

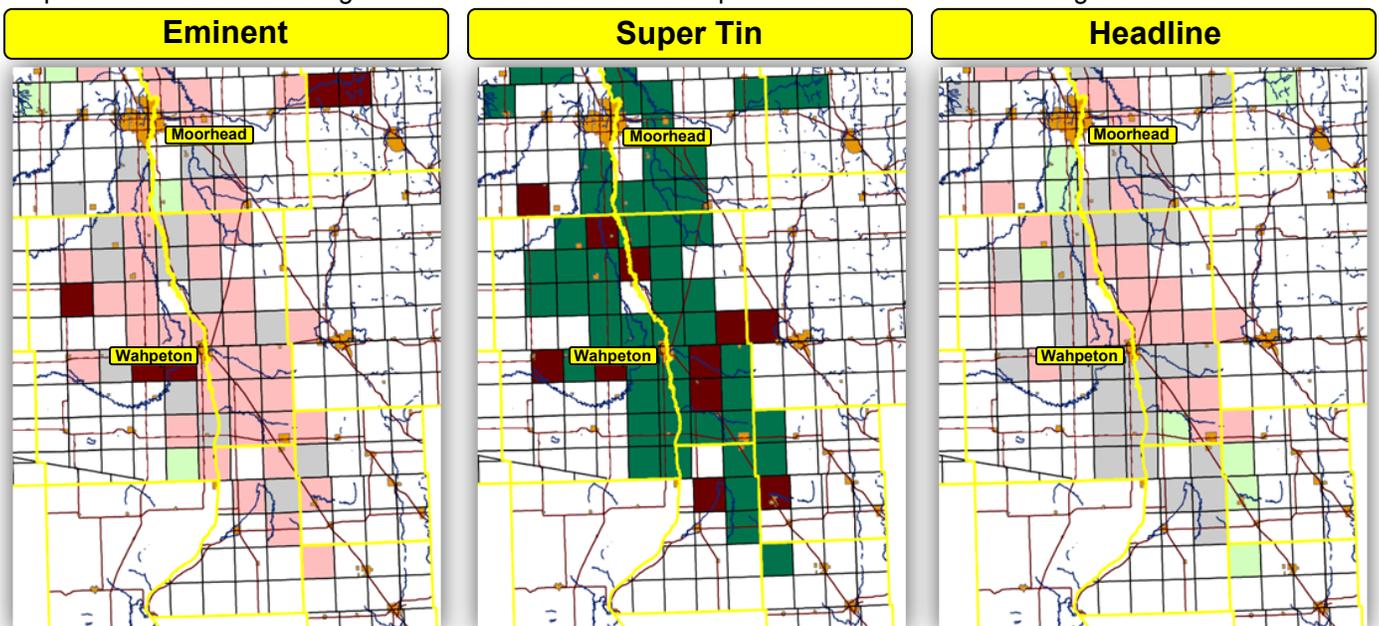


# Cercospora Management for 2012...

Each and every year, Agriculturists from all three sugar cooperatives in the valley collect sugarbeet leaves infected with Cercospora Leaf Spot (CLS) and deliver these leaves to Dr. Gary Secor's lab in the Plant Pathology Department at NDSU. Using specialized tools, the spores are extracted from the infection sites on the leaves and placed into petri dishes containing an agar formulated with varying levels of a specific fungicide. After a 15-day incubation period, the radial growth of each individual spore on the fungicide agar is measured and compared to spores from the same lesion grown on the same agar less the fungicide. This technique and subsequent data is then used to calculate an EC50 value for the sample, which is a standardized figure used to measure fungicide resistance.

Once the EC50 value has been established, the data is correlated back to its field of origin. Just like bar graphs help explain a complex set of numbers, color-coding townships on a map by level of average EC50 values helps visualize the problem at hand. When the current values are compared to the values collected from previous years, more often than not, several differences can be found. These differences can be directly related to the pathogen's "shift" in fungicide sensitivity, or simply put, how effective is the fungicide in question.

