



**D**elk Crosier is a Maximum Farming Implementation specialist with a 2,000-acre farming operation in West Alexandria, Ohio. He has been using the Maximum Farming System for 30 years and grows all non-GMO corn and beans. He's found that using the complete Maximum Farming System, including foliar applications, has improved his profitability, his condition, and productivity.

"I have used foliar applications as much as anyone in the company. As a producer, we have so much money invested in growing a crop that I consider the foliar program to be the insurance program for everything we have invested," said Crosier.

**"We are able to expand that leaf surface and we're able to change the color of the chlorophyll molecule in the plant, so that we can intercept more solar radiant energy and increase those synthates."**

The marketplace is paying some serious premiums for non-GMO crops. Due to the Maximum Farming System and Crosier's management, his processor took an entire variety of his corn. The processor liked the quality and consistent seed size, and they kept it for a seed variety. That added another \$0.35 to what they paid for the corn. Crosier pointed out, "You don't

always know why you are pushing for quality, but as we enter these markets, some things stand out and prove to be a benefit. There are many good reasons to use foliar, and I cannot say enough good things about them."

Crosier uses the Ag Spectrum program's foliar application of PT-21<sup>®</sup>, varying the gallons depending on the color of the plant. He also uses Score<sup>®</sup>, Gro-Zyme<sup>®</sup>, and GlyCure<sup>®</sup>. He still uses GlyCure since there had been some glyphosate use previously.

Foliar applications are usually governed by how much soil moisture is available. Crosier uses a 4440 spracoupe to spray as tall as he can in his corn crop. To minimize damage to the crop, he has a plane spray

the taller applications, rather than use a big sprayer.

During 2017, there was a wet period when Crosier couldn't get in the field to foliar feed

the soybeans. He commented, "The crops were going backward. We flew the first foliar application on the soybeans. Using an airplane is uncommon on our soybeans. However, it not only turned them around, but it also set them ahead. My insurance man came to visit and, when I told him my yields, he was amazed. He said, 'Do you know how much ahead of everyone

else in the neighborhood you are?" My yields ended up being 10-18 bushels ahead of my neighbors.

"There are reasons why we need to rescue and influence the growth of a plant. It can be wet weather at the beginning of the growing season or any physiological change that causes the plant to not grow a proper root structure. Therefore, there is more than one reason to use a foliar application on a crop. And I am not tied to just one type of application."

When asked about the value of tissue samples Crosier commented, "I have never taken a tissue sample. One of the biggest advantages I have is leveraging Ag Spectrum's experience and expertise. I have learned, through years of using and teaching the Maximum Farming System, to flip plants to determine whether they are deficient or not. Planning for and executing



"Our corn in Ohio. This is why I foliar." — Delk Crosier

the specific times to plant using the in-furrow System products and timing the foliar applications will set a customer up for more success in growing larger, stronger root systems. Therefore, some foliar applications are timed, some are more of a rescue, and others are used to push the plant a little bit."

When questioned whether Crosier thought added foliar nutrition can take the place of a fungicide by creating a healthier environment, he responded, "Some hybrids need a fungicide more than others. Personally, I do not choose to grow those crops. I usually grow a type 2 hybrid, but I do grow one type 3 hybrid. I don't use any fungicides on corn or beans because a fungicide only lasts 15 days."

Crosier told us that he does not use any P & K on his home ground. Some of the contracts for his rented ground specify the application and rates of P & K. He explained that landlords who do not understand the Maximum Farming System often require minimum amounts of P & K application of about 60 and 60, and one rented farm landlord requires 100 and 100 to be used.

From 1996 until the present, Crosier has tracked his soil tests and yield results by GPS and management zones. For more than 20 years samples have been sent to Midwest Labs, which provides more consistent and usable data by using the same methodology during that time. While soil test

numbers are merely an indication of soil condition, Crosier's numbers continue to improve, then stabilize during drought years, and improve again.

Basic science teaches us that when a plant reaches the reproductive stage, the roots stop growing. If the root is not growing, the stalk is cannibalizing the fruit or the ear. By using foliar applications, Crosier helps customers appreciate that they can take control and manipulate that part of the plant system by forcing it to do what it doesn't normally do...grow roots during the reproductive stage. This also allows us to leave nutrients in the stover, which returns more to the soil



for the next growing season. "After seven years of just a simple soybean/corn rotation, we have been able to add a half percent organic matter and five percent CEC, all with no cover crops," Crosier shared. "Over time we continue to change soil structure, the root-

ing environment, and mineralization. It's incredible!"

Crosier continued, "Once the plant reaches the reproductive stage, your mass and your factory are already built. The next thing we want to do is widen our solar panel. That's what the ammonia form of nitrogen and the foliar applications accomplish. They force that plant to grow the root first; they force that plant to become healthier; and they force that plant, through the auxin activity, to expand its cell walls sideways. We can expand the leaf surface and we are able to change the color of the chlorophyll molecule in the plant so that it intercepts more solar radiant energy and increases the synthates. We want to be able to manipulate a plant to accomplish that when we are trying to finish it out. When we can get leaf texture like that (see photo above), that's the reason to foliar corn."

The plant has to have calcium in the root tip; it signals the defense mechanism so that it can defend itself against a pathogen, fungi, or a bacterial disease. Using PT-21 in the foliar application helps move the Score into the plant to make it mobile in the phloem. It helps the plant strengthen the pectins and cell walls to help it defend itself. Crosier concluded by saying, "It's incredible what we can do. We have the power and the ability to influence processes!" ▲