

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
June 25, 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 = 1,223 (Table 1)
- Average GDD accumulation for second week of June = 186 (26.6/day)
- Actual GDD accumulation for second week of June in 2019 = 177 (25.3/day)
- Accumulated GDD in the first second of June 2019 was -1.3/day below the long-term average
- Average temperature for the third week of June; high temperature of 71.4 F and low of 47.8 F
- Average GDD accumulation for third week of June = 197 (28.1/day)
- Projected GDD for third week of June = 209 (29.9/day)
- Forecast for the third week of June projects +1.8 GDD/day higher than the long-term average

Table 1. Growing degree days (GDD), March - June 2013 to March - June 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 1-16	464							
June		1,007	917	945	941	964	975	
Total	1,223	2,006	2,144	2,011	2,086	1,777	1,695	
*June 17-26	320							

* Forecasted GDD at Roseau for the next 10 days.

SUMMER GRASS SEED AND HYBRID RYE FIELD TOUR - JUNE 25

Mark your calendar for June 25th for the annual grass seed summer field tour to begin at 5 pm at the U of MN Magnusson Research Farm. A hybrid rye tour will be held at 3 pm at the U of MN Magnusson Research Farm for those interested in hybrid rye production. Directions to the U of MN Magnusson Research Farm; from the intersection of Hwy 11 and 89 travel approximately 2 miles north on Hwy 310, turn left (west) off Hwy 310 onto Roseau County 16 and for approximately 3 miles. The farm is located on the north side of Hwy 16.

GENERAL CROP CONDITION

Last week was a busy one for the applications of plant growth regulators in early seeded fall and spring seeded ryegrass. Late seeded ryegrass is several days behind spring seeded ryegrass and will soon begin to enter the heading stage. Ryegrass will continue the heading stage of growth this week. The current 10-day forecast projects above average temperatures. Look for ryegrass pollen shed to begin towards the end of this 10-day period.

PEST MANAGEMENT

The USDA-ARS tracks rust development and movement from the Gulf of Mexico to the northern plain states. The graphic below is from the USDA web site and illustrates the movement of rust from south to north in the United States. This movement of rust has been termed the Puccinia Pathway. Thus far in 2019, leaf rust has NOT been detected in MN. 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 1,223 GDD (Table 1). The new 10-day forecast indicates that we will be in the window for potential crown rust infestations. Crown rust usually is not a major disease problem in ryegrass, but it has been observed in isolated fields. However, leaf and stem rust is a much different situation. This disease pathogen can cause significant ryegrass seed yield losses when environmental conditions are favorable for disease development. If we experience warmer than normal weather, with southerly winds, this timeline will shorten and if we are cooler than normal, with northerly winds, will lengthen this timeline. To summarize, perennial ryegrass is susceptible to two different rust diseases, crown rust which has an orange cast compared to the red color of leaf and stem rust. Of the two diseases, leaf and stem rust has the potential to cause more economic damage than crown rust. More on ryegrass rust in next week's newsletter.

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.

Strategies for rust control in ryegrass post heading are:

- 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 have been found in area ryegrass fields. In northern MN, grasshopper emergence usually corresponds with the beginning of the bloom in lilacs. Grasshopper growth and development increases with hot and dry weather. If the weather is cool and moist grasshopper development is slowed and a natural disease will help to reduce the population. The life cycle for grasshoppers is complete in 40-60 days from egg to nymph to adult. Grasshoppers pass through 5 to 6 growth stages as a nymph. Grasshopper nymphs don't have wings, only the adults can fly. As of this date, field scouting would suggest grasshopper infestations are NOT to threshold levels. Generally, grasshoppers can first be found on field edges and as time goes on, move into the field interior. 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 2nd, 2019.