

CropLinks

information on **forages, corn and cereals**

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Check Wheat Soon for Septoria

With this prolonged damp and dull weather it's more important this spring to check your winter wheat crops for septoria leaf disease. Usually we don't see a consistent payback on spraying for septoria, and even less on "fusarium control" products, but in 2011 we might! With most winter wheat heading out this first week of June, a decision needs to be made whether the level of septoria leaf disease may significantly reduce yields. If there's good yield potential but lots of septoria blotches (yellow-brown inoculum which spreads on the leaf and destroys the photosynthetic area) then consider treatment. Remember the upper leaf and the head are the main solar collectors to aid in kernel filling, so keep these green and healthy during June-early July. If you need to treat your wheat, choose one of the fungicides that cost around \$10/acre.

Introduction

It has been a frustrating spring for you cropping wise, along with many other eastern Canadian farmers. There were some planting opportunities on sandier soils up to May 8th, but since then we have had 3-4 inches of rain (it seemed like more) and very little drying conditions. There is not much we can say to lessen the frustration, but only this fairly obvious tidbit... for anyone wanting high quality forage, make sure to park the tillage gear & planters when your 1st cut forage is ready and go put up great silage. Forage quality is the big money maker on your farm, and in western NS all forages (except pure timothy stands) are ready with a nice balance of yield and high feeding quality now.

This issue of Crop Links looks at nitrogen loss potential in spring 2011, extra need to check septoria pressure in winter wheat crops, glyphosate-residual herbicide tank mix options and revisiting wheat N timings/rate..

Winter Wheat Fertilizer Observations

Just a few comments here for you to file away in the "old computer". If you're seeding winter wheat after September 25th, regardless if manure is applied then use 100 lbs/ac 17-17-17 or 50 lbs/ac 34-0-0 to provide some quick release N for good tillering in the fall. A little fertilizer N is good insurance on earlier seeded wheat also.

Secondly, for spring fertilizer on winter wheat, the 1st application of N should go on October planted wheat (or earlier planted wheat with poor tillering) in mid-March to early April, depending if snow has gone. This application should only be about 25N in the form of 75 lbs/ac of 34-0-0. The 2nd application would be 4-5 weeks after the first, at 160 lbs/ac of 34-0-0 or urea equivalent (less if light manure rate was applied at seeding).

For September 15-25th planted wheat, that's tillered well, one spring N application in mid-April is adequate at around 200 lbs/ac of 34-0-0 (use a lower rate if had significant cattle manure at seeding, and no nitrate on fields with 4t/acre September broiler litter). I don't give any more than a 10 N credit for soybeans just prior to winter wheat. If this disagrees with your strategy, then let's chat.

Corn Glyphosate Tank Mix Considerations

We often get questioned on whether to use a “more residual” tank-mix corn herbicide in with the glyphosate to improve weed control and yields. Here’s what we know about “Roundup Ready” or glyphosate tolerant corn management. It’s critical to keep a weed free period from the 4-10th leaf stage in corn. In Dr. Peter Sikkema (University of Guelph) summary of 11 field experiments from 2006-2008 he concluded that:

- The optimal weed management strategy in RR corn is weed species and field specific. The highest net returns to weed management strategy are field specific.
- Overall, there was no statistical difference between a single application of Roundup, a sequential application of Roundup applied at early and late post-emergence, a tank-mix of Roundup plus Marksman, and a sequential program of either Atrazine, Primextra or Converge applied pre-emergence followed by Roundup applied late post-emergence.

So this research has no clear answer on the RR corn question.... do I tank-mix in a residual herbicide with glyphosate? Last year with wetter weather in July-early August many NS growers thought there was too much of a secondary flush of weeds between the 6-10th corn leaf stages. If that was the case for you, perhaps a glyphosate tank-mix option should be considered or simply spray a second time with glyphosate (a \$5-9/acre cost plus your time and fuel). For those that want to use a residual tank mix partner with glyphosate, there are many options, but be aware of the specified application timing on the product label. For example if using both an annual grass- annual broadleaf residual tank-mix partner such as Converge XT or Prowl H₂O, these need to be applied before 4th leaf corn (\$15-17/acre at rates growers commonly use). Other broad-spectrum tank-mixes such as Primextra II, Dual II or Halex GT go on up to 6th leaf . An atrazine-Banvel II tank-mix with glyphosate goes on up to 5th leaf stage , but this combination will mostly get annual broadleaf weeds only (\$12/acre).

The key thing is to decide before 4th leaf stage corn whether you are going to tank-mix in a residual product with glyphosate. If you are going with just glyphosate alone on RR corn , apply by 4th leaf of corn and scout your fields a couple of times afterwards between 6-10th leaf stage to determine if a 2nd glyphosate application is needed. Any questions contact us or your crop protection product supplier. These comments apply only to field corn, where some of these products are not registered for sweet corn use.

Nitrogen Loss from Waterlogged Soils

With all the rainfall this past month you might be asking how much nitrogen (N) have I lost? The major pathways for N loss are through leaching of available N below the root zone and gaseous loss through denitrification in waterlogged soils. N loss through leaching is most likely on sandy soils where the water moves more freely through the soil profile. N loss through denitrification is more likely on medium or finer (heavier) textured soils that are not well drained.

Denitrification (the conversion of nitrate and nitrite N to gaseous forms of N that are subsequently lost to the atmosphere) occurs when soil bacteria are breaking down organic matter under low oxygen conditions (waterlogged soils).

For denitrification to take place nitrate must be present. When nitrate N is not present or in low concentrations then nitrogen loss through denitrification is minimal. Denitrification losses of manure N or nitrogen from a previous legume crop are low at this time of year as the organic N is not readily converted to nitrate until the soils warm up. Nitrogen fertilizer however is either in the nitrate form or easily converted to nitrate in the soil, and is therefore more susceptible to loss from leaching and denitrification. Since denitrification occurs in wet soils that are low in oxygen, the longer the soil is saturated with water the greater the amount of nitrate that is converted to nitrogen gas and lost to the atmosphere.

Soil temperature plays a big part in the amount of nitrogen lost through denitrification. Because denitrification bacteria work faster in warmer soils much less nitrogen is lost through denitrification when soils are cooler in the spring. Warm wet conditions have the greatest potential for nitrogen loss. The following figures from the University of Nebraska might be helpful in determining N loss in your fields under saturated conditions.

See table below for data

Estimated denitrification N losses as influenced by soil temperature and days saturated

Soil Temperature C ⁰	Days Saturated	N Loss (% of applied)
12 to 16	5	10
	10	25
24 to 27	3	60
	5	75
	7	85
	9	95

Shapiro, University of Nebraska