



## ATTRIBUTES

★'s 5 = Outstanding, 4 = Very Good, 3 = Good, 2 = Moderate, 1 = Poor

★★★★★	Close Mowing	★★★★	Summer Patch
★★★★★	Shade Tolerance	★★★★★	Snow Mold
★★★★★	Turf Density	★★★★★	Leaf Spot
★★★★★	Spring Greenup	★★★★★	Genetic Color

- **4-Season** Kentucky bluegrass (*Poa pratensis*) is the first bluegrass variety to provide elite, high quality performance in all four seasons of the year. Comes out from under spring snows in a green and growing condition. **4-Season** is truly a turfgrass for all seasons!
- **4-Season** rates among the top varieties for turf density and establishes quickly to form a very dense, uniform turf.
- A versatile bluegrass for full sun or partial shade, **4-Season** is an excellent choice for any turf application, with exceptional performance in the Northeast and Transition zones.

## PERFORMANCE HIGHLIGHTS

**PROVEN TRAFFIC TOLERANCE:** In NTEP data, **4-Season** exhibited strong tolerance to wear and damage from traffic studies at both Wisconsin and New Jersey NTEP sites. When coupled with strong winter and early spring performance, **4-Season** is a strong component for sports turf and recreational mixes.

**DISEASE RESISTANCE:** In university trials, **4-Season** showed strong resistance against snow mold and leaf spot, with improved resistance to summer patch. Inherent natural disease resistance means fewer chemical inputs and reduced disease problems.

**DROUGHT TOLERANCE:** Early NTEP results released in 2008 indicate that **4-Season** shows a very good resistance to the initial symptoms of drought, leaf wilt and early dormancy. With water use an important issue in most areas, it's important that grasses exhibit strong drought tolerance to minimize the loss of quality and safety.

**BLENDS WELL:** **4-Season** compliments all Jacklin grasses. Plant it at 2-3 lbs./1000 ft<sup>2</sup> (10-15 g/m<sup>2</sup>) with other bluegrasses. Mix it with ryegrass at 80% **4-Season**, or with tall fescue at 20% **4-Season**.

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## Speeding Up Spring Greenup

by Doug Brede, Ph.D.

After the quirky winter we had, lawn greenup in many areas of North America was erratic or delayed. Low soil temperature is usually the most obvious culprit in sluggish spring greenup. Grass blades just won't grow until soil temps get over 40°F. And no amount of fertilizer at that point can help.

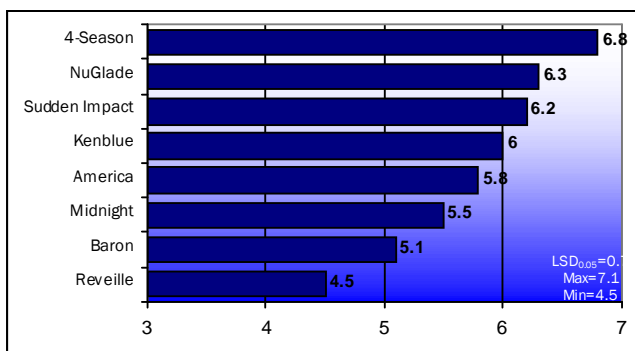


April 15, 2008 shows three patterns of spring greenup among bluegrasses. A common-type variety (left) is already a foot tall, while an improved variety (Midnight, center) is slow to wake up. '4-Season' (right), a new variety from Jacklin Seed, is already green and growing, yet with little topgrowth.

In addition to cold soils, there are other causes of slow greenup, according to the Turf Extension staff at University of Massachusetts:

- *Winter desiccation* - Large areas of straw colored grass especially where exposed to wind with little snow cover.
- *Spring frost damage* - Green leaves are killed back by frost and winds.
- *Water and ice damage* - Straw colored or rotted grass, especially where water collects in frozen pockets.
- *Snow mold* - White, pink, and gray mold in circular patches on moist grass. cont. p.2.

NTEP 2006 spring greenup data show '4-Season' as better than the common-type varieties in spring color and quality performance. Larger values indicate faster greenup across 5 states.



### Greenup, continued

- *Salt damage* - Dead or yellowed grass along sidewalks, drive-ways, or roads where salt has been applied.

### Grass species differences

Snow mold killed a lot of perennial ryegrass and tall fescue this past winter due to a prolonged snow cover in many areas. Damage was so severe in the northern tier states that reseeding may be necessary. Once the crown (growing tip) of ryegrass or fescue is killed by fungus, it has no way to regenerate.

Kentucky bluegrass, on the other hand, is rarely killed by snow mold, even if it does show symptoms. After a severe attack, bluegrass is able to regenerate its stand from underground rhizomes.

Kentucky bluegrass is commonly brown in early spring from spring frost damage. Many people have noticed that their bluegrass lawns look greener during snow breaks in January and February than in March and April.

A "cure" for March bluegrass browning in the past has been to plant common-type varieties such as Kenblue or Baron. Common varieties produce copious amounts of top-growth (clippings) in the spring which makes them seem to green up before the elite cultivars. Unfortunately, common varieties have drawbacks: They succumb to melting out and other diseases by May and can remain brown until summer.

For years, I've tried to breed an elite bluegrass that greens up early in the spring. I found that the traits of greenup and elite performance were closely linked on the chromosome, and it took years of hybridization to break that link. This year Jacklin Seed is premiering its first elite low-mow bluegrass with outstanding spring greenup. Our new variety, '4-Season,' maintains its dark green foliage through the winter, and it stays green even after snow melt. Blue-tag certified seed of 4-Season is available September '08 in limited supply.

### Fertilization effects on greenup

Spring is the wrong time to consider fertilizing for better greenup. "University research has shown late-season nitrogen fertilization to be a very desirable option for [encouraging greenup]," say professors Tony J. Koski and John R. Street. "This type of program, which emphasizes fertilization during the September to December period, is reported to enhance winter turf color, quicken spring green-up, reduce lawn disease problems, and improve grass hardiness during the summer months."

Unfortunately, late fall fertilization has been dropping in popularity since it was learned that it is a prime suspect for fertilizer escape into the environment. Fertilizer can wash away from frozen soil or leach into groundwater at a time when turf is not actively consuming it.

"Nitrate (NO<sub>3</sub>) leaching from fertilizers applied to turfgrass sites has been proposed as a major source of nitrate contamination of ground waters in suburban areas where turfgrass is a major land use," wrote Kristie S. Walker and Cale A. Bigelow of Purdue University in a study entitled, Nitrogen Fertilization Effects on Three Lawn Species in Indiana. Their study encourages September and October fertilization to boost spring color, but cautions about applying it too late, when it is unavailable to the plant.