-93**. 

Seedheads Q&A, continued

First-year fields tend to be most prone to headiness. After that, turf becomes sodbound and rarely goes to seed.

Seeding rate also affects heading the following spring. In grass seed production, for example, farmers try to find the optimal seeding rate to give them the most heading. They find that lower seeding rates produce the most heads, while heavier rates (90-130 lbs.) produce fewer.

Grass seed farmers also use a big shot of soluble N in late October/early November to stimulate spring heading. If your sod customer is fertilizing then, you might encourage them to apply earlier and watch out for that window of vulnerability. Fertilizing in September may produce no spring heads, whereas fertilizing in early November can bring on more seedheads.

Varieties with the very fewest seedheads in turf according to NTEP include **4-Season, Everest, NuChicago, and Sudden Impact.**

Q: While in Virginia last year, I ran across “certified sod.” How does that differ from certified seed, and why don’t we hear more about that in the West?

A: The concept of certified sod began in the East. One of the more successful sod certification programs is in the states of Maryland and Virginia. To get governmental bids, golf course projects, large municipality business, sports fields etc., growers must produce sod under the state certification scheme. This requires sod producers to (1) pick varieties on the MD and VA approved list (based on NTEP and local trialing). (2) Official seed samples must be drawn by a state inspector and tested by the Dept. of Ag prior to being blended or sown. (3) Certified seed must be used to plant the sod field. In the case of MD, they actually have seed blending plants that are certified for blending and a state inspector on-site when the blend is being done. (4) The field is inspected by the state inspector during spring to insure purity and uniformity.

These additional steps contribute to a higher price for certified sod. But in the end the customer gets a quality product. For the certified sod grower, it gives them the opportunity to capture business and keep the renegade re-growers and junk merchants out.

Q: Is there some way of predicting how long grass will take to germinate in the spring, especially when temperatures are cold?

A: There are a few research studies that address this issue, mainly by Danish authors. An article by Søren Ugilt Larsen and Bo Martin Bibby allows you to predict when in the spring Kentucky bluegrass will germinate, given daily air temperature. The trick is to keep a running tally of all the daily maximum temperatures above 2.6 degrees C (or 37°F). If you take your daily high, subtract 2.6 degrees C (or 37°F), your Kentucky

bluegrass will reach 50% germination when the running sum exceeds 115°C (207°F) cumulative degrees. Thermal time for perennial ryegrass is 63.9 C (115°F) and 43.8°C (79°F) for red fescue.

An older but still relevant article comes from a 1940 USGA publication by Aubrey W. Naylor. He explains that mature Kentucky bluegrass grows in the spring long before its seed would germinate. Bluegrass “when well established, grows most vigorously at temperatures between 60° and 75°F. Kentucky bluegrass, once it has become established, will grow well under conditions which are unfavorable for the germination of its seed and for early growth.”

Q: Can anything speed up the seed germination and growth of Kentucky bluegrass? I heard that potassium nitrate works.

A: Potassium nitrate is used to stimulate germination of freshly-harvested seeds including Kentucky bluegrass in the seed laboratory. Seed analysts when they do germination testing, routinely soak bluegrass seeds in a 0.1 or 0.2% concentration of potassium nitrate. Potassium nitrate contains two important fertilizer elements that promote germination. With other grass species, potassium nitrate may inhibit germination because of the salt effect. Potassium nitrate is a salt and it makes water less available to the seed. In Jacklin Seed field tests, we have found no evidence that potassium nitrate-treated seed germinates any faster than untreated seed.



Emily Bartell prepares treated seed for a field trial in Post Falls, ID.

Q: What’s up with seed coatings? I’ve heard of several new turf seed coating plants going in, including one called Oregon Seed Enhancement.

A: Coated grass seed gets rediscovered as a miracle product about every 10 years. When I tested it as a grad student at Penn State, we found the starch coating did not just absorb water from its surroundings, it sucked water right out of the seed as well. Not good. And it doesn’t take a genius to figure who wins with coated seed. When seed that costs \$2 per lb. is coated with filler that costs 25 cents a lb., and the coated seed is sold at \$2 per lb., the seller clearly wins. The buyer gets half the normal number of seedlings emerging in their lawn.

Over the years we’ve tried hundreds of seed treatments (washes, coatings, fungicides, fertilizers, hormones, bacteria, starches, you name it) at Jacklin to get bluegrass seed to sprout faster. Most concoctions either don’t work or actually injure and slow down the seed. A small percentage work occasionally but unpredictably – only when the stars align. A common flaw with coatings is that they have to be heated to bring the seed back down to 12% moisture. If a coating technician isn’t watching, a batch can soar above 140°F and cook the seed.



Grass seedlings can be slow to sprout in a cold spring