

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
June 4, 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 = 797 (Table1)
- Average GDD accumulation for last week of May = 175 (25/day)
- Actual GDD accumulation for last week of May in 2019 = 176 (25/day)
- Average temperature for the first week of June; high temperature of 70.7 F and low of 46 F
- Average GDD accumulation for first week of June = 186 (26.6/day)
- Projected GDD for first week of June = 202 (28.9/day)
- Forecast for the first week suggests a warmer than average GDD accumulation of +2.3

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

Year	2019	2018	2017	2016	2015	2014	2013	2019 vs. 18
March	0	0	90	38	119	0	0	0
April	211	184	458	263	367	159	80	+27
May	548	815	679	765	659	654	640	-267
June 1-2	38							
June		1,007	917	945	941	964	975	
Total	797	2,006	2,144	2,011	2,086	1,777	1,695	
*June 3-12	345							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

Weather records for May of 2019 indicate the lowest GDD accumulation of any May in the last six years. May of 2019 was cool compared to May of 2018 which was one of the warmest on record. The result was a GDD deficit of 267 in May of 2019 compared to 2018. As the calendar turns to June, the current 10-day forecast projects warmer than average temperatures. This week look for ryegrass to stretch over the top of wheat stubble which is sign the ryegrass plant is in the jointing stage of growth and development. When the ryegrass plant is jointing, an application of growth regulators is right around the corner.

SUMMER GRASS SEED AND HYBRID RYE FIELD TOUR - JUNE 25

In addition to the annual grass seed summer field day, a tour of small plot research and a production fields of hybrid rye will be included on this year's field day on June 25. The hybrid rye tour will begin at 3 pm at the U of MN Magnusson Research Farm with the annual grass seed field tour to follow at 5pm. 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.

PEST MANAGEMENT

How to control volunteer wheat in non-Assure II tolerant ryegrass? Two primary strategies to control volunteer wheat, 1) Calisto at 3 oz/ac will provide fair to good control if a double additive combination is used with Calisto (methlyated seed oil and 28% UAN) and, 2) if height differential exists between ryegrass and wheat, a rope wick applicator with Roundup has been successfully used in previous years.

CROP MANAGEMENT

Perennial ryegrass growers have the choice of two growth regulators (PGR's) for use in perennial ryegrass seed production. The information in Table 2 is the average of two years data from research conducted at the U of MN Magnusson Research Farm. PRG's were applied to ryegrass in the late boot to early heading stage. Results indicate that both products reduced height and lodging compared to the untreated. Further, both products produced more seed yield that the untreated. Averaged over two years, the addition of 3 gallons of AMS with Apogee produced the highest ryegrass seed yields in the trial.

Table 2. Apogee and Palisade Growth Regulators Applied to 'Arctic Green' Perennial Ryegrass in 2017 and 2018

Product	Rate/acre	Additive	Yield^ % Mean	Height Inches	Lodging *
Palisade 2EC	0.75 pt.	NIS**	98	24	6
Palisade 2EC	1.5 pt.	NIS	101	20	4.5
Palisade 2EC	1.5 pt.	NIS + AMS 3 gal	102	20	3.5
Apogee	8 oz	NIS + AMS 2.5%	104	19	4.8
Apogee	8 oz	NIS + AMS 3 gal	110	21	3
Apogee	8 oz	NIS + 28% 3 gal	102	20	3.3
Untreated			84	27	8.5
LSD (0.05)				1.8	2

^Two-year perennial ryegrass mean yield = 1,434#/acre

* 1 to 9 scale with 1= no lodging and 9 = flat on the ground

** NIS rate was 0.25% of spray solution for all treatments

General guidelines for growth regulators (PGR's) in perennial ryegrass:

- The onset of heading (trace to 10%) has been a good benchmark for PGR application in ryegrass seed production fields
- Always use a nonionic surfactant and nitrogen source with Apogee. Over two years, Apogee performance was better with three gallons of AMS compared to 28%.
- Palisade didn't respond to additive selection as all treatments were similar. However, with Apogee the addition of 3 gallons/acre of AMS gave more ryegrass seed standard 2.5% rate of AMS, or 28%.
- Grass herbicides and PGR timing may not be ideal as grass herbicides should be applied prior to ryegrass heading. Previous research indicates that tank mixes of grass herbicides and PGR's can be used in ryegrass however, separate applications provide more consistent results.
- U of MN research has not detected reduced performance when mixing fungicides with PGR's.

Next week's newsletter will be released on June 11th, 2019.