



Wear Tolerance in Fine Fescue

by Jon Schnore, MSc.



A dense, low maintenance stand of Marco Polo sheep fescue.

Two new studies by turf researchers at the University of Minnesota are shedding some much-needed light on wear tolerance among the fine fescues species.

In a study published this month by Maggie Reiter, Eric Watkins and Brian Horgan, the researchers examined the performance of fine fescue mixtures under fairway conditions. Twenty-five mixtures of five fine fescue species were planted. The scientists used a "divot harvester" to remove chunks of sod from each plot, later examining recovery. They concluded that "the top performing mixtures contained significant proportions of hard fescue and slender creeping red fescue." This finding flies in the face of many textbook teachings that recommend chewings and strong creeping red fescue as best for golf.

In a related study, 44 cultivars and selections of fine fescue were planted in a replicated turf trial to simulate traffic stress on a fairway. The trial was maintained at ½-inch height

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V8 Seeding Rate

by Doug Brede, Ph.D.

More is better, right? Not necessarily so when it comes to seeding rate, according to Trey Rogers and his graduate student Thomas Green at Michigan State. Their findings were presented this month at the American Society of Agronomy meetings in Long Beach, CA.

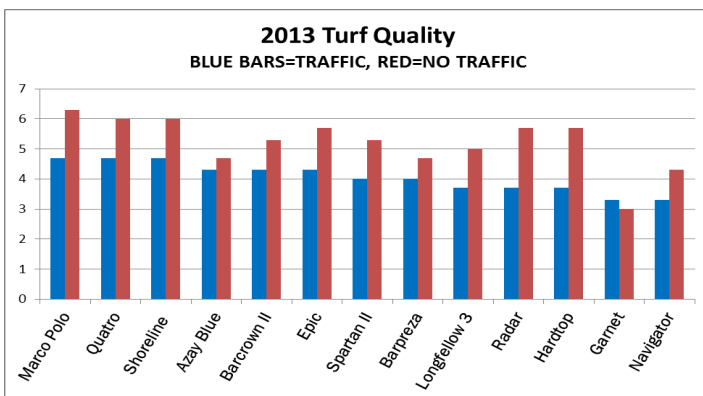


Aerial view of a V8 seeding rates trial at Michigan State University. The aim of the experiment was to determine the seeding rate with the shortest renovation time.

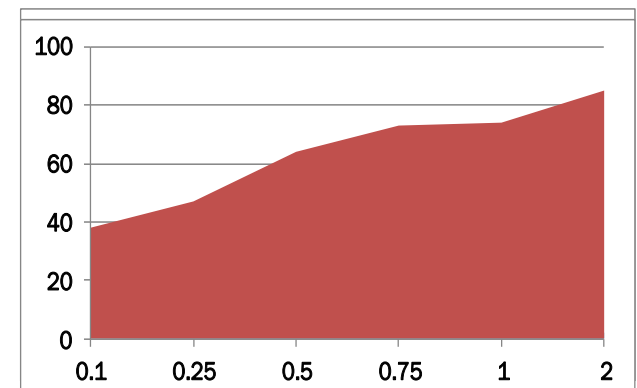
Seeding rate is a compromise: Plant too heavily and you wind up with too many frail seedlings that can't support the weight of maintenance equipment. On the other hand, plant too lightly, and the stand takes longer to fill. Furthermore, seeding too heavily brings on seedling diseases such as damping off, while seeding too lightly can contribute to opportunistic weed invasion.

"Our objective was to evaluate the effects of various seeding rates and traffic initiations on the establishment of a sustainable putting surface following renovation," says Green. With many Michigan

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Turf quality of fine fescue cultivars in St. Paul fairway traffic study. Taller bars indicate better performance.



*V8 seeding rate (lbs./1000 ft²)
Percent plot fill at 8 weeks after seeding, as affected by seeding rate.*

Fescue, continued

of cut and irrigated to prevent dormancy. It was seeded June 26th, 2012 in St. Paul and received 2 lb. of nitrogen fertilizer per year in the form of 18-0-18. In this trial, Jacklin Seed's sheep fescue, **Marco Polo**, ranked among the top two cultivars in turf quality, with and without traffic (see bargraph, page 1).

Kentucky bluegrass, tall fescue and perennial ryegrass are well known for their wear tolerance and recuperative ability. But when it comes to wear, we tend to forget about the fine fescues. This group of cool-season turfgrasses encompasses several subspecies: hard fescue, sheep fescue, chewings fescue, strong creeping red fescue, and slender creeping red fescue.

Each of the fine fescue species has their particular useful niche. For example, hard fescue, chewings fescue and strong creeping red fescue are often used in homeowner blends mixed with bluegrass, tall fescue and ryegrass. Their percentage within the mixtures differs depending upon the desired function. Oftentimes the fine fescues are used for low-input areas or areas where mowing and fertility are minimal. In some special circumstances they are even used on golf course putting greens.

Traditionally, fine fescues are by and large not considered to be very wear tolerant, especially when compared to ryegrass. On the other hand, their wear tolerance is great enough to allow for use on fairways of golf courses without golf cars or with minimal rounds. Chewings fescue, for example has been planted as a straight, or blended with colonial bentgrass and used as the primary grass on golf courses in several European countries. Strong creeping red fescue can also be used on fairways – especially where heavy shade is an overriding factor. The conditions leading to the use of these grasses include cool, wet summers, well drained soils and low nitrogen inputs. More information related to the specifics of the management of fine fescues can be found at <http://sterf.golf.se>. 🏌️



Southwoods golf course in Beijing, China, makes maximum use of fine fescues. Their roughs are planted to Jacklin Seed's Irish Links blend.

Seeding rate, continued

golf courses undergoing greens renovation into modern, high-performance cultivars, the researchers wanted to see what could be done with seeding rates to accelerate the process. For example, which seeding rate produces the toughest stand that can best support golf traffic the following spring? And how fast can it do it?

The researchers admit, “although speedy establishment is a means of mitigating renovation costs and revenue loss, the ability of excessively high shoot density turf to withstand traffic is uncertain at best.”

Their trial was planted to V8 in August 2012 and duplicated again in 2013, with data taken the following year in each experiment. Wear treatments were imposed beginning in May, June, or July of the following season using a Jacobson mower retrofitted with 116 soft golf shoe spikes.

Green says the two lowest seeding rates did not fully fill their plot the first season, but all plots were suffi-



Too much of a good thing can actually be bad. Here are the results of a greenhouse study using up to 10 pounds per thousand square feet (50 g/m²) of Kentucky bluegrass seed. The brown turf was killed by damping off fungus which attacked the frail seedlings before they even reached 1 inch tall.

ciently full by the initiation of the traffic treatments the following spring. As the wear treatments were imposed in the spring, researchers employed a “shear vane” to detect differences in the rooting of the grass into the USGA rootzone. Only the May and June traffic treatments showed lower shear strength. In other words, it's probably best to wait until July to open the course for play, following an August establishment.

The researchers went on to say that data “suggests that seeding at the conservative rate of 3.7 g/m² [3/4 lb.] in late-summer, and then delaying play until late-spring or early-summer, a sustainable putting green surface could be attained in the first year following renovation.” 🏌️