

**MINNESOTA TURF SEED COUNCIL  
NEWSLETTER  
July 19, 2022**

**PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)**

Perennial ryegrass GDD's (from snow melt to swathing) will be tracked in the 2022 growing season with comparisons to the previous six years. A base temperature, T-Base = 32 degrees F, will be used for perennial ryegrass.

- Year to date GDD = 2,320 (Table 1)
- Last week (July 11-17) accumulated GDD = 265; the long term average = 243
- Projected GDD for the next 10 days = 395, or 39.5/day (Table 1)
- Average GDD for the fourth week of July = 234, or 33.4/day
- The 10 day forecast suggests warmer than average temperatures for the end of July as the projected GDD is 39.5/ day vs the long term average of 33.8/day.

Table 1. Growing Degree Days (GDD), March - July 2016 to March - July 2022 near Roseau MN.

Year	2022	2021	2020	2019	2018	2017	2016	2022 vs. 2021
March	0	131	30	0	0	90	38	-131
April	95	236	183	211	184	458	263	-141
May	649	640	600	548	815	679	765	+9
June	959	1,007	995	919	1,007	917	945	-48
July 1-17	617							
July		1,174	1,179	1,067	1,100	1,095	1,123	
Total		3,188	2,987	2,745	3,106	3,239	3,233	
*July 18-27	395							

\* Forecasted GDD at Roseau for the next 10 days.

**GENERAL CROP CONDITION**

Perennial ryegrass fields range from pollen shed to some fields beginning to turn brown. Historically, the accumulation of 2,700 GDD is required before swathing of spring seeded perennial ryegrass. Fall seeded ryegrass and spring seeded ryegrass with injured crowns will take additional time to mature. The year to date accumulation of GDD is 2,320. If the 2,700 GDD accumulation for swathing holds true, some ryegrass fields may be swathed during the last week of July. Fall seeded ryegrass and fields with winterkill issues will be delayed up to a couple weeks.

The ten day forecast indicates a continuation of the warming trend of the last couple weeks. Projected GDD of 40/day and will promote growth and development of plants, weeds, diseases and insects. Field scouting has identified pockets of grasshoppers. Remember, small grasshoppers are easier to control than larger grasshopper and the growth and development of grasshoppers is favored by warm temps.

**CROP MANAGEMENT**

Perennial ryegrass fields have begun to turn a brown color. This is a reminder that swathers will be soon rolling in perennial ryegrass fields. Several swather types can be used in perennial ryegrass. The data in Table 2 is from Oregon State University and was obtained from on-farm strip trials.

Table 2. Perennial ryegrass seed yield and seed loss from various swather types operated in on-farm strip trials in Oregon. N.P Anderson, M. Goussard and B. Donovan, 2018.

Swather Type*	Seed Yield (#/acre)	Seed Loss (#/acre)	Seed Loss (%)
MD Single Auger	2,465 b	712 b	28.6 b
JD Double Auger	2,182 a	763 b	34.3 b
MD Draper	2,516 b	453 a	17.3 a
JD Rotary Disc	2,356 ab	630 b	27.6 b

\*MD = MacDon; JD = John Deere

The data in Table 2 was collected from on-farm strip trials conducted in Oregon and is the average of two sites. Swathing trials were conducted on the day the farmer cooperator would swath the field. Average ryegrass seed moisture at swathing was 21.4% which is dryer than when perennial ryegrass is swathed in MN conditions. The data collected, averaged over the two sites, suggest a difference in seed yield and seed loss based on the type of swather used in perennial ryegrass. Conclusions from this research.

- Environmental conditions influence the amount of perennial ryegrass biomass production. In MN, the drought conditions 2021 resulted in “thin line” ryegrass plants that were more prone to seed shatter than years with more “robust” production of ryegrass biomass
- As swather width is reduced a short ryegrass plant may not produce a windrow that can be efficiently picked up with the combine
- The lack of biomass will result in more movement of the ryegrass plant from the swathing operation, especially traveling as speeds over 10 mph which will increase seed shatter
- The lack of dew in the morning will result in more seed shatter, especially with more aggressive cutting operations
- Ryegrass seed shatter increases as seed moisture moves from the mid-30’s into the 20’s
- Wider swather widths, when operated at lower speeds, will produce a windrow that should be more efficiently be picked up with the combine

### **PEST MANAGEMENT**

Moderate pressure of crown rust and light infestations of leaf and stem rust have been observed in perennial ryegrass at the U of MN Magnusson Research Farm in areas not sprayed with a fungicide. No leaf diseases were observed in areas that received a fungicide. South winds transport the rust spores into northern MN that infect perennial ryegrass. Recent rains and high humidity will favor the development of leaf rust in perennial ryegrass. The length of time that a fungicide will provide protection against rust is influenced by; the choice of product, product rate, infestation level of the disease pathogen and the number of days since the last fungicide application. Now that we know leaf rust in the area be sure to review the last fungicide application timing. If the fungicide protection is about to run and the timing of ryegrass swathing is a couple weeks or more out a fungicide application may be warranted to protect the ryegrass seed yield potential.

Next week’s newsletter will be released on July, 26<sup>th</sup>