

**MINNESOTA TURF SEED COUNCIL  
NEWSLETTER  
May 17, 2022**

**PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)**

Perennial ryegrass GDD's (from snow melt to swathing) will be tracked in the 2022 growing season with comparisons to the previous six years. A base temperature, T-Base = 32 degrees F, will be used for perennial ryegrass.

- Year to date GDD = 383 (Table 1)
- Last week (May 9 - 15) accumulated GDD = 156; the long term average = 124
- Projected GDD for the next 10 days = 187, or 18.7/day (Table 1)
- Average GDD for the third week of May = 151, or 21.6/day
- The 10 day forecast suggest a cooling trend, projected GDD 18.7/day vs average of 23.3/day.

Table 1. Growing Degree Days (GDD), March - May 2016 to March - May 2022 near Roseau MN.

Year	2022	2021	2020	2019	2018	2017	2016	2022 vs. 2021
March	0	131	30	0	0	90	38	-131
April	95	236	183	211	184	458	263	-141
May 1-15	288							
May		640	600	548	815	679	765	
Total		1,007	813	759	999	1,227	1,066	
*May 16-25	187							

\* Forecasted GDD at Roseau for the next 10 days.

**GENERAL CROP CONDITION**

The U of MN conducts a perennial ryegrass winter hardiness trial each year to determine the severity of winter based on the degree of ryegrass winterkill. This trial is seeded, in early September, at the U of MN Magnusson Research Farm into fallow conditions which would be considered a worst case scenario. Ratings taken last week indicate that most ryegrass lines didn't survive the winter. Perennial ryegrass winter survival reports from area fields range from a full stand to ones with significant gaps. Additional time will be needed to make a complete assessment of the perennial ryegrass stands. Stubble height and ponded water are important factors in ryegrass winter survivability in 2022.

Soil temperatures, in turf conditions, reached 40F last week which has resulted in the production of ryegrass tillers from the crown region. Soil temperature of 40F is a good indicator of the beginning of the growing season for many cool season plants. In 2022, 40F soil temperature was reached on May 3<sup>rd</sup> in bare soil and May 6<sup>th</sup> in sod conditions (Table 2). In the eleven year period from 2012 to 2022, the range between bare soil and sod conditions was 1 day in 2016 and 23 days in 2021. In 2022, the difference in bare soil vs sod conditions was 3 days compared to 10.4 for the eleven year average.

Table 2. Calendar date of 40F soil temperature, at a four inch depth, in black ground and sod conditions near Roseau in a ten-year period from 2012 to 2021

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
<b>Bare</b>	5-3	4-3	4-22	4-16	4-20	3-30	4-14	3-31	4-19	5-4	3-12
<b>Sod</b>	5-6	4-26	4-27	4-29	4-29	4-13	4-15	4-15	5-9	5-7	3-23
<b>Difference</b>	3	23	5	8	9	15	1	16	20	3	11

## **CROP MANAGEMENT**

The data in Table 3 lists the average onset of the various critical ryegrass growth stages based on accumulated GDD. This data is averaged over years, locations and planting dates of ryegrass fields grown in the environmental conditions of northern MN. These ryegrass plant stages will be referenced in future newsletters and will serve as a benchmark to help in the scheduling various field operations and monitoring pest infestations throughout the growing season.

Table 3. The onset of perennial ryegrass growth stage as influenced by accumulated GDD, averaged over years, locations and planting dates near Roseau, MN.

<b><u>Plant Stage</u></b>	<b><u>GDD</u></b>
Greenup	100
Tillering	200
Early Jointing	700
Late Jointing	900
Early Heading	1,100
50% Heading	1,300
Pollen Shed	1,600
Swathing	2,700

As of May 15<sup>th</sup>, year-to-date accumulation of GDD was 383. The new 10 day forecast projects 245 GDD by May 25<sup>th</sup> for a projected year-to-date GDD total of 628. Spring seeded ryegrass will be tillering stage for a couple weeks and early jointing by the end of the month.

A review of spring fertility recommendations in ryegrass was in last week's newsletter. In a spring only nitrogen application program the nitrogen should be in the root zone by approximately 500 GDD. Based on the projected GDD, spring only nitrogen should be applied this week. If 30, or more units of nitrogen was applied last fall, spring applied nitrogen should be in the root zone by 700, or by the last week of May.

The U of MN has over 20 years of fertility data in perennial ryegrass. This information can be found at the web address below:

<https://turf.umn.edu/seed-production-research-progress-reports>

## **PEST MANAGEMENT**

The yellow flower of common dandelion has been observed in area fields. In addition, winter annual weeds are growing well and some species have begun to bolt. If a broadleaf herbicide was not applied last fall ryegrass these fields should be scouted to determine the infestation levels of winter annual weeds. With the increased soil temperatures the cool season annual weeds have emerged from the soil. Volunteer canola, wild mustard, common lambsquarters and smartweed species are examples of cool season broadleaves that have emerged and will continue to emerge for the next couple weeks. Annual bluegrass has emerged and is growing well with wild oat not far behind. Warm season weeds have yet to emerge and will take additional heat to promote germination. Redroot pigweed and tall waterhemp are examples of warm season broadleaf weeds. The foxtail species and barnyardgrass are examples of warm season grasses and will take more heat to stimulate germination.

Next week's newsletter will be released on May, 24<sup>th</sup>.