

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
June 22, 2021**

PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)

Perennial ryegrass GDD's will be tracked in the 2021 growing season with comparisons to the previous six years. The accumulation of GDD's will begin after the snow has melted from the perennial ryegrass fields and continue through swathing. A base temperature of 32 degrees F will be used for perennial ryegrass (T-Base = 32 F).

- Year to date GDD = 1,748 (Table 1)
- Last week (June 14-20) accumulated GDD = 243
- Average GDD for the third week of June = 197
- Projected GDD for the next 10 days = 368, or 36.8/day (Table 1)
- Average GDD for the end of June = 212, or 30.3/day
- The new 10 day forecast suggest a return to above average temperatures for the end of June as the projected GDD accumulation is 36.8/day compared to the long term average of 30.3/day.

Table 1. Growing Degree Days (GDD), March - June 2015 to March - June 2021 near Roseau MN.

Year	2021	2020	2019	2018	2017	2016	2015	2021 vs. 2020
March	131	30	0	0	90	38	119	+101
April	236	183	211	184	458	263	367	+53
May	640	600	548	815	679	765	659	+40
June 1-20	741							
June		995	919	1,007	917	945	941	
Total	1,748	1,808	1,678	2,006	2,144	2,011	2,086	
*June 21-30	368							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

The new 10 day forecast suggests warmer than average temperatures for the end of June. This extended above average temperatures with below average precipitation is beginning to take a toll on ryegrass growth and development, especially on lighter textured soils. Perennial ryegrass fields are heading and shedding pollen. After anthesis, the ryegrass plant will begin to divert photosynthate to the newly developing seed. At full seedhead extension a fungicide application will protect the seedhead from diseases and will maximize yield potential.

SUMMER GRASS SEED FIELD TOUR - JULY 1

The annual grass seed summer tour is scheduled for July 1st with the field tour to begin at 5pm at the U of MN Magnusson Research Farm. Directions to the U of MN Magnusson Research Farm. At the intersection of MN Hwy 11 and 310, proceed north on MN 310 for approximately 2 miles, turn left (west) on Roseau County 16 and proceed west for approximately 3 miles. The U of MN Research Farm is located in the north side of Roseau County 16. Grass seed research trials include: Kernza, perennial ryegrass and tall fescue variety trial evaluations, fertility research in perennial ryegrass and tall fescue, fungicide, growth regulator and weed control research in perennial ryegrass and residue management in kernza, and perennial ryegrass.

CROP MANAGEMENT

The USDA-ARS tracks rust development and movement from the Gulf of Mexico to the northern plain states. As of early June, leaf rust was observed in susceptible winter wheat varieties in St. Paul. In addition, light infections of rust was visible on barberry in SE MN. Barberry is an alternate host for rust that infects wheat and other grasses. Field scouting will continue 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>).

In northern MN environmental conditions, crown rust has been observed after 1,500 and leaf and stem rust after 1,900 GDD. The new 10 day forecast indicates that we will be in the window for potential leaf and stem rust infections in perennial ryegrass. Rust spores travel on low level jet stream winds from southern states into the perennial ryegrass production areas of northern MN. Perennial ryegrass is heading and will soon exhibit full head extension. To maximize perennial ryegrass seed yield it's important to protect the entire ryegrass seedhead from diseases that can reduce the photosynthetic area of the seedhead. The following are strategies for rust control in perennial ryegrass post heading.

- 1) Scout ryegrass fields for rust a couple times a week as in favorable environmental conditions rust can develop and increase rapidly and this disease can “explode” in a few days.
- 2) If a fungicide has been applied with a previous trip across the field, apply a fungicide when the last fungicide is about to run out. The number of days of disease protection will depend upon the fungicide used and product rate.
- 3) Apply a fungicide when the ryegrass seedhead is fully extended. A full rate of a fungicide applied at full head extension should provide protection for 21 days. The new 10 day forecast indicates that we will have accumulated 2,100 GDD by the end of June. Historically, ryegrass swathing will begin after the accumulation of 2,800 GDD. If we assume an average of 35 GDD/day for July we should reach 2,800 GDD in 20 days. A full rate of Priaxor or Quilt Excel applied at the end of June should provide disease protection until swathing.

PEST MANAGEMENT

Grasshoppers

Grasshoppers continue to be observed in ryegrass fields and roadside ditches. Threshold levels for grasshoppers in ryegrass are not well defined, but treatment will be needed if nymphs are approximately 30/square yard. However, grasshoppers that are in the late instar stages can cause economic damage at low levels, especially if feeding on the seedhead, or the feeding clips off the entire seedhead. Field scouting will determine the stage of grasshoppers and intensity level.

Armyworms

An update of armyworm moth trapping data. In 2021, the first moths were captured on May 18th. The following are moth capture data from the four traps in last month.

May 18-25 = 77

May 30 to June 4 = 20

June 4-11 = 0

June 13-19 = 42

This is the first year of moth collection, so we don't know if moth captured are high, medium or low number. Further, we don't have any information to correlate moths captured to the number of larvae in ryegrass fields. Previous research suggest 30-40 days from moth capture to the beginning of the 6th instar stage. Field scouting will determine level and intensity of armyworm larvae.

Next week's newsletter will be released on June 29th.