

**MINNESOTA TURF SEED COUNCIL  
NEWSLETTER  
August 2, 2022**

**PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)**

Perennial ryegrass GDD's (from snow melt to swathing) will be tracked in the 2022 growing season with comparisons to the previous six years. A base temperature, T-Base = 32 degrees F, will be used for perennial ryegrass.

- Year to date GDD = 2,807 (Table 1)
- Last week (July 25-31) accumulated GDD = 227; the long term average = 234
- Projected GDD for the next 10 days = 376, or 37.6/day (Table 1)
- Average GDD for the first week of August = 229, or 32.7/day
- The 10 day forecast suggests warmer than average temperatures for first week of August as the projected GDD is 37.9/ day vs the long term average of 32.7/day.

Table 1. Growing Degree Days (GDD), March - July 2016 to March - July 2022 near Roseau MN.

Year	2022	2021	2020	2019	2018	2017	2016	2022 vs. 2021
March	0	131	30	0	0	90	38	-131
April	95	236	183	211	184	458	263	-141
May	649	640	600	548	815	679	765	+9
June	959	1,007	995	919	1,007	917	945	-48
July	1,104	1,174	1,179	1,067	1,100	1,095	1,123	-70
Total	2,807	3,188	2,987	2,745	3,106	3,239	3,233	
*Aug 1-10	376							

\* Forecasted GDD at Roseau for the next 10 days.

**GENERAL CROP CONDITION**

The ten day forecast indicates a continuation of the warming trend of the last few weeks. Swathers were out in perennial ryegrass fields toward the end of last week. This week as a busy one for ryegrass swathing. It's important to monitor ryegrass fields as they get close to swathing. Remember, as ryegrass seed moisture drops into the low 40% seed moisture losses can be over 3% points/day.

**CROP MANAGEMENT**

Late summer seeding of perennial ryegrass can be an effective method of stand establishment in the environmental conditions of northern Minnesota. Seeding perennial ryegrass into fallow ground with a cover crop, or into wheat stubble after wheat harvest are both proven methods of perennial ryegrass stand establishment. Seeding date trials conducted at the U of MN Magnusson Research Farm indicate that seeding ryegrass in late August gave the highest yields and dry matter accumulation the next growing season (Table 2). Further, a significant decline in ryegrass yields and accumulated dry matter was detected as seeding date was delayed to mid-September into October.

Prevent planting acres offer an opportunity for late summer seeding of perennial ryegrass. The data in Table 3 is ryegrass winter survival over a ten year period from 2012 to 2021. Over a dozen current ryegrass varieties were seeded in early September without a cover crop. The perennial ryegrass winter survival ratings taken the following spring.

Table 2. Perennial ryegrass ‘Arctic Green’ date of seeding trial conducted at the U of MN Magnusson Research Farm in 2007.

Seeding Date*	Seed Yield**	Dry Matter **
	(#/acre)	(tons/acre)
8/23	1,557	3.00
8/30	1,695	3.36
9/6	1,276	2.43
9/13	1,128	2.14
9/20	892	1.58
9/27	508	0.89
10/4	116	0.37
LSD (0.05)	319	0.63

\* Plots were watered after each seeding date

\*\* Perennial ryegrass seed yields (#/ac) and dry matter yields (tons/ac) were averaged over the fallow seeding with a wheat cover crop and, plots seeded directly into wheat stubble

The data in Table 3 indicates that in two years out of ten (20%), annual ryegrass was not completely dead which suggests a year with little winter kill. In three years out of ten (30%) of the ryegrass varieties scored 1.5 to 3.4 which, most of the time, ryegrass stands would be acceptable for ryegrass seed production. In four years of ten (40%) scores were between 4.5 to 5.8 which would produce ryegrass stands with gaps and delayed maturities due to ryegrass winter injury and, in 3 years out of ten (30%) winter survival scores were between 7 and 9 which would mean planting of another crop in the spring. The take home message from these two data sets; 1) mid-to-late August seeding gave the highest perennial ryegrass seed production potential and, 2) seeding ryegrass without a cover crop resulted in replant 30% of the time and ryegrass with thin and gappy stands 40% of the time. Ten to twenty pounds of wheat seeded with ryegrass in fallow ground increases the probability of ryegrass winter survival.

Table 3. Perennial ryegrass winter hardiness ratings from early September seeding in fallow ground with no cover crop at the U of MN - Magnusson Research Farm near Roseau from 2012 to 2021.

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
<b>Annual</b> <sup>^</sup>	9	9	9	9	9	6.9	9	9	8.5	9
<b>PRG</b> *	2.3	4.6	5.8	9	7	1.5	8.9	4.8	3.4	4.5

<sup>^</sup>Annual ryegrass generally won’t survive the winters of northern MN

\*Average score for perennial ryegrass entries in the trial

Winter hardiness rated on a scale of 1 to 9 with 1= no injury and 9 = dead plants

## **PEST MANAGEMENT**

Late season rust has been observed at the U of MN Magnusson Research Farm in areas of perennial ryegrass not sprayed with a fungicide. For the most part, spring seeded ryegrass with healthy crowns this spring will be swathed this week. Monitor late summer seeded ryegrass and other fields that are still green and a couple weeks from swathing as a fungicide application may be management practice to consider depending upon the number of days after the last fungicide application.

Next week’s newsletter will be released on August 9<sup>th</sup>.