

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
May 30, 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 = 847 (Table1)
- Average temperatures for the first week of June, high of 70.6 F and low 43.6 F
- Average GDD accumulation for fourth week of May = 177 (25.3/day)
- Current 10 day forecast projects daily highs in the high 70's and lows in the mid -50's
- Projected 10 day GDD = 346 (34.6/day)
- Current 10 day forecast continues to projects warmer than average temperatures (+9.3 GDD/day)

Table 1. Growing degree days (GDD), March - May 2012 to March - May 2018 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 1-27	663							
Total	847	1,027	1,066	1,145	813	720	1,400	
*May 28- June 6	346							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

Ryegrass fields seeded in the spring of 2017 are in the late tillering to the early jointing stage. As ryegrass begins to joint, look for ryegrass to extend over the top of the wheat stubble.

PEST MANAGEMENT

Winter annuals (dandelion, shepardspurse, and cockle) are bolting and flowering. Due to the extended warm temperatures and recent rainfall, annual weeds (lambquarters, pigweed, and smartweed) have emerged and Canada thistles are growing well. Dicamba and 2, 4-D are the workhorses for broadleaf weed control in perennial ryegrass seed production fields. 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. 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 are now bolting and flowering!

Barnyardgrass, a grassy weed, appears to be increasing in prevalence in many perennial ryegrass fields, especially in thin ryegrass stands and low areas of fields. Field observations suggest this weed has an extended germination period that seems to be tied to rainfall events in the spring and summer. May want to consider a pre-emergence herbicide for extended control, or plan on a split application of a post emergence herbicide to provide season long barnyardgrass control.

CROP MANAGEMENT

Perennial ryegrass growers have the choice of two growth regulators for use in perennial ryegrass seed production. A growth regulator trial was conducted at the U of MN Magnusson Research Farm in 2017 to compare the performance of Apogee and Palisade (Table 2). Growth regulators 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 than the untreated, except Palisade at 0.75 pint/acre with NIS + 2.5% AMS. This suggests that Palisade in combination with maximum additive load doesn't have the ryegrass tolerance that Palisade with a single additive or Apogee. The addition of 3 gallons of 28% or AMS with Apogee produced the highest yields in the trial. This trial will be repeated in 2018

Table 2. Growth Regulators Applied to 'Arctic Green' Perennial Ryegrass at the U of MN Magnusson Research Farm in 2017.

Product	Rate/acre	Additive	Yield #/acre	Dry Matter Tons/ac	Height Inches	Lodging *
Palisade 2EC	0.75 pt.	None	1782	2.9	22	3
Palisade 2EC	1.5 pt.	NIS**	1735	2.7	19	1
Palisade 2EC	0.75 pt.	NIS	1724	2.9	22	3
Palisade 2EC	0.75 pt.	NIS + AMS 2.5%	1610	2.8	20	2
Apogee	8 oz	NIS + AMS 2.5%	1700	2.7	22	
Apogee	8 oz	NIS + AMS 3 gal	1871	2.9	23	2.8
Apogee	8 oz	NIS + 28% 3 gal	1873	3.0	23	4
Untreated			1484	3.1	26	7.5
LSD (0.05)			182	0.3	2	1

* 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 in perennial ryegrass:

- The onset of heading (trace to 10%) has been a good benchmark for growth regulator application in ryegrass seed production fields
- Always use a nonionic surfactant and nitrogen source with Apogee. No differences in Apogee performance have been observed with 28% or AMS.
- One year's data suggests 3 gallons of 28% or AMS can produce more seed yield than the standard 2.5% rate of 28% or AMS
- With Palisade, a nitrogen source should NOT be included as the double additive combination increases the probability for a reduction in ryegrass seed yield.
- The timing of grass herbicides and Apogee may not be ideal as the grass herbicides should be applied prior to ryegrass heading. Tank mixes of grass herbicides and Apogee have been successfully used in ryegrass however, separate applications have provided more consistent results.
- U of MN research has not detected reduced performance when mixing fungicides with Apogee plant growth regulator.
- The information in Table 2 is one year's data and this trial will be repeated in 2018

Next week's newsletter will be released on June 6th, 2018.