MINNESOTA TURF SEED COUNCIL
NEWSLETTER
May 23, 2023

PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)

Perennial ryegrass GDD's will be tracked in the 2023 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 is used for perennial ryegrass (T-Base = 32 F).

- Year to date GDD = 687 (Table 1)
- GDD last week (May 15-21) = 185; Long term average = 151
- GDD projected in next 10 days = 373 or 37.3/day (Table 1)
- Average GDD fourth week of May = 175 or 25/day
- The ten-day forecast suggests warmer than average temperatures for the fourth week of May. Projected GDD is 37.3/day compared to the long-term average of 25.3/day.

Table 1. Growing Degree Days (GDD), March - May 2017 to March - May 2023 near Roseau MN.

Year	**2023**	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2023 vs. 2022**
March	0	0	131	30	0	0	90	0
April	93	95	236	183	211	184	458	-2
May1-21	594							
May		649	640	600	548	815	679	
Total		744	1,007	813	759	999	1,227	
*May 22-31	373							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

If nitrogen has been applied and is in the root zone, ryegrass plants should be a deep green color with vigorous growth. Perennial ryegrass plants that are not tillering, or showing a pale green color could indicate nutrient stress. If spring fertilizer has yet to be applied now is the time to get that scheduled and applied. If spring nitrogen has been applied, but plants remain yellow with non-vigorous growth, plant applied nitrogen may not be in the root zone, some of the applied nitrogen may have been lost, or could indicate a sulfur deficiency.

SUMMER GRASS SEED FIELD TOUR – June 28

The annual grass seed summer tour is scheduled for June 28th and will be held at the U of MN Magnusson Research Farm. More details will follow in future newsletters.

CROP MANAGEMENT

Previous research at the U of MN Magnusson Research Farm suggests that perennial ryegrass is tolerant to foliar applications of liquid nitrogen. The results in Table 2 were a trial conducted on ryegrass that had no applied spring nitrogen until mid-June which would be considered a 'worse case' scenario. Results indicate that ryegrass responded well to liquid nitrogen.

Table 2. Perennial Ryegrass Liquid Fertilizer Demonstration at the U of MN Magnusson Research Farm in 2016 - 2017.

Fertility	Seed Yield (#/acre)	Plant Height (inches)	Harvest Lodging
*None	485	18	1
**60#N/acre	601	19	1.5
**90#N/acre	872	21	2

*None was background only with 30# N applied in fall

** 28% UAN applied at 20 GPA for 60 #N rate and 30 GPA for 90#N rate with flat fan nozzles delivering 13.5 gpa/acre

The assessment of perennial ryegrass stands in fields that have experienced winterkill from environmental stress can be a challenge. Typically, the winterkilled areas are not uniform, rather irregular patterns in the field. One method to assess stands is the use of a grid to determine the presence or absence of plants. The grid frame used to collect data in Table 3 had a total area of 30 inches x 30 inches and each individual square was 6 x 7.5 inches. The data in Table 3 indicates that ryegrass stands of 56 and 73% produced similar ryegrass seed yields. However, ryegrass stands of 39% produced 553# of ryegrass seed compared to over 1,000 pounds/acre for 56 and 73% stand.

Table 3. Perennial Ryegrass 'Quest' spring stand evaluation at Magnusson Farms in 2009

Stand*	Seed Yield (#/acre)
39%	553
56%	1048
73%	1066

*A 6" x 7.5" grid frame was used to assess ryegrass stand. If at least one ryegrass plant was in the square that was a positive count and if no ryegrass plants were in the square that was a negative count. Data presented is the % of grid squares that had a ryegrass plant averaged over four replications.

PEST MANAGEMENT

Over the weekend, the first armyworm moth flights into the perennial ryegrass growing area were collected in pheromone traps. A total of 43 moths were collected from 6 traps. This is about a week earlier than the first flights in 2022. More on armyworms in next week's newsletter.

Next week's newsletter will be released on May 30th.