

**MINNESOTA TURF SEED COUNCIL  
NEWSLETTER  
May 5, 2020**

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

Perennial ryegrass GDD's will be tracked for the 2020 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 = 256 (Table 1)
- Last week (April 27- May 4) accumulated GDD = 116 (16.6/day)
- Average GDD for the first week of May = 104 (14.9/day)
- Projected GDD for first week of May 2020 = 60 (8.6/day)
- Average temperatures for first week of May = High 60.3F and low 32.6F
- Projected temperatures for first week of May 2020 = High 50F and low 30.6F
- The new ten day forecast suggests a cooling trend with a projected accumulated GDD of 9.4/day compared to the average of 16.3/day

Table 1. Growing Degree Days (GDD), March - May 2014 to March - May 2020 near Roseau MN.

<b>Year</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2019 vs. 2020</b>
March	30	0	0	90	38	119	0	+30
April	183	211	184	458	263	367	159	-28
May		548	815	679	765	659	654	
May 1-3	43							
Total	256	759	999	1,227	1,261	1,145	813	
*May 4-13	94							

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

**GENERAL CROP CONDITION**

In northern Minnesota, daily high and low temperatures have been on a roller coaster ride the last couple weeks. The end of April had temperatures well above normal, while the projected forecast for next week are below normal. The average high temperatures for the first week of May is 60F compared to the projected highs of 50F in 2020. The short term forecast is projecting several days of low temperatures in the high 20's for later this week. Now that the ryegrass plants, for the most part, have broken dormancy what impact will these low temperatures have on young ryegrass plants? Due to the warm temperatures the last couple weeks the soil temperatures in both bare soil and sod have warmed up to above 40F. Once the soil warms up it takes cold conditions for an extended period of time for the soil to cool down. This is especially true in sod conditions (ryegrass in wheat stubble). Bare soil temperatures tend to bounce more (higher daily highs and lower lows) than sod conditions. The bottom line, if ryegrass plants have a well-developed crown and are grown in wheat stubble, a few hours of freezing temperatures at night should have limited impact on ryegrass growth and development.

## **CROP MANAGEMENT**

Soil temperature of 40F is a good indicator of the beginning of the growing season for many cool season plants. Soil temperatures in bare ground would be similar to ryegrass seeded in fallow, or prevent planting acres and soil temperatures in sod conditions would be similar to ryegrass spring planted in wheat stubble. In 2020, 40F soil temperature was reached on April 22 in bare soil and April 27 in sod conditions (Table 2). In the ten year period from 2011 to 2020 the average difference in bare soil compared to sod conditions was 10.3 days. The range between bare soil and sod conditions was 1 day in 2016 and 20 days in 2014. In 2020, the difference between bare soil and sod conditions to reach 40F was 5 days compared to 10.3 for the ten 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 2011 to 2020

	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>
<b>Bare</b>	4-22	4-16	4-20	3-30	4-14	3-31	4-19	5-4	3-12	4-8
<b>Sod</b>	4-27	4-29	4-29	4-13	4-15	4-15	5-9	5-7	3-23	4-23
<b>Difference</b>	5	8	9	15	1	16	20	3	11	15

The 40F soil temperatures in sod conditions was reached last week coupled with the several days of high temperatures in the mid-60's brought on visible green growth in ryegrass fields. Perennial ryegrass plants, for the most part, have now broken dormancy and fields are beginning to green-up. It appears that spring seeded ryegrass in stubble appear to be healthy and are growing well. Ryegrass seeded in the late summer and ryegrass with limited cover had a significant amount of leaf die-back from several days of nightly lows in the high teens after the snow melted from the fields this spring. Early indications suggest that if ryegrass plants had a developed crown (3 or more tillers) and experienced leaf die-back from cold temperatures are producing new green leaf tissue. Plants that had limited crown development last fall are struggling to grow and more time will be required to make an assessment on stand survival. Overall, early indications suggest that the majority of the ryegrass plants survived the winter and early cold snap in early April.

## **PEST MANAGEMENT**

The warm temperatures in late April gave a growth spurt to many cool season plants. Bluegrass lawns have greened up nicely with many people trying out the lawnmower for the first time of the year. Some of the first annual weeds to emerge in cropping systems are wild mustard, wild buckwheat, volunteer canola and volunteer cereals. These weeds were observed in area fields late last week. Winter annuals are in the rosette stage and are beginning to expand in size. Field pennycress, cockles, green flower pepper weed, clover spp. and dandelion are green and growing well, especially in ryegrass fields that didn't receive a broadleaf treatment last fall. Herbicides applied for winter annual weed control is most effective when the broadleaf control products are applied before bolting and flowering. Dicamba and 2, 4-D is a standard broadleaf tankmix for broadleaf control in ryegrass. Field observations indicate these products perform better with moderate temperatures. If the projected night temperatures are below freezing it may be beneficial to delay herbicide applications until temperatures warm up. Herbicide activity is maximized when broadleaf weeds are in a rapid growth phase a few days prior to and after herbicide applications.

Next week's newsletter will be released on May 12<sup>th</sup>.