

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
July 9, 2017**

PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)

Ryegrass GDD will be tracked for the 2017 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. Thus far in 2017, we have accumulated 2,284 GDD, as of July 2nd (Table 1). Last week, the accumulated GDD was 256 (37.1/day) which is above the average GDD accumulation of 230 (32.9/day) for the first week of July. For the week ending July 16th the forecast predicts an accumulation of 266 GDD (38/day) which above the average of 243 GDD (34.7/day) for the second week of July.

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

Year	2017	2016	2015	2014	2013	2012	2011	2017 vs. 16
March	90	38	119	0	0	304	7	+52
April	285	263	367	159	80	370	278	+22
May	679	765	659	654	640	726	639	-86
June	917	945	941	964	975	979	898	-28
July		1,123	1,147	1,066	1,088	1,230	1,162	
July 1-9	313							
Total	2,284	3,134	3,030	2,843	2,783	3,609	2,984	
July 10-16*	266							

* Forecasted GDD at Roseau for the next 7 days.

GENERAL CROP CONDITION

Isolated areas, in perennial ryegrass fields, are beginning turning color which is a sign that these ryegrass plants have reached physiological maturity. By definition, physiological maturity is maximum dry matter accumulation in plants. Once a plant has reached physiological maturity, the plant will continue the dry down process until swathing and harvest. Why are some areas of a field more mature than others? In addition, to the normal maturation process when ryegrass turns from green to brown, other causes for maturity differences in ryegrass include: low soil fertility, soil compaction, moisture stress, variable plant stands, light soil conditions, leaf diseases, and other plant stressors. To maximize ryegrass seed yield and quality, previous field experience suggests seed moisture should be below 40% moisture before swathing (see Table 2). As the ryegrass plant matures, fields can mature quickly, especially with warm, windy days of July and August. When ryegrass is close to the 40% moisture level, seed moisture can drop 2% points or more per day!

PEST MANAGEMENT

Insects in ryegrass

Grasshopper nymphs and Armyworm moths have been found in area ryegrass fields. At this time, insect infestations are not to threshold levels.

CROP MANAGEMENT

Perennial ryegrass swathing is right around the corner! The decision of when to swath perennial ryegrass can be a challenge. Research trials were conducted in 2013 and 2014 to determine the influence of time of swathing on seed moisture and yield (Table 2). This data set suggest that the ideal seed moisture is in the 34 – 38% range. However, seed yield declines if seed moisture in in the low 30's. Timing of swathing will depend upon the number of acres and weather conditions during swathing. .

Table 2. Perennial ryegrass seed yield and percent seed moisture influenced by swathing date. Data is from two locations in 2014 and one location in 2013, near Roseau, MN.

Harvest Date*	2014		2013	
	Seed Yield^ (%)	Seed Moisture (%)	Seed Yield^ (%)	Seed Moisture (%)
1	96.9	45.5	86.1	44
2	92.5	43	93.1	43
3	107.5	40	105.8	44
4	107.5	37.5	108.4	38
5	121.7	34	113.2	36
6	93.9	31	93.6	28
7	88.8	20.5		
LSD (0.05)	6.2		14.6	

*Swathing date in 2014 began on 7/30 and in 2013 on 7/22. Swathing every 2 to 3 days.

^ Mean clean seed yield in 2013 was 931#/acre and in 2014 was 1,358 #/acre.

This research and grower experience, over the last few years, suggests that it's beneficial to wait a little bit longer than we would like to begin to swath ryegrass. It seems our eyes are trained to look at the most mature areas of the ryegrass fields. When making a determination on when to cut ryegrass, make sure a **representative sample is taken from the entire field not just the areas that are most mature**. One method to get a representative field sample is to take samples from areas that look mature, from areas that are intermediate and from areas of the field that look green. Note the percentage of the field in each of these categories. This will give you a good overall field estimate of maturity. To maximize ryegrass seed yield and quality, previous field experience suggest the seed moisture should be below 40% moisture before swathing. As the ryegrass plant matures, fields can mature quickly, especially with warm days of late July into August. Consult with your field agronomist to help determine the appropriate time for swathing ryegrass as environmental and specific field conditions will influence the actual swathing date for ryegrass.

Next week's newsletter will be released on July 18th, 2017.