

MINNESOTA TURF SEED COUNCIL
NEWSLETTER
April 21, 2015

INTRODUCTION

Welcome to the second edition of the Northern Minnesota Grass Seed Growers Newsletter for 2015. The primary objective of this newsletter is to report on weather conditions, crop growth and development, and chart year-to-date perennial ryegrass growing degree days (GDD) compared to the previous five years. The newsletter is scheduled for weekly distribution from the beginning of ryegrass green-up through swathing. Special alerts will be sent as pest infestations dictate or production problems arise.

Suggestion on newsletter content should be directed to: Dave Grafstrom
E-mail: dave.grafstrom@northlandcollege.edu
Cell: 320-293-8722

RYEGRASS GROWING DEGREE DAYS (GDD)

Ryegrass GDD will be tracked for the 2015 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 date. Thus far in 2015, we have accumulated 339 GDD as of April 19 (Table1). Short term forecast projects below average temperatures for the week. The projected GDD for next ten days at Roseau is 96 (9.6/day) which is below the average of 120 (12/day). The average temperatures for the third week of April at Roseau is for daily highs in the mid 50's and lows in the low 30's.

Table 1. Growing degree days (GDD) for March 2010 to April 2015 near Roseau MN.

Year	2015	2014	2013	2012	2011	2010	2015 vs. 14
March	119	0	0	304	7	137	+119
April		159	80	370	278	476	
April 1-19	220						
Total	339	159	80	674	285	613	
April 20-29*	96						

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

In 2015, ryegrass plants are slow to green-up, which makes assessment of winter survival a challenge. Additional time will be required to make an accurate assessment of ryegrass winter survival. Ryegrass that was green after snow melt, now is mostly brown due to cold temperatures in the first couple weeks of April and the subsequent desiccation of leaf tissue by warm winds.

Soil temperature of 40F is a good indicator of the beginning of the growing season (Table 2). In 2015, 40F soil temperature was recorded in black ground on March 31st and in sod conditions on April 15th. Black ground would be representative of ryegrass in prevent planted situations and sod conditions would be similar to ryegrass in wheat stubble. It's interesting to note that it took 16 day longer for ryegrass to reach 40F in sod conditions compared to black ground.

Table 2. Calendar date of 40F soil temperature, in black ground and sod conditions, near Roseau in 2008 to 2015.

	2015	2014	2013	2012	2011	2010	2009	2008
Black	3-31	4-19	5-4	3-12	4-8	3-30	4-14	4-15
Sod	4-15	5-9	5-7	3-23	4-23	4-13	4-29	4-18
Difference	16	20	3	11	15	14	15	3

PEST MANAGEMENT

Plant and weed growth will take a bit of a pause this week with the projected cold snap. Soil temperatures will decline from recent levels as frost continues to come out of the ground and projected daily high temps in the 30's and nightly lows in the high teens and 20's. However, as average daily temperatures increase, herbicide applications for broadleaf weeds will be right around the corner. Winter annuals (dandelion, shepardspurse, and cockle) are beginning to grow. Annual weeds (volunteer canola, mustard, and smartweed) are first to emerge in the spring. Weeds grow fast and regular scouting is essential to determine the best weed control program for your situation.

CROP MANAGEMENT

When it comes to ryegrass fertility a common question asked is: what is the nutrient content of various parts of the perennial ryegrass plant? Researchers in the perennial ryegrass growing areas of the Pacific Northwest have studied this topic and results are presented in Table 3. In northern MN environments, a perennial ryegrass will produce between 1 and 3 tons of straw (dry matter). If the straw is baled consideration should be given to an application of plant food to replace nutrients removed in the straw. As an example, if 1,000 pounds of ryegrass seed and 2 tons of ryegrass straw was baled and removed from a field, an additional 60 (40 straw + 20 seed) pounds of N, 18 pounds of P2O5 (10 straw + 8 seed), 106 (100 straw + 6 seed) pounds of K2O and 10 (10 straw + < 1 seed) pounds of sulfur would need to be added to the field to replace nutrients removed in the straw. Below ground, the perennial ryegrass plants have approximately 4 tons of root dry matter. However, these nutrients will be available, in time, to rotational crops.

Table 3. Nutrient content of perennial ryegrass, straw (#/ton), ryegrass seed (#/1,000# seed) and ryegrass roots (#/ton). Source: Oregon State University

Ryegrass Plant	Nitrogen	P2O5	K2O	Sulfur
Straw (#/ton)	20	5	50	5
Seed (#/1,000#)	20	8	6	<1
Roots (#/ton)	16	7	5	1.5

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

Next week's newsletter will include a review of ryegrass fertility guidelines and will be released on April 28, 2015.