

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
July 16, 2019**

RYEGRASS GROWING DEGREE DAYS (GDD)

Ryegrass GDD will be tracked for the 2019 growing season with comparisons to the previous six years. A base temperature of 32 degrees F will be used for ryegrass (T-Base = 32 F). Reported GDD are based on the total accumulation from the beginning of the calendar year, after snow has melted from ryegrass fields, to the current calendar date.

- Year to date GDD = 2,172 (Table1)
- Average GDD accumulation for second week of July = 243 (34.7/day)
- Actual GDD accumulation for second week of July in 2019 = 258 (36.9/day)
- Accumulated GDD in the first week of July 2019 was +2.2/day above the long-term average
- Average temperature for the third week of July; high temperature of 79 F and low of 53 F
- Average GDD accumulation for third week of July = 239 (34.1/day)
- Projected GDD for third week of July = 269 (38.4/day)
- Forecast for the third week of July 2019, +4.3 GDD/day higher than the long-term average

Table 1. Growing degree days (GDD), March - July 2013 to March - July 2019 near Roseau MN.

Year	2019	2018	2017	2016	2015	2014	2013	2019 vs. 18
March	0	0	90	38	119	0	0	0
April	211	184	458	263	367	159	80	+27
May	548	815	679	765	659	654	640	-267
June	919	1,007	917	945	941	964	975	-88
July 1-14	494							
July		1,100	1,095	1,123	1,147	1,066	1,088	
Total	2,172	3,106	3,239	3,134	3,233	2,843	2,783	
*July 15-24	382							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

Several ryegrass fields are beginning to show a brown cast in the upper portion of the plant canopy. This is a sign that seed filling is near completion and the plant is beginning to mature. With the recent rains coupled with above average temperatures, plant dry down will proceed at an above normal pace. If the weather forecast holds, look for these early maturing ryegrass fields to be swathed by the end of the month.

PEST MANAGEMENT

Wheat leaf rust was detected in southern MN on 7/11/19. No reports of rust in ryegrass have been received as of 7/15/19. Rust can travel long distances in a short time, especially with southerly winds that carry spores from southern states into northern MN.

CROP MANAGEMENT

With ryegrass beginning to turn from green to light brown, swathing will be right around the corner. The following ryegrass swathing timing information is from Oregon (Table 2) and the U from the MN Magnusson Research Farm (Table 3). When to swath ryegrass? The swathing decision is a balancing act, not to not cut the late-maturing seeds too early and the early-maturing seeds too late. When ryegrass is cut too early (high seed moisture content) will shorten the seed filling time which leads to immature seeds and reduced seed size and weight. Cutting too late (lower seed moisture) will reduce seed yield due to increased shatter in the swathing and harvesting operations. Data in Tables 2 and 3 suggest that optimum seed moisture to swath ryegrass is in the mid-30's. Significant seed yield losses occurred when ryegrass was swathed when the seed moisture content was over 40% or, when seed moistures dropped into the high 20's.

Table 2. Harvest components in perennial ryegrass swathed at different moisture contents and seed shatter, Lindsay Farms near Shedd, Oregon in 2004.

Seed Moisture (%)	Seed Yield (#/acre)	Cleanout (%)	1,000 seed wt. (%)	Seed Germ (%)	Seed Shatter* (#/sq. ft.)	Seed Shatter** (#/sq. ft.)
45	1,695	14.5	1.84	95.9	2	17
36 [^]	1,727	15.1	1.82	97.0	3	78
29	1,662	14.5	1.87	95.8	4	131
LSD (0.05)	48	NS	NS	NS	NS	82

*Ryegrass seed shatter between swaths

**Ryegrass seed shatter under swaths

[^] Normal swathing moisture content of perennial ryegrass

Table 3. Ryegrass seed yield, seed moisture and test weight influenced by cutting date average over two small plot locations (Rice Farms and U of MN Mag Farm in 2014).

Sample Date	Seed Yield* (% of the mean)	Seed Moisture** (%)	Test Wt.*** (#/bu)
7/30	96.9	46	28.5
8/1	93.8	43	29.2
8/3	107.5	40	29.3
8/5	110.2	38	29.9
8/7	121.7	34	30.1
8/9	93.9	28	31
8/12	88.8	26	31
LSD (0.05)	6.2		

*Mean seed yield U of MN Mag Farm = 1,368#/acre and Rice Farms 1,348#/acre

** Seed moisture determined by microwave oven

*** Clean seed test weights corrected to 12.5% moisture

Next week's newsletter will be released on July 23rd, 2019.