

**MINNESOTA TURF SEED COUNCIL  
NEWSLETTER  
July 16, 2024**

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

Perennial ryegrass GDD's will be tracked in the 2024 growing season with comparisons to the previous seven 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 is used for perennial ryegrass (T-Base = 32 F).

- Year to date GDD = 2,306 (Table 1)
- GDD last week (July 8 - 14) = 271; Long term average = 243
- GDD projected in next 10 days = 366 or 36.6/day (Table 1)
- Average GDD for the third week of July = 239 or 34.1/day
- The ten-day forecast suggests warmer than average temperatures for the fourth week of July. Projected GDD is 36.6/day compared to the long-term average of 33.4/day.

Table 1. Growing Degree Days (GDD), March - July 2017 to March - July 2024 near Roseau MN.

Year	2024	2023	2022	2021	2020	2019	2018	2017	2024 vs. 2023
March	0	0	0	131	30	0	0	90	0
April	296	93	95	236	183	211	184	458	+203
May	653	959	649	640	600	548	815	679	-306
June	859	1,064	959	1,007	995	919	1,007	945	-205
July 8-14	498								
July		985	1,104	1,174	1,179	1,067	1,100	1,123	
Total		3,101	2,807	3,188	2,987	2,745	3,106	3,233	
*July 15-24	366								

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

**GENERAL CROP CONDITION**

Many spring seeded ryegrass fields have pollinated and are in the seed filling stage. Fall seeded ryegrass fields and fields that had crowns injured are beginning to pollinate. Hybrid rye, winter wheat and early seeded spring wheat fields are beginning to turn from green to brown. Spring seeded perennial ryegrass fields will soon be at physiological maturity.

**CROP MANAGEMENT**

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).

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 2014 to 2023. Over a dozen current ryegrass varieties were seeded in early September without a cover crop. The perennial ryegrass winter survival ratings were 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%) ryegrass varieties scored ranged from 1.5 to 3.4 which, ryegrass stands would be acceptable for ryegrass seed production. In three years of ten (30%) 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 four years out of ten (40%) winter survival scores were between 7 and 9 which would mean planting of another crop in the spring.

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 2014 to 2023.

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Annual</b> <sup>^</sup>	6.3	9	9	9	9	9	9	6.9	9	9
<b>PRG</b> *	1.2	7.9	2.3	4.6	5.8	9	7	1.5	8.9	4.8

<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

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 40% of the time and ryegrass with thin and gappy stands 30% of the time. Ten to twenty pounds of wheat seeded with ryegrass in fallow ground increases the probability of ryegrass winter survival.

## **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. Monitor late summer seeded ryegrass and other fields that are still green and 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 July 23<sup>rd</sup> .