

**MINNESOTA TURF SEED COUNCIL
NEWSLETTER
April 14, 2020**

INTRODUCTION

Welcome to the first edition of the Northern Minnesota Turf Seed Growers Newsletter for 2020. The primary objective of this newsletter is to report on weather conditions, crop growth & development, pest management and chart the year-to-date perennial ryegrass growing degree days (GDD) compared to the previous six years. The newsletter is scheduled for weekly distribution from the beginning of ryegrass green-up through swathing.

Suggestions on newsletter content should be directed to: Dave Grafstrom
Email: Grafts010@umn.edu
Cell: 320-293-8722

PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)

Perennial ryegrass GDD's will be tracked for the 2020 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).

Formula to calculate GDD:
$$\frac{(\text{Daily High Temp}) + \text{Daily Low Temp}}{2} - 32$$

Thus far in 2020, we have accumulated 60 GDD's as of April 12th (Table1).

Table 1. Growing Degree Days (GDD), March - April 2014 to March - April 2020 near Roseau MN.

Year	2020	2019	2018	2017	2016	2015	2014	2019 vs. 2020
March	30	0	0	90	38	119	0	+30
April		211	184	458	263	367	159	
April 1-12	30	211	184	548	301	486	159	
Total								
*April 13-22	55							

* Forecasted GDD at Roseau for the next 10 days.

GENERAL CROP CONDITION

The winter of 2020 generally had a consistent snow pack without a mid-winter snow melt, this coupled with a relatively slow snow melt in March are both positive signs suggesting good winter survival of perennial ryegrass. In recent days, several ryegrass plants have been dug to examine the crowns. Plants that were dug show a well-established root system, white in color which usually is an indication of a healthy crown region. The short term forecast calls for much colder than average temperatures. What will this mean to ryegrass growth and development? That will depend upon the severity and duration of these low temperatures. It's difficult to determine when ryegrass breaks winter dormancy. Ryegrass coming out of dormancy is more of a gradual process, not like the flipping of a switch. After this cold snap weather returns to a more normal pattern and better assessment of ryegrass winter survival can be made.

GENERAL CROP CONDITION CONTINUED

The North Dakota agricultural weather network (NDAWN) has several reporting sites in northwestern Minnesota. These sites record various weather related data. Soil temperature (both under sod and bare soil) are recorded all year long. Historically, winter kill in perennial ryegrass is more of an issue with dry soil conditions going into the fall and a limited snow pack. Conversely, ryegrass winter survival tends to be better with moist soils, in the absence of standing water, and a good snow pack throughout the winter. Attached are two NDAWN graphs, showing bare soil temps from Fox (Magnusson Research Farm) and a site north of Williams (see page 3). Previous research indicated that ryegrass crowns that have not broken winter dormancy, can withstand soil temps of 15 F. Bare soil would be the worst case scenario for ryegrass winter survival. This data suggest that winter soil temps in Williams may have an impact on ryegrass crown survival while bare soil temps at Fox site would suggest good ryegrass crown survival. The Fox site had snow cover the entire winter while, at Williams, the snow can blow off the site and may be more reflective of high areas in a field.

Soil temps after this cold snap will give an indication of soil temps to the crown region. In addition to this soil temp information, several ryegrass plants were dug, put in pots and placed inside during the evening and placed outside during the day when daytime temps were above freezing. These plants will be monitored in the coming days for new growth that comes from the crown region. If you are interested in information from another NDAWN sites the web address is:

<https://ndawn.ndsu.nodak.edu/>

CROP MANAGEMENT

Nutrient management is a critical step in the production of a quality perennial ryegrass seed crop. Once the ryegrass plants green up and fields are firm enough to travel, the timely application of plant food is an important step in the production of a high yield ryegrass crop. The next ryegrass newsletters will review some of the best management practices for plant food applications in ryegrass seed production based on over a decade of field research in perennial ryegrass.

PEST MANAGEMENT

It may seem early to be thinking about weed control, but a couple considerations for early season weed control include; Nortron and winter annual weed control. Nortron has been successfully used for control of annual bluegrass and foxtail barley. Nortron appears to be more effective when applied early and if activated by moisture. One strategy to consider would be make an application of Nortron on field edges as that is the most likely place to see annual bluegrass.

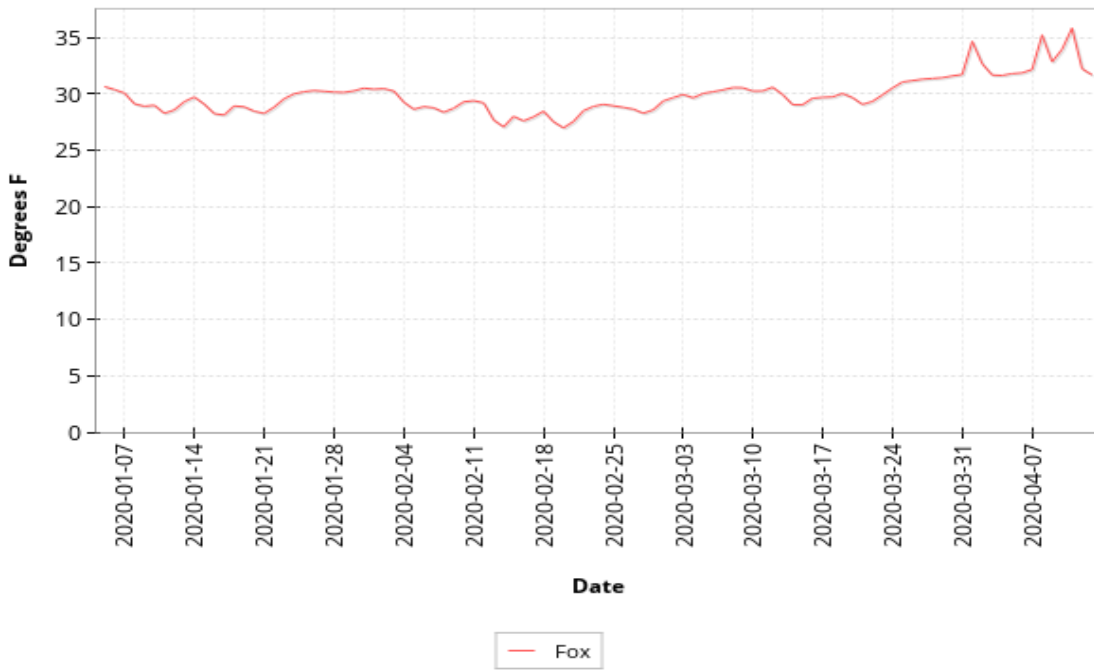
Winter annuals have a rapid growth rate and for optimum weed control an early application (pre-bolt) is needed. This is especially true if a broadleaf herbicide was not applied last fall. If allowed to grow unchecked last fall, these winter annuals (cockle, shepardspurse, field pennycress, dandelion) will have a well-developed rosette of leaves near the soil surface and it seems as soon as the snow melts they begin to grow. For most effective weed control, broadleaf herbicides should be applied before the winter annuals begin to bolt.

Next week's newsletter will be released on April 21st.

Daily Average Bare Soil Temperature (4in Depth)

(2020-01-05 - 2020-04-13)

North Dakota Agricultural Weather Network (NDAWN)



Daily Average Bare Soil Temperature (4in Depth)

(2020-01-05 - 2020-04-13)

North Dakota Agricultural Weather Network (NDAWN)

