MINNESOTA TURF SEED COUNCIL
NEWSLETTER
May 18, 2021

PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)

Perennial ryegrass GDD's will be tracked in the 2021 growing season with comparisons to the previous six years. The accumulation of GDD's will begin after the snow has melted from the perennial ryegrass fields and continue through swathing. A base temperature of 32 degrees F will be used for perennial ryegrass (T-Base = 32 F).

- Year to date GDD = 635 (Table 1)
- Last week (May 10-16) accumulated GDD = 228
- Average GDD for the second week of May = 124
- Projected GDD for the next 10 days = 301, or 30.1/day (Table 1)
- Average GDD for third week of May = 151, or 21.6/day
- The new 10 day forecast suggest a warming trend as projected GDD accumulation of 30.1/day compared to the long term average of 23.3/day.

Table 1. Growing Degree Days (GDD), March - May 2015 to March - May 2021 near Roseau MN.

Year	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**	**2021 vs. 2020**
March	131	30	0	0	90	38	119	+101
April	236	183	211	184	458	263	367	+53
May 1-16	268							
May		600	548	815	679	765	659	
Total	635	813	759	999	1,227	1,066	1,145	
*May 17-26	301							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

In early May of 2021, the average GDD accumulation was below the long term average. Last week warm weather returned with the average GDD accumulation of 228 compared to the long term average of 124. The new 10 day forecast suggests a continuation of the above average temperatures with the projected GDD accumulation of 30.1/day compared to the long term average of 23.3/day. The accumulation of 30 GDD/day is warm for May as these temps are more typical of the end June based on long term temperature averages. With the forecasted warm temperatures, perennial ryegrass and weeds will grow at an accelerated pace. Look for spring seeded perennial ryegrass fields to begin to stretch above the wheat stubble later in the week.

CROP MANAGEMENT

If nitrogen has been applied and is in the root zone, ryegrass plants should be a deep green color with vigorous growth. Perennial ryegrass plants that are not tillering, or showing a pale green color could indicate nutrient stress. If spring fertilizer has yet to be applied now is the time to get that scheduled and applied. If spring nitrogen has been applied, but plants remain yellow with non-vigorous growth, plant applied nitrogen may not be in the root zone, some of the applied nitrogen may have been lost, or could indicate a sulfur deficiency.

CROP MANAGEMENT - Continued

Previous research at the U of MN Magnusson Research Farm suggests that perennial ryegrass is tolerant to foliar applications of liquid nitrogen. The results in Table 2 was a trial conducted on ryegrass that had no applied spring nitrogen until mid-June which would be considered a 'worse case' scenario. Results indicate that ryegrass responded well to liquid nitrogen.

Table 2. Perennial Ryegrass Liquid Fertilizer Demonstration at the U of MN Magnusson Research Farm in 2016 - 2017.

Fertility	Seed Yield (#/acre)	Plant Height (inches)	Harvest Lodging
*None	485	18	1
**60#N/acre	601	19	1.5
**90#N/acre	872	21	2

*None was background only with 30# N applied in fall

** 28% UAN applied at 20 GPA for 60 #N rate and 30 GPA for 90#N rate with flat fan nozzles delivering 13.5 gpa/acre

PEST MANAGEMENT

Many winter annual weeds are bolting, clovers are growing well and dandelions are in full flower. Cool season annual weeds are emerging including: wild buckwheat, wild mustard, wild oats, smartweeds and common lambsquarters. Warm season weeds have yet to emerge (barnyardgrass, pigweeds, green and yellow foxtail), which creates a dilemma for full-season weed control in perennial ryegrass. If broadleaf control was not applied last fall, now would be a good time to scout fields to determine the type of weeds present and growth stage of these weeds. If field scouting indicates winter annuals are present, now would be a time to get these fields sprayed before bolting and flowering is complete in these winter annual weeds. A second application for broadleaf weed control may be necessary depending upon the level of infestation of warm season broadleaf weeds.

Barnyardgrass and foxtail (green and yellow) seeds can be an issue in the seed cleaning and conditioning of perennial ryegrass. Both of these species are warm season grasses and can have extended germination depending upon rainfall patterns. One strategy for enhanced control would be to delay the application of a grass herbicide to allow more barnyardgrass and foxtails plants to emerge. Another option would be to apply a preemergence herbicide for extended control. If the ryegrass stand is variable with bare areas (gaps), a preemergence herbicide can offer extended control. Perennial ryegrass, that has overwintered, can tolerate Prowl (2-3 pints) and Dual (1 pint) when mixed with post emergence broadleaf herbicides in perennial ryegrass. A delayed preemergence herbicide may offer extended weed control of small seeded grasses and broadleaf weeds. Ideally, a rainfall event after application will help with the activation of the preemergence herbicide.

Next week's newsletter will be released on May 25th.