

BY ZAC REICHER

Late seeding and winterkill risk

A summary of winterkill information and options for establishing turf now.

We are now out of the preferred seeding period as our temperatures are trending down. Growing degree days (GDD) is a measure of heat units and are often used to predict pest and plant growth. We often use a base of 50F, so the calculation is [(daily high F + daily low F)/2 - 50F].

Figure 1 shows the 25 year average for growing degree day accumulation and is

graphed opposite of traditional, showing expected GDDs remaining this season. As of writing this on Oct. 1, we have less than 35 GDD remaining this year compared to 700 GDD at the beginning of the prime seeding window on Aug 15 and 170 GDD at the end of the window on Sept. 15. Putting GDD in practical terms, turf seeded on Aug 15 could be five times more mature by winter than an identical stand seeded

on Sept. 15 or 20 times more mature than a stand seeded on Oct. 1. This is why we always recommend seeding as early in this Aug. 15 to Sept. 15 window as possible.

Though seeding might still be successfully done yet this fall with significant inputs and precautions, poor establishment or winterkill should practically be expected if seeding is still attempted this fall. Winterkill of all turfgrass plants can

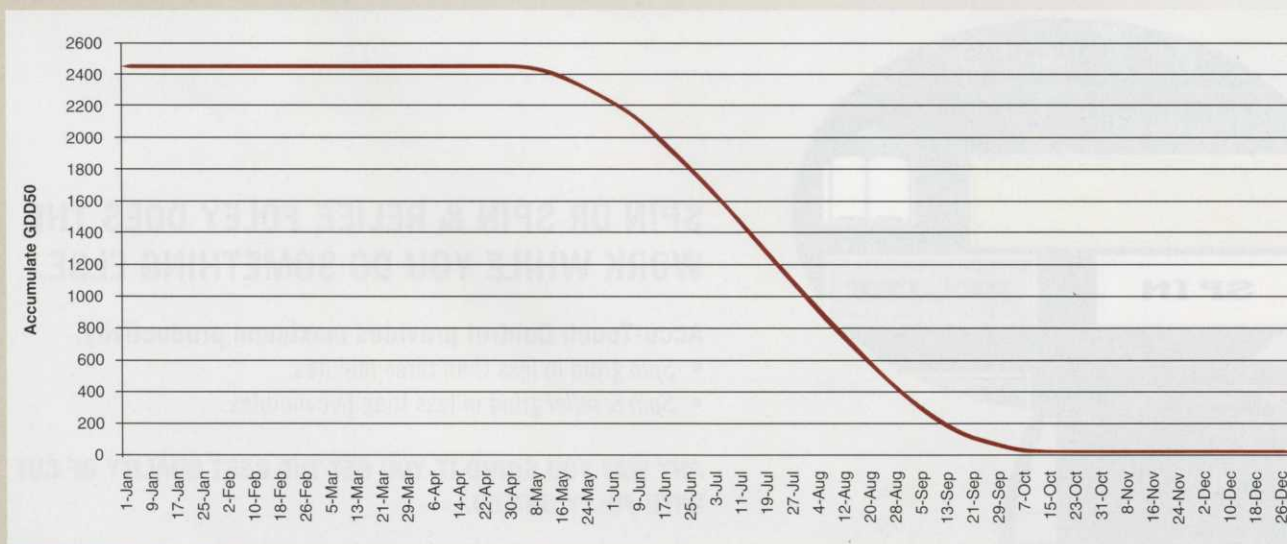


Figure 1. Remaining growing degrees days (GG50) left in the season based on 25-year averages at our turf research station in Mead NE. Less than 35 GDD are expected to accumulate yet this year which is likely not enough for turfgrass establishment.



Figure 2 (Above): Spring 2013 cover of turf seeded September of 2013 in the foreground compared to turf seeded in August of 2013 in the background. **Figure 3 (Top Right):** May 2013 picture of creeping bentgrass seeded very early spring 2013, covered with a seed cover on the right and uncovered on the left. **Figure 4 (Bottom Right):** Early September 2013 seeding after three weeks of covering with an erosion blanket on the left, uncovered on the right

be through desiccation in dry windy areas, crown hydration in poorly drained areas, or direct low-temperature kill with dramatic temperature drops to extreme cold in the fall or winter (like last year's early October freeze in Figure 2).

More information is at <http://turf.unl.edu/pdf/articles/march%20winterkill.pdf>, but following is a summary of winterkill information and options for establishing turf now.

SPECIES SELECTION. Winterkill risk varies with species, but seedlings are especially susceptible to all forms of winterkill.

- Perennial ryegrass is quick to germinate, but especially prone to winterkill.
- Tall fescue germinates in 10-14 days and can still achieve 80 to 100 percent cover by winter if seeded now and maintained properly, but tall fescue is also particularly prone to winterkill.
- Creeping bentgrass germinates in 7-14 days and could also achieve 80 to 100 percent cover by winter if seeded now and maintained aggressively. However, it is

also markedly prone to winterkill.

- Kentucky bluegrass germinates in 21-28 days and would be lucky to achieve 50 percent cover by winter if seeded now, but has good winterkill tolerance even as a seedling.

ENVIRONMENTAL FACTORS REDUCING WINTERKILL RISK

- Warm and long fall to maximize seedling maturity
- Areas that can be effectively irrigated now and covered with seed covers or erosion blankets to maximize speed of establishment (Figures 3 and 4)
- Areas protected from winter winds out of the north and west
- Areas that can be watered during the winter
 - South-facing slopes that should stay warmer deeper into the fall
 - Areas that can be covered with winter covers, erosion blankets, or snow

OPTIONS

- Seeding now is still an option for the

next 7-10 days on areas where the risk of winterkill can be justified, depending on the species and the previously mentioned environmental factors. Also seeding now on small areas that will take little cost and effort to reseed if winterkill occurs should also be seed as soon as possible.

• Seeding on erodible sites should also be done ASAP to limit soil erosion over the winter, and consider hydromulch or erosion blankets to hold soil. Temporary turf like perennial ryegrass or pasture grasses like oats or winter rye could be seeded at 2-4 lbs seed/1,000 sq ft. The ultimate erosion preventer is sod, which can be laid almost any time of the year as long as it is available.

• If the risk of winterkill to seedlings cannot be justified given the previous discussion, dormant seeding is a great option to be done between November and March.

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