



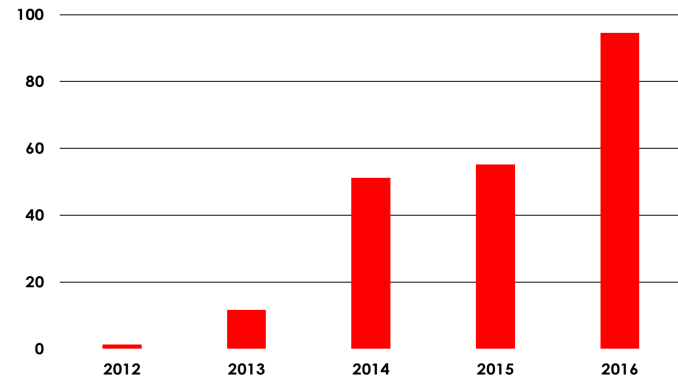
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Mike Metzger - Editor

# Cercospora Control for 2017...

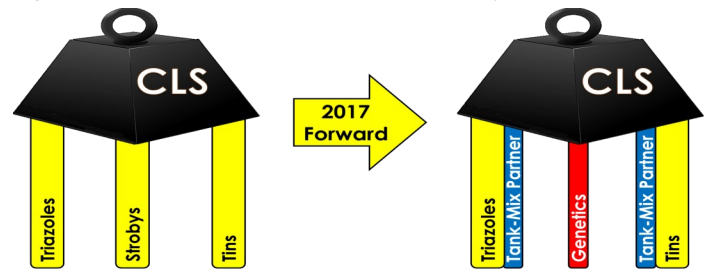
The 2016 season was a quick reminder of how severe Cercospora Leaf Spot (CLS) can become in a just a short period of time, and why it is still the most crippling foliar disease of sugarbeet within the Minn-Dak growing region. The tremendous amount of CLS pressure experienced last year has given rise to a much larger over-wintering inoculum load, and over the next few weeks it will 'spark' another disease cycle. Now more than ever, growers will need to remain vigilant and stay in close contact with their Agriculturist in order to keep CLS at bay.

## I've Heard That We Shouldn't Be Using Strobilurin Fungicides This Year - Any Truth to This?

When it comes to CLS control, this is 100% true. Over the past few seasons, resistance to this class of fungicides has been slowly building in the CLS population present at Minn-Dak (and in many other areas as well). Much like a sleeping volcano being closely monitored, no one was exactly sure when the 'top would blow' - for our geography it turned out to be 2016 (see below):



This graph represents data generated by Dr. Gary Secor (NDSU), showing the level resistance to the Strobilurin class of fungicides at Minn-Dak from 2012-2016. The dataset is based upon infected leaves collected by the Ag Staff from commercial fields during each respective season. Unlike other chemistry classes, resistance to Strobilurins can be thought of like a light switch - the fungicide either works or it doesn't. Leaves collected in 2016 indicated that nearly 95% of the CLS population in our growing region are resistant to this chemistry class **rendering products like Headline, Priaxor and Gem (among several others) ineffective for CLS control.**



## So If I Can't Use Strobilurins, What Will Be Taking Their Place In My 2017 CLS Program?

The answer is simple - tank-mixes and genetics. Looking at the illustration above, think of CLS as a 2,000 lb. weight that until recently was being held up by three legs (or in this case, fungicides): Triazoles, Strobilurins and the Tins. With the 'Strobys' now gone, this leg has to be replaced with something, the easiest being genetics. The genetic protection that is 'built in' to the plants will certainly help hold up this 2,000 lb. weight, but not at the same level as the Strobys once did - at least for the time being. This past November, the Minn-Dak Seed Committee changed the CLS approval criteria for varieties entering our market, making it harder for varieties that are more susceptible to CLS to reach approval status. In order to give the plant breeders a chance to hit their new target (and considering that the seed crop that will supply us in 2018 has already been planted in Oregon), this new variety approval criteria will take place starting with the 2019 crop. In the meantime, the Ag Staff did a great job positioning varieties for this coming season. In 2016, the average CLS rating for the top three varieties sold at Minn-Dak was 4.71 compared to this year's 4.37, a very significant improvement. While this is a step in the right direction, *(continued on the back)*

**(Continued)** it will only be effective if the other chemistry classes are supplemented with a tank-mix partner. This is done for two reasons: First - the addition of tank-mix partners will provide the needed 'support' to the 2,000 lb. CLS weight until the enhanced genetics arrive. Secondly - with the Strobys gone, it is critical to protect the remaining chemistry classes (or the strongest supports to our weight). The loss of Strobys will result in an increased number of applications of both the Triazoles and Tins. If they are applied alone, the inevitable outcome of the increased application frequency of these two chemistry classes is that more selection pressure will be applied, and the risk of developing resistance to these remaining fungicides will increase significantly over time. Research in sugarbeets and in other crops has demonstrated that the risk of resistance developing can be greatly reduced if two effective pesticides are tank-mixed and applied together. These two reasons are **why no fungicide should be applied alone in 2017**. The benefits (both short- and long-term) of tank-mixing far exceed the damage sustained from poor CLS control. Keep in mind that the losses incurred from moderate to severe CLS damage not only significantly reduce on-farm profit, but also cause complications in the storage piles and factory processing as well...

## **2017 Minn-Dak** **Cercospora Leaf Spot** **Fungicide Program**

- 1. TPTH + Topsin**
- 2. Triazole + Copper**
- 3. TPTH + EBDC**
- 4. Triazole + EBDC**
- 5. TPTH + Copper**

***Keep fungicide applications to a 10-12 day spray interval  
(tighter if rain and/or DIVs require)***

### **Is There Anything Else I Can Do to Make My CLS Program More Effective?**

Absolutely - To be clear, several of the products recommended as tank-mix partners in this year's program are not fit to be 'stand-alone' products. However, research conducted at NDSU, U of MN and Michigan Sugar has all shown that CLS control, yield and quality can be increased if they are applied in conjunction with a 'major league' product like the Triazoles or Tins. Think of these tank-mix partners as Triple-A ballplayers called up to play a Major League game - they can play a very effective role in the game's outcome if coached correctly (putting them in the right position on the field and in the batting order). Here are several ways to help 'coach' these new (and old) players along:

- Start your program on time and stay on schedule.
- Keep your spray intervals tight - everything in this year's program should be kept to a 10-12 day interval. Utilize the reminder feature in your smartphone - it's a handy tool to help stay on schedule!
- Watch the NDAWN Daily Infection Values (DIVs). These color-coded ratings can be found on the MDFC website or within the MDFC mobile app.
- Use the correct nozzles. The same nozzles you utilize for glyphosate applications are generally not the best for fungicide use (small vs large droplet size).
- High water volumes. Many of the tank-mix partners are protectants and as such, require a little more water than you'd normally use. Water is the cheapest thing you put into your spray tank, there should be no reason to cut back on it.
- Don't give up on the dry formulations. They will give you little to no trouble if handled & mixed correctly. When in doubt, follow the A.P.P.L.E.S. recommended by NDSU Weed Science:
  - ⇒ Agitate
  - ⇒ Powders soluble (SG, SP)
  - ⇒ Powders dry (DF, WDG, WP)
  - ⇒ Liquid flowables & suspensions (ASC, F, ME, SC, SE)
  - ⇒ Emulsifiable concentrates (EC, EW, OD)
  - ⇒ Solutions (S, SL)

*Make sure that each product is uniformly mixed in the tank before adding another...*
- Listen to your Agriculturist. They are the best source for information regarding CLS - keep in close contact with them regarding products, rates & timing.