

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
July 2, 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 = 1,678 (Table1)
- Average GDD accumulation for last week of June = 220 (31.4/day)
- Actual GDD accumulation for last week of June in 2019 = 249 (35.6/day)
- Accumulated GDD in the last week of June 2019 was +4.2/day above the long-term average
- Average temperature for the first week of July; high temperature of 76 F and low of 52 F
- Average GDD accumulation for first week of July = 230 (32.9/day)
- Projected GDD for first week of July = 244 (34.9/day)
- Forecast for the first week of July 2019, +2.0 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		1,100	1,095	1,123	1,147	1,066	1,088	
Total	1,678	3,106	3,239	3,134	3,233	2,843	2,783	
*July1-10	352							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

Many area ryegrass fields are beginning to shed pollen. Over the weekend, pollen clouds were observed moving across perennial ryegrass fields. Perennial ryegrass typically will shed pollen in the mid-morning and will last for several hours. This week will be a busy one for fungicide applications with the goal to protect the ryegrass head from diseases pathogens. To maximize ryegrass seed yield it's critical to protect the entire seed head in addition to the flag leaf. The ryegrass seed head is a major source for the photosynthetic energy necessary for seed filling. Disease pathogens allowed to consume the ryegrass seed head will have a negative impact on seed yield.

PEST MANAGEMENT

The USDA-ARS tracks rust development and movement from the Gulf of Mexico to the northern plain states. Thus far in 2019, leaf rust has NOT been detected in MN, but has been detected as far north as Nebraska. Oat crown rust was detected in a research plot in St. Paul on June 17th. Field scouting continues to monitor and track the progress of rust as it moves northward. For additional information see the link below for the Cereal Rust Bulletin. The link to this site: (<http://www.ars.usda.gov/mwa/cdl>)

Historically, in northern Minnesota environments, crown rust has been observed after approximately 1,500 GDD and leaf and stem rust at 1,900 GDD. Year to date, we have accumulated 1,678 GDD (Table 1). The new 10-day forecast indicates that we will be in the window for potential leaf and stem rust infestations. Rust spores that move into the area from the Gulf of Mexico got a slower start this year, thanks to a cold winter for most of the U.S. With the recent warm weather and southerly winds, rust spores can move long distances in a few days. Ryegrass is, or will soon have full head extension. The following are several strategies for rust control in ryegrass post heading:

- 1) Scout ryegrass fields for rust every two- to- three days. In favorable environmental conditions rust can increase rapidly and this fungal pathogen can “explode” in just a few days.
- 2) If a fungicide has been applied with a previous trip across the field, apply a fungicide when the last applied fungicide is about to “run out”. The number of days of disease protection will depend upon the fungicide used and product rate.
- 3) Spray a fungicide after the accumulation of 1,900 GDD. Historically, leaf and stem rust occurs at approximately 1,900 GDD. A full rate of a fungicide will provide rust protection for 21 to 28 days. A fungicide applied at 1,900 GDD should provide disease protection until ryegrass swathing (approximately 2,800 GDD).

CROP MANAGEMENT

Insects in ryegrass

Grasshoppers continue to be found in area ryegrass fields. Field scouting suggests that field edges are the most likely areas to find grasshoppers. Action thresholds for grasshopper nymphs are 30-45/square yard and 6-8 for adults, or 25% defoliation. If grasshopper adults begin to feed on the head, this action threshold will be much lower. Field scouting will determine the level of insect pressure in ryegrass fields and if treatment is needed. Seagulls feed on grasshoppers, so if you see seagulls in fields it may be a sign of grasshopper infestations. If grasshopper action levels get near or above threshold levels, consult with your agronomist or fieldman for product/s that have been successfully used in ryegrass in your area.

Next week’s newsletter will be released on July 9th, 2019.