

**MINNESOTA TURF SEED COUNCIL  
NEWSLETTER  
May 7, 2019**

**RYEGRASS GROWING DEGREE DAYS (GDD)**

Ryegrass GDD will be tracked for the 2019 growing season with comparisons to the previous six years. A base temperature of 32 degrees F will be used for ryegrass (T-Base = 32 F). Reported GDD are based on the total accumulation from the beginning of the calendar year, after snow has melted from ryegrass fields, to the current calendar date.

- Year to date, GDD = 262 (Table1)
- April 2019 was slightly warmer than April 2018 (+ 27 GDD)
- Average temperatures for the first week of May, high of 60.3 F and low 32.6 F
- Average GDD accumulation for first week of May = 104 (14.9/day)
- Actual GDD for first week of May = 58 (8.3/day)
- Actual GDD for first week of May was cooler than average by +6.6/day
- Current 10-day forecast projects daily highs in the mid 50's and lows in the low-40's
- Projected 10-day GDD = 165 (16.5/day)
- Current 10 day forecast projects cooler than average temperatures (-1.2 GDD/day)

Table 1. Growing degree days (GDD), March - May 2013 to March - May 2019 near Roseau MN.

<b>Year</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2019 vs. 18</b>
March	0	0	90	38	119	0	0	0
April	211	184	458	263	367	159	80	+27
May		815	679	765	659	654	640	
May 1-5	51							
Total	262	999	1,227	1,066	1,145	813	720	
*May 6-15	165							

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

**GENERAL CROP CONDITION**

Last week was a busy one for fertilizer applications in ryegrass and will continue this week. Also, last week we saw a return to cool temperatures with several nights recorded low temps in the upper 20's. One of the consequences of freezing temperatures is leaf tip desiccation of ryegrass leaf tissue. Other environmental stressors can cause leaf tip dieback (full sun, wind that desiccates leaf tissue). However, ryegrass plants with good crown development will soon replace affected leaf tissue with new growth when temperatures return to more favorable for plant growth. Ryegrass leaf tissue setback can have a greater impact on future growth if the crown has been injured as new leaves will have to be produced from the crown region which will can cause a delay in ryegrass growth and development.

The warm temperatures during the last couple weeks of April was the major factor in the recorded soil temperatures above 40F. However, the cool down of last week resulted in soil temperatures falling in tilled ground to the high 30's and in turf conditions in the mid-30's. A result of these temperatures, crop and weed germination pretty much came to a standstill. Once the temperatures warm up watch for weeds and other plants to enter a rapid growth phase.

## **PEST MANAGEMENT**

Dandelions sometimes are called “Mother’s Day” flowers as it’s one of the first flowers children give their mother. Dandelions are beginning to flower on the south side of buildings and would expect to see more blooming by this weekend (Mother’s Day). This is a good reminder to scout ryegrass fields for weeds, especially those that didn’t receive a broadleaf treatment last fall. Winter annuals and cool season perennial weeds grow fast and now would be a good time to scout ryegrass fields for these weeds. Winter annuals (dandelion, shepardspurse, and cockle) are growing well and will soon bolt. Perennial broadleaf weeds (dock, dandelion, clovers) are beginning to grow. Annual weeds (volunteer canola, mustard, and smartweed) are first to emerge in the spring. Canada thistle and warm season weeds have yet to emerge. This presents a dilemma for weed control in ryegrass. If we wait too long, the winter annuals will be in full flower and produce seed, but if we spray too soon the thistle and other warm weed species will not be controlled as they have yet to emerge. If a broadleaf herbicide was not applied last fall, it may be advantageous to consider two applications for broadleaf weed control. The first timing will control winter annuals and cool season broadleaf weeds and the second timing for Canada thistle and warm season broadleaf weeds.

Perennial ryegrass is very tolerant to dicamba and 2,4-D. A tank mix of dicamba and 2, 4-D (0.5-1pt of each) is an effective broad-spectrum broadleaf control option for weed control in ryegrass. If the broadleaf weed control program includes a fall and spring application timing, the spring application timing can be extended compared to a spring only program. A spring only program for broadleaf weed control will have to be made soon (minimum of 0.75pt dicamba & 2, 4-D) order to control winter annual weeds that will soon be bolting and flowering! Weeds grow fast, and regular scouting is essential to determine the best weed control program in your ryegrass fields.

## **CROP MANAGEMENT**

What is the nutrient content of various parts of the perennial ryegrass plant? Researchers in the perennial ryegrass growing areas of the Pacific Northwest have studied this topic and results are presented in Table 2. In northern MN environments, perennial ryegrass will produce between 1 and 3 tons of straw (dry matter). If the straw is baled and removed, consideration should be given to an application of plant food to replace nutrients removed in the straw. As an example, if 1,000 pounds of ryegrass seed and 2 tons of ryegrass straw was baled and removed from a field, an additional 60 (40 straw + 20 seed) pounds of N, 18 pounds of P<sub>2</sub>O<sub>5</sub> (10 straw + 8 seed), 106 (100 straw + 6 seed) pounds of K<sub>2</sub>O and 10 (10 straw + < 1 seed) pounds of sulfur would need to be added to the field to replace nutrients removed in the straw. Below ground, the perennial ryegrass plants have approximately 4 tons of root dry matter. These nutrients will be available, after the mineralization process, to rotational crops.

Table 2. Nutrient content of perennial ryegrass, straw (#/ton), ryegrass seed (#/1,000# seed) and ryegrass roots (#/ton).

<b>Ryegrass Plant</b>	<b>Nitrogen</b>	<b>P<sub>2</sub>O<sub>5</sub></b>	<b>K<sub>2</sub>O</b>	<b>Sulfur</b>
Straw (#/ton)	20	5	50	5
Seed (#/1,000#)	20	8	6	<1
Roots (#/ton)	16	7	5	1.5

Source: Oregon State University

Next week’s newsletter will be released on May 14<sup>th</sup>, 2019.