RESEARCH NEWSFLASH

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Rhizomes in Tall Fescue: Are They For Real?

by Mark Sellmann

Mark Sellmann, Jacklin Seed's tall fescue breeder, examines one of his nursery plants with rhizomes.

Q: I'm hearing a lot about tall fescue varieties with rhizomes. Are these rhizomes legit?

A: Short rhizomes on tall fescue were first reported by Harry Porter of the USDA in 1958. In 2004 Pam Sherratt of Ohio State University studied 6 tall fescue varieties whose makers claimed were rhizomatous. Under mowed conditions, she found that tall fescue rhizomes were shorter than those of bluegrass. All were less than 1 inch in length. The number of plants displaying a rhizome averaged 21%. Simulated traffic wear was applied during 2 growing seasons, and bare soil areas were not found to recuperate quickly. She concluded that rhizome development in most soils, particularly under high traffic, was negligible.

All tall fescue varieties grow laterally at a rate of about 4-6 inches per year. These two fescue plants, growing in a winter dormant lawn of Limousine Kentucky bluegrass, are 1.5 to 2.5 ft. across, indicating a plant age of 3-5 years. In older turf, it's not unusual to see plants of K-31 that are 6 ft. across.

Q: What are the turf advantages of rhizomes?

A: Bluegrass rhizomes aid in healing and knitting. When divots or bare spots occur, rhizomes fill in (self heal). Rhizomes also eliminate the need for nylon netting in turfgrass sod production. That's why many growers of tall fescue sod currently add Kentucky bluegrass to their mix. Otherwise, the sod disintegrates when cut and lifted.

Curiosity or phenomenon?
Even normal tall fescue plants occasionally shoot out a rhizome, like the one captured here in Sellmann's 2002 Post Falls, ID, field nursery.

Q: How deep and how long are tall fescue rhizomes?

A: I've observed tall fescue rhizomes to be rather shallow, about ¼ to 1 inch deep, and about 1 to 4 inches long. Other researchers have found that under mowed conditions, rhizomes of the so-called "rhizomatous fescues" were less than 1 inch long. A typical Kentucky bluegrass rhizome can extend over a foot, even under mowing.

Q: What growing conditions favor rhizome expression?

A: Joe Bouton, University of Georgia, found that sandy soils are most conducive to rhizome growth. Silt or clay soils stunt development. Shoot development from these rhizomes is another issue. Shoots from rhizomes tend to sit there and never develop into a full plant (without additional maintenance to sever the daughter plant from the mother and encourage the lateral plant to grow).

Q: Do all fescue varieties have some rhizomes?

A: Up to 95% of tall fescue plants exhibit a rhizome under the right growing conditions. Personally, I've seen rhizomes on our Jacklin varieties in my field nurseries. The number generally ranges from 1 to 10 strong rhizomes per 100 plants (see photo above).

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Q: Can a turfgrass sod grower regrow a tall fescue sod crop from rhizomes alone?

A: No sod grower has yet been able to regrow a sod crop of "rhizomatous tall fescue" from returning rhizomes. In fact, few have even reported any success with eliminating their nylon netting. For one thing, I don't know of any company selling "rhizomatous tall fescue" as a straight. All have bluegrass or other fescue varieties mixed in. The Ohio State study found that tall fescue rhizomes are much slower to develop than bluegrass. It would take years for regrowth to fill. No sod producer can afford to wait that long.

Q: How do the rhizome varieties perform for quality and disease?

A: Without pointing the finger at any competitor, let me state simply that no one knows. A clever trick one company uses is to sell their rhizome variety strictly in blends with non-rhizome varieties. That way, you never get an accurate feel for the rhizome ability — or lack thereof. Also, these rhizome varieties have not shown up in NTEP, or in any other refereed turf trials. I did see a "straight" (i.e., no blend) plot of one of these rhizome varieties at a university test ground once, and now I understand why they are avoiding test trialing.

The future of tall fescue?
This wild-type *Festuca* plant discovered by Sellmann during a collecting trip has an almost bluegrass-like rhizome shooting out to the left. Much work has to be done to cross-pollinate this related species into a modern, tall fescue variety.

Q: Is Jacklin Seed breeding a rhizome tall fescue variety?

A: Yes, I'm approaching it from several directions. I've collected new rhizomatous germplasm from plant collection trips. Some of these plants are quite winter active. I selected other germplasm from our existing varieties and crossed them in the greenhouse. My goal is to release a variety with truly functional rhizomes, not just rely on marketing hype to sell a product.

Research News-Flash Article File

by Emily Bartell

From time to time we get requests for written turf information to use in landscape newsletters and the like. Keep in mind that we can send you articles from back issues of the 9 years of Jacklin's NewsFlash. I have listed the timely topics that appear in back issues.

If you'd like a copy to insert in a business newsletter, or would just like to learn more on a subject, email me at emily.bartell@simplot.com and I will reply with the text and photos from that article.

A New Look for the NewsFlash

You may have noticed that Jacklin Seed's Research NewsFlash is sporting a new, modern look for 2006, designed by our resident artist, Emily Bartell. Rest assured that the NewsFlash is still authored by the researchers themselves and will continue to feature cutting edge scientific findings.

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