

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
May 23, 2018**

RYEGRASS GROWING DEGREE DAYS (GDD)

Ryegrass GDD will be tracked for the 2018 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 to the current date.

- Year to date, GDD = 594 (Table1)
- Average temperatures for the fourth week of May, high of 70.3 F and low 43.4 F
- Average GDD accumulation for fourth week of May = 175 (25/day)
- Current 10 day forecast projects daily highs in the low - 80's and lows in the mid -50's
- Projected 10 day GDD = 378 (37.8/day)
- Current 10 day forecast projects warmer than average temperatures (+12.8 GDD/day)

Table 1. Growing degree days (GDD), March & April 2011 to March & April 2017 near Roseau MN.

Year	2018	2017	2016	2015	2014	2013	2012	2018 vs. 17
March	0	90	38	119	0	0	304	-90
April	184	258	263	367	159	80	370	-74
May		679	765	659	654	640	726	
May 1-20	410							
Total	594	1,027	1,066	1,145	813	720	1,400	
*May 21-30	378							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

Last week was a busy week for application of fertilizer in ryegrass and will continue this week. With the projected warm temperatures and good soil moisture perennial ryegrass will enter a period of rapid growth. Broadleaf herbicides should be applied soon, especially if a fall herbicide treatment was not a component of the weed control program. Perennial ryegrass, for the most part, is in the tillering stage of growth. The next critical stage of growth in perennial ryegrass is jointing. As a review, the following are the average GDD for the onset of the various stages of perennial ryegrass in northern MN (Table 2). The GDD numbers below are averaged over various management systems (spring and fall seed,) at Roseau, MN.

Table 2. Perennial Ryegrass Growth Stage by Accumulated GDD.

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

CROP MANAGEMENT

Isolated ryegrass fields are exhibiting erratic growth and reduced growth. Several factors are responsible for ryegrass fields that are less than a full stand including:

- Winterkill including water ponding and ice sheeting
- Non-uniform straw distribution
- Seeding too late in the fall
- In spring seeding, dry conditions with an above average wheat crop
- Crown damaged due to colds temperatures, or a hot fire.
- Plant breaking dormancy, in early spring, followed by cold temperatures

U of MN researchers conducted two ryegrass stand assessment trials in 2009 and 2010. Result of this research indicates that respectable seed yields can be obtained from low populations of perennial ryegrass (Table 3 and 4).

Table 3. Perennial ryegrass ‘Arctic Green’ yields influenced by plant stands at Magnusson Research Farm in 2010.

Ryegrass Plant Stand (plants/square foot)	Ryegrass Stand (%)	Seed Yield (#/acre)
0.5	15	838
1.0	33	1010
2.0	50	1118
>4.0	100	1186
LSD (0.05)		299

Table 4. Perennial ryegrass ‘Quest’ yields influenced by plant stands near Roseau in 2009.

Ryegrass Plant Stand (plants/square foot)	Ryegrass Stand (%)	Seed Yield (#/acre)
1.2	39	553
2.1	56	1048
3.0	73	1066

The results from these two trials suggest ryegrass plant stands of 1 (33% of full stand) and 2.1 plants/square foot (56% of full stand) produced similar yields compared to >4 and 3 in 2010 and 2009, respectively. Ryegrass plants in these trials had well developed healthy crowns. If ryegrass crowns are injured for whatever reason, the regrowth capacity will be slow with a suppressed growth rate. With the increased temperatures, recent rains and nitrogen fertilizer in the root zone, ryegrass plants should exhibit a rapid growth with deep green color, if not the ryegrass crown region may be permanently damaged.

SUMMER GRASS SEED FIELD TOUR - JUNE 27

Mark your calendar for the annual grass seed summer tour. The tour this summer is scheduled for 5:00 pm on Wednesday, June 27th at the U of MN Magnusson Research Farm. Directions to the Magnusson Research Farm; from the intersection of Hwy 11 and 89 travel approximately 2 miles north on Hwy 310, turn left (west) off Hwy 310 onto Roseau County 16 and for approximately 3 miles. The farm is located on the north side of Hwy 16. More information on specific tour stops will follow in future newsletters.

Next week’s newsletter will be released on May 30th, 2018.