

**NORTHERN MINNESOTA GRASS SEED GROWERS  
NEWSLETTER  
April 2, 2012**

**INTRODUCTION**

Welcome to the second edition of the Grass Seed Growers Newsletter for 2012. The primary objective of this newsletter is to report on growing conditions, crop development and progress of perennial ryegrass and bluegrass crops. The newsletter will be sent weekly, with alerts sent as pests infestations dictate or production problems arise.

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**RYEGRASS GROWING DEGREE DAYS (GDD)**

Ryegrass GDD will be tracked for the 2012 growing season with comparisons to the last five years. A base temperature of 32 degrees F will be used for ryegrass (T-Base =32 F).

The March of 2012 has broken many temperature records in Minnesota and throughout the upper mid-west. In fact, over 90 cities broke all time record high temperatures for March! As of March 31<sup>st</sup>, we have accumulated 304 GDD (Table1). March of 2012 is the warmest March, by far, over the last five years and we are 297 GDD ahead of last year and 167 GDD ahead of 2010 which was an early spring. In the next 10 days daily high temps are expected to average in the high 50's with lows in the mid-30's. If the forecast holds we should accumulate an average of 16 GDD/day!

Table 1. Growing degree days (GDD) for March 2007 - 2012 near Roseau MN.

<b>Year</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2012 vs. 11</b>
March	304	7	137	30	6	90	+297

In the last week of March, several signs of spring were observed:

- Rain showers and occasional “clap of thunder”
- Sea gulls are back in the area
- Knotweed emerging
- Dandelions are in the rosette stage
- Bluegrass is beginning to green-up

Soil temperature generally is a good indicator of the “earliness or lateness” of the growing season (Table 2). In 2012, we reached 40 F in tilled soil on March 12<sup>th</sup>. This is the 18 days earlier than the next warmest which was March 30, of 2010. We reached 40 F in sod conditions for one day on March 23, but soil temperatures since have fallen back into the mid-30's.

Table 2. Calendar date when soil temperatures reach 40 F, in tilled and sod conditions near Roseau in 2005 to 2012.

	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>
Tilled	3-12	4-8	3-30	4-14	4-15	4-14	4-11	4-6
Turf	3-23	4-23	4-13	4-29	4-18	4-19	4-11	4-16
Difference	11	15	14	15	3	5	0	10

## **PEST MANAGEMENT**

### **Ryegrass**

Winter annuals (dandelion, shepardspurse, and cockle) are in the rosette stage. 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. Canada thistle has yet to emerge. This presents a dilemma for weed control in ryegrass. If we wait too long, the winter annuals will be in full flower and produce seed, but if we spray too soon the thistle and other warm weed species will not be controlled as they have yet to emerge. It may be advantageous to consider two applications for broadleaf weed control. The first timing will control winter annuals and cool season broadleaves and the second timing for Canada thistle and warm season broadleaf weeds.

Dicamba and 2, 4-D are the workhorses for broadleaf weed control in ryegrass. Product rates range from 0.5 to 1 pint depending upon weed size and species. Ryegrass is very tolerant of these two products. Weeds grow fast and regular scouting is essential to determine the best weed control program in your ryegrass fields.

## **CROP MANAGEMENT**

### **Ryegrass**

When should nitrogen be applied in ryegrass? The ryegrass plant goes through three distinct phases in uptake and utilization of nitrogen from the soil.

- Phase 1 - Slow nitrogen uptake
- Phase 2 - Rapid nitrogen uptake
- Phase 3 - Nitrogen redistribution, slow or no uptake (movement within the plant)

Phase 1 takes place in the fall and early spring and corresponds to ryegrass plants in the vegetative to tillering stage. Research in Oregon indicates less than 20% of the above ground biomass is accumulated prior to tillering. In Minnesota conditions, ryegrass will be in Phase 1 from vegetative to tillering (up to 700 GDD).

Phase 2 is the time for rapid nitrogen uptake in ryegrass. This corresponds to ryegrass in the jointing to early heading stage. Research from Oregon indicates ryegrass plants can take up 2 to 4 pounds of nitrogen/day during Phase 2. This rapid uptake of nitrogen is completed at head emergence which is 6 weeks or more prior to harvest. It is critical to have nitrogen in the root zone during this period of rapid nitrogen uptake. In Minnesota conditions ryegrass will be in Phase 2 from jointing to heading (700 to 1,250 GDD)

Phase 3 occurs during heading to mature seed set (> 1300 GDD). The majority of the nitrogen has been taken up by the ryegrass plant and nitrogen needs are redistributed in the plant from lower leaves and tillers to the upper parts of the plant. Nitrogen applied at this time is of limited utility for ryegrass seed yield. The exception may be foliar feeding and will be a topic discussed in a future newsletter.

Thus far in 2012, we have accumulated 304 GDD. If all nitrogen is to be applied in the spring, fertilizer application should be earlier (250-450 GDD) than if the nitrogen is applied in a split application program (fall and spring) program (up to 800 GDD). With the projected 10 day forecast of high temps in the high 50's and lows in the mid 30's, we will accumulate an average of 16 GDD/day. If the forecast holds, in 10 days we will have accumulated 464 GDD. Now is the time to schedule additional nitrogen applications in ryegrass. It's important to get nitrogen into the root zone prior to the time of high nitrogen demand (phase 2).