

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
July 27, 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 = 3,037 (Table 1)
- Last week (July 19-25) accumulated GDD = 275
- Average GDD for end of July = 234
- Projected GDD for the next 10 days = 383, or 38.3/day (Table 1)
- Average GDD for the first week of August = 229, or 32.7/day
- The new 10 day forecast suggest a continuation of the above average temperatures for the end of July into the first week of August as the projected GDD accumulation is 38.3/day compared to the long term average of 32.7/day.

Table 1. Growing Degree Days (GDD), March - July 2015 to March - July 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	640	600	548	815	679	765	659	+40
June	1,077	995	919	1,007	917	945	941	+82
July 1-25	953							
July		1,179	1,067	1,100	1,095	1,123	1,147	
Total	3,037	2,987	2,745	3,106	3,239	3,134	3,233	
*July 26-Aug 4	383							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

The new 10 day forecast points to a continuation of the warmer than average temperatures. Last week was a busy one for swathing of ryegrass. This will be the last weekly newsletter for the 2021 season as the majority of the perennial ryegrass has been swathed and by the end of the week, if the weather forecast holds, a large percentage of the ryegrass will be in the bin.

CROP MANAGEMENT

Several spring wheat fields have been harvested. As mentioned in a previous newsletter, the management of wheat straw is a critical step for a successful 2022 perennial ryegrass crop. If spreading the straw, a uniform straw pattern out the back of the combine followed by a harrowing operation after fall P&K application will help move straw clumps that can act as a blanket and smothers the young ryegrass plants. When harrowing make sure the straw flows through the harrow, if the straw clumps or balls up, the straw is too damp and wait for it to dry out. Baling is another option for straw management. Move the bales off the field or to the field edge soon after baling so the young ryegrass plants are not smothered by the bales that remain in the field for several days.

PEST MANAGEMENT

Armyworms

A large capture of armyworm moths (38) occurred over a two day period from July 22-23. This will not be a concern for ryegrass fields in 2021 as most have been swathed, but it's interesting to note that we have documented a late season migration of armyworm moths. If conditions are favorable for the development of armyworm larvae, it's a possibility that late season crops could be impacted by armyworm larvae feeding. In the 2021 season, the armyworm trapping network, in grass seed crops, documented four migrations into the perennial ryegrass growing regions of MN. These armyworm moth migrations occurred on May 18-25, May 30-June 4, June 13-19 and July 21-26

In the 2021 season, armyworm larvae were not a production issue which is good news. The question is what was different in the 2021 season with very little armyworm feeding compared to the heavy infestations observed in the 2020 season? Entomologists have made the observation that if environmental conditions are hot and dry the number of eggs laid and the subsequent development of armyworm larvae are reduced compared to environmental conditions that are warm and moist. This may be a possibility as in the 2020 season, June was a wet month in much of the perennial ryegrass growing areas of MN. Contrast this the precipitation patterns of the 2021 growing season which was below normal for the months of April, May and June.

This armyworm moth capture project will continue in the 2022 season to document when armyworm moths migrate into the perennial ryegrass growing regions of MN.

Rust on ryegrass underseeded to wheat

Leaf and stem and crown rust has been observed on perennial ryegrass underseeded to wheat. Rust on these young ryegrass plants look bad, but several research trials over the years has indicated that a fungicide application in the late summer, or early fall will not reduce the infestation of rust the following year as leaf and stem rust doesn't over winter in the cold temperatures of northern MN. Rust spores that infect perennial ryegrass are blown into the area from southern states each year. A fungicide trial conducted in cooperation with Amundson Brothers a few years ago was very effective on preventing rust on ryegrass and it even kept the wheat straw golden brown until late in the fall. However, the following spring no difference was observed between the fungicide treated and untreated ryegrass.

This is the last weekly issue of the perennial ryegrass newsletter for the 2021 season.