MINNESOTA TURF SEED COUNCIL
NEWSLETTER
June 25, 2024

PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)

Perennial ryegrass GDD's will be tracked in the 2024 growing season with comparisons to the previous seven 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 is used for perennial ryegrass (T-Base = 32 F).

- Year to date GDD = 1,610 (Table 1)
- GDD last week (June 17 - 23) = 200; Long term average = 197
- GDD projected in next 10 days = 307 or 30.7/day (Table 1)
- Average GDD for the fourth week of June = 212 or 30.3/day
- The ten-day forecast suggests cooler than average temperatures for the end of June. Projected GDD is 30.7/day compared to the long-term average of 31.4/day.

Table 1. Growing Degree Days (GDD), March - June 2017 to March - June 2024 near Roseau MN.

Year	**2024**	**2023**	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2024 vs. 2023**
March	0	0	0	131	30	0	0	90	0
April	296	93	95	236	183	211	184	458	+203
May	653	959	649	640	600	548	815	679	-306
June 1-16	661								
June		1,064	959	1,007	995	919	1,007	945	
Total		2,116	1,703	2,014	1,808	1,678	2,006	2,172	
*June 24 -July 3	307								

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

Spring seeded ryegrass fields are in the heading stage and will begin to shed pollen this week. The recent rain and daytime high temperatures in the 70's are ideal growing conditions for perennial ryegrass growth, development and seed fill.

June 27 (Thursday) HYBRID RYE TOUR 10 am and GRASS SEED FIELD TOUR 5 pm

These two tours are scheduled for this Thursday (June 27th) with the hybrid tour to begin at 10 am and the grass seed 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 two miles, turn left (west) on Roseau County 16 and proceed west for approximately three miles. The U of MN Research Farm is located on the north side of Roseau County 16.

CROP MANAGEMENT

The USDA-ARS tracks rust development and movement from the Gulf of Mexico to the northern plain states. As of June 14, crown rust was observed in buckthorn at the U of MN St. Paul campus. Buckthorn is an alternate host for rust that infects wheat and other grasses. Common barberry is an alternate host for leaf rusts and light infections were observed in SE Mn in early June. For additional information on the movement of rust from southern states into Minnesota the attached link will provide this information. The link for the Cereal Rust Bulletin: (http://www.ars.usda.gov/mwa/cdl).

Historically, in northern MN environmental conditions, crown rust has been observed after 1,500 and leaf and stem rust after 1,900 GDD. 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 many fields are in full head extension. To maximize perennial ryegrass seed yield, it is 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 for disease protection will depend upon the fungicide used and product rate.
3) Fungicide applications when the ryegrass seedhead is fully extended will provide protection of the entire seedhead. A full rate of Priaxor or Quilt Excel at full head extension should provide protection for 21 to 28 days. As of June 24th, the year-to -date accumulated GDD was 1,679. The new 10-day forecast indicates an average GDD accumulation of 30.7/day which will be in the historical window for leaf and stem rust infection in perennial ryegrass seed production.

PEST MANAGEMENT

Armyworms

Last week a total of 55 armyworm moths were captured in six traps in perennial ryegrass seed fields. The range of moth capture was 2 to 18/trap. Field scouting has identified pockets of armyworm larvae in the ¼ to ¾ inch length. This week will be the last week of the armyworm moth trapping project and a summary of the 2024 results will be in next week's newsletter.

Crown Rust and Leaf & Stem Rust

Crown or leaf and stem rust has not been observed in areas at the U of MN Magnusson Research Farm that did not receive a fungicide treatment in 2024. Field scouting will continue in these areas to determine when leaf rust infections are observed in perennial ryegrass in the 2024 season. Crown rust pustules are orange in color while leaf and stem rust are red in color. In northern MN conditions we typically can see Crown rust after 1,500 and leaf and stem rust after the accumulation of 1,900 GDD.

Next week's newsletter will be released on July 2nd.