MINNESOTA TURF SEED COUNCIL
NEWSLETTER
May 14, 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 = 534 (Table 1)
- GDD last week (May 6 - 12) = 163; Long term average = 124
- GDD projected in next 10 days = 237 or 23.7/day (Table 1)
- Average GDD for the third week of May = 151 or 21.6/day
- The ten-day forecast suggests warmer than average temperatures for the third week of May. Projected GDD is 23.7/day compared to the long-term average of 21.6/day.

Table 1. Growing Degree Days (GDD), March - May 2017 to March - May 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 1-12	238								
May		959	649	640	600	548	815	679	
Total		1,052	744	1,007	813	759	999	1,137	
*May 13-24	237								

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

Perennial ryegrass that had healthy crown this spring will move from the tillering to jointing stage of growth this week. When ryegrass enters the jointing stage, the plants will begin to exhibit more of a vertical growth pattern and will soon overtop the wheat stubble. Perennial ryegrass plants that experienced crown injury range from dead plants to plants that are beginning to tiller from the crown region.

U of MN and MN Turf Seed Council Summer Field Day

The annual Grass Seed Field Day is scheduled for June 27th. Additional details will follow in future newsletters.

CROP MANAGEMENT

If nitrogen fertilizer 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.

In the last couple of weeks, fertilizer applications in perennial ryegrass have moved at a rapid pace. At a minimum, a quarter inch of rain is needed to move the applied urea into the root zone. With the spotty rain showers in early May, one of the questions asked is how much nitrogen has been lost? Soil temperature is one of the factors that can influence nitrogen volatilization into the atmosphere. The data in Table 2 is research conducted by Overdahl, et al., in 1987. This research suggests that when soil temperatures are low (45F) nitrogen losses to volatilization was 6% after 10 days. As would be expected, as the soil temperature increased the percent nitrogen lost also increased. Soil temperature data last week from the NDAWN station averaged 58 F in bare ground and 53 F in turf conditions recorded at the U of MN Magnusson Research Farm.

Table 2. The percentage of surface applied urea volatilized as ammonia as influenced by soil temperatures and the number of days urea on the soil surface.

	Soil temperature in degrees F			
Days	**45**	**60**	**75**	**90**
	----------% nitrogen losses to volatilization ----------			
0	0	0	0	0
2	0	0	1	2
4	2	2	4	5
6	5	6	7	10
8	5	7	12	19
10	6	19	14	20

*Source: Overdahl, et al., 1987

The U of MN has over 20 years of fertility data in perennial ryegrass. This information is archived and available at the web address below:

Seed Production Research - Progress Reports | Turfgrass Science (umn.edu)

PEST MANAGEMENT

Many winter annual weeds are bolting, clovers are growing well, and dandelions are flowering. Cool season annual weeds emerging include wild buckwheat, wild mustard, wild oats, smartweeds and common lambsquarters. Warm season weeds will soon begin to emerge (barnyardgrass, pigweeds, green and yellow foxtail), which creates a dilemma for full season weed control in perennial ryegrass. If broadleaf weeds were not controlled last fall, now would be a good time to scout fields to determine the type of weeds present and growth stage of these weeds. If field scouting indicates winter annuals are present, now would be a time to get these fields sprayed before bolting and flowering is complete in these winter annual weeds. A second application for broadleaf weed control may be necessary depending upon the level of infestation of warm season broadleaf weeds.

Next week's newsletter will be released on May 21st.