The maps below show some of the resistance levels observed from the 2011 samples. Interpreting the maps as gray and green-colored townships being good (lower levels of resistance) and pink and red being bad (higher levels of resistance), it is clear to see that the Minn-Dak growing region has varying levels of resistance across all three of the major fungicide classes: triazoles (Eminent, Inspire, Proline), TPTH (Super Tin and Agri Tin) and the Strobilurins (Headline and Gem). These resistance levels are considerably higher than last year in many areas and as such, fungicide tank mixes will be the main focus of this year's CLS spray program (see back page). This type of program has not only proven itself effective for CLS control in university research trials, but also incorporates the needed fungicide rotations/combinations needed to practice resistance management - which is critical for the preservation of our current fungicide chemistries.



## 2012 Minn-Dak Cercospora Leafspot Fungicide Program...

| Spray Program      | First Application | Second Application      | Third Application | Fourth Application                        |
|--------------------|-------------------|-------------------------|-------------------|---|
| <b>Two-Spray</b>   | Triazole + EBDC   | Strobilurin<br>+ TPTH   | _____             | _____                                     |
| <b>Three-Spray</b> | Triazole + EBDC   | TPTH<br>+ Benzimidazole | Strobilurin       | _____                                     |
| <b>Four-Spray</b>  | Triazole + EBDC   | TPTH<br>+ Benzimidazole | Strobilurin       | TPTH or Proline or<br>Combination of Both |

**Triazoles:** Eminent - Proline - Inspire XT - Enable

**TPTH:** AgriTin - SuperTin

**EBDCs:** Dithane DF+Rainshield NT, Dithane F-45, Dithane M-45, Manex II, Manzate ProStick, Manzate Flowable, Penncozeb, Penncozeb DF

**Benzimidazoles:** Topsin M 4.5L, Topsin M 70 WDG, Topsin M 70WP, Topsin M WSB, Thiophanate Methyl 85 WDG, T-Methyl 70W WSB, T-Methyl E-AG 4.5 F, T-Methyl E-AG 70 WSB

**Strobilurins:** Headline - Gem

*Your Agriculturist is the best source for info regarding CLS - keep in contact with them for appropriate rates & intervals*

## Pay Attention to Pre-Harvest Intervals...

As the 2012 sugarbeet crop continues to grow and develop at a pace that appears similar to the 2010 "bin-buster," the reality of an early pre-harvest becomes more and more likely. While this plan has not yet been etched in stone, growers need to be aware of its likelihood and start to plan accordingly. One of the most challenging management practices that needs to be taken into consideration with an early harvest are the required pre-harvest intervals (PHI) on the crop protection chemicals. Keep in mind that failing to adhere to these required harvest restrictions is considered off-label and in direct violation with the Minn-Dak Grower's Agreement. These common chemicals have the following PHIs:

- 7 Days** = Proline, Headline and the Tins
- 14 Days** = Eminent, Enable and the EBDCs
- 21 Days** = Inspire, Topsin and Gem
- 30 Days** = Roundup (or generic glyphosate)
- 40 Days** = Select MAX (or generic clethodim)
- 45 Days** = Assure II (or generic quizalofop) and Stinger (or generic clopyralid)
- 60 days** = Dual Magnum (or generic metolachlor), Outlook (or generic dimethenamid-P)
- 75 Days** = Betamix (or generic desmedipham plus phenmedipham)
- 90 Days** = Nortron (or generic ethofumesate)



**If pre-harvest were to begin on August 14th, that means there is only 45 days between potential startup and July 1st (and 93 days until October 1st)...**

## 2012 MDFC Shop Meetings

Mark your calendars for July 17th - 19th and plan to attend one of three Minn-Dak Shop Meetings. Your board and management team has several updates to share and discuss regarding the maintenance progress being made during the factory's inter-campaign; marketing/sale of your sugar, pulp and molasses; the Farm Bill and current Washington politics and the preliminary plans in place for an early harvest. These meetings also provide a great opportunity for our management team to answer any questions that you may have about any of the topics above or beyond.

All meetings will begin at 12:00 PM sharp with lunch being served at all locations:

**Tuesday - July 17th**  
Myron Inland Farm

**Wednesday - July 18th**  
Dennis Klosterman Farm

**Thursday, July 19th**  
Brent Davison Farm

**Thanks to Dr. Allan Cattanach & Kathy Wang (ACSC) for the preparation and use of the CLS Resistance Maps and to Dr. Jeff Stachler (NDSU) for the information regarding the pre-harvest intervals on sugarbeet herbicides**