

**MINNESOTA TURF SEED COUNCIL  
NEWSLETTER  
May 20, 2014**

**RYEGRASS GROWING DEGREE DAYS (GDD)**

Ryegrass GDD will be tracked for the 2014 growing season with comparisons to the previous five 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 calendar date. Thus far in 2014, we have accumulated 321 GDD as of May 18th (Table1). Last week was back to cool weather as only 91 GDD were accumulated. Ice is still on Lake of the Woods which will make 2014 one of the latest ice out dates on record. The short term forecast points to a warming trend as the projected GDD is 295 (29.5/day) for next ten days at Roseau. Based on this forecast, accumulated GDD for the year will be 616 by the Wednesday after Memorial Day.

Table 1. Growing degree days (GDD) for March, April & May in 2009-2014, near Roseau MN.

<b>Year</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2014 vs. 13</b>
March	0	0	304	7	137	30	0
April	159 <sup>^</sup>	80	370	278	476	247	-2
May 1-18	243	640	726	639	707	515	
May 19-28*	295						
Total**	616	720	1,400	924	1,320	792	

<sup>^</sup> -78 GDD after majority of snow drifts melted

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

\*\* - Total includes 10 day projected GDD

**SUMMER GRASS SEED FIELD TOUR**

The annual grass seed field tour has been scheduled for 5:00 pm on Tuesday, June 24<sup>th</sup> at the Magnusson Research Farm. Directions to the Magnusson Research Farm; from the intersection of Hwy 11 and 89 travel approximately 2 miles north on Hwy 310, turn left (west) off Hwy 310 onto Roseau County 16 and for approximately 3 miles. The farm is located on the north side of Hwy 16. Bluegrass, ryegrass and fescue variety trials will be included on the tour. In addition, weed control research in ryegrass, fertility rate and timing in ryegrass, ryegrass growth regulators, fungicides and other research will be included on this tour.

**CROP MANAGEMENT**

**Ryegrass Cool Season Weeds**

As the soil temperature warms from the low 40's into the low 50 degrees F, look for accelerated weed emergence, especially the cool season broadleaves and grasses (common lambsquarters, smartweed spp., wild mustard, wild buckwheat and wild oat). Now is the time to schedule fields to be scouted for broadleaf weeds. Winter annuals (dandelion, shepardspurse, and cockle) are in the rosette stage and will soon bolt. Dandelions next to buildings were blooming over the weekend! Annual weeds (volunteer canola, mustard, wild buckwheat and smartweed) are first to emerge in the spring. 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. If the broadleaf weed control program includes a fall and spring application timing, the spring application timing can be extended compared to a spring only program. A spring only program for broadleaf weed control will have to be made soon in order to control winter annual weeds with a subsequent broadleaf application for other weeds later in the year.

## Ryegrass Fertility

Last week's newsletter contained a review of the nitrogen utilization patterns of perennial ryegrass. Due to the recent rainfall and cool weather, a common question being asked is how long can we wait to make an application of nitrogen fertilizer in ryegrass without a yield penalty? Previous U of MN research indicates if a base rate of 30 to 60 pounds of nitrogen is in the ryegrass root zone from either: 1) nitrogen carryover of the previous year's crop, 2) soil mineralization or, 3) nitrogen application last fall with the P & K, spring fertilizer can be applied up to the jointing stage in ryegrass without a sacrifice in seed yield. Based on prior years GDD information, ryegrass plants will begin to joint at approximately 700 GDD. Year to date we have accumulated 321 GDD. If we average 25 GDD/day, we have approximately 15 days (2-weeks) to apply nitrogen in ryegrass. Spring applied nitrogen would require rainfall to move this nitrogen into the root zone in a timely manner.

As a review, the ryegrass plant goes through three distinct phases in the uptake and utilization of nitrogen from the soil.

- **Phase 1 - Slow nitrogen uptake - Ryegrass tillering to early jointing up to 700GDD**
- **Phase 2 - Rapid nitrogen uptake - Jointing to early heading (700-1250 GDD)**
- **Phase 3 - Nitrogen redistribution - Heading to mature seed (>1300GDD)**

Thus far in 2014, we have accumulated 321 GDD. If 100% of nitrogen is spring applied, fertilizer must be in the root zone earlier (250-450 GDD) than if nitrogen is applied in a split application program (fall and spring) program (up to 700 GDD). With the projected 10 day forecast (Table 1) accumulated GDD will be 295 (29.5/day). If this forecast holds, year to date GDD of 321 + the 10 day projected 295 = 616 GDD. Now is the time to schedule nitrogen applications in ryegrass, especially if all nitrogen is to be applied in the spring. It's important to get applied nitrogen into the root zone prior to the time of high nitrogen uptake and demand of phase 2. The bottom line, if ryegrass fields are firm and can carry equipment without making tracks (ruts) now is a good time to schedule nitrogen to be applied in perennial ryegrass.

What can be done if nitrogen levels in the root zone are limiting? If ryegrass plants are not showing signs of nitrogen stress (stunting & yellowing) a soil test or tissue test will document current nitrogen levels in the soil and plant tissue. However, if ryegrass plants are showing stress from nitrogen (not water logging), a supplemental application of nitrogen should be a consideration. Previous U of MN research suggests ryegrass, up to heading, will tolerate 28% up to 20# of actual N (six gallons). These applications were applied with a small plot sprayer with flat fan nozzles delivering 12 GPA. Streamer bars would be an option for higher volumes of 28%. The other option would be an application of urea by air.

## University Research

Grass Seed Research Results are available on the web. Research reports from 1967 to the present are available at the web address below.

[http://www.mnturfseed.org/html/progress\\_reports.html](http://www.mnturfseed.org/html/progress_reports.html)

Next week's newsletter will be released on May 27, 2013.