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The W&A Q&A

Dedicated to Excellence in Growing Crops

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K-man foliar product for multiple crops - Mike Netz & Les Widmer, CCA

K-MAN – A UNIQUE AND EFFECTIVE FOLIAR PRODUCT

This product mix started as a way to help reduce the negative effect that the glyphosate resistance gene & chemistry has with nutrient uptake of manganese & zinc availability in soybeans and corn. After working with the product for several years, we now feel that having the balanced nutrients 5-10-27/micronutrients and the low pH effect in the spray water can benefit many foliar pesticide products being applied to crops. The pH of K-Man is (1.3 – 1.4). K-Man is applied at a 2.5 gallon rate per acre. This rate is required to provide enough acidifying power to take your spray water at (7.7 to 8.0) pH and reduce the total spray solution to the 6.0 - 6.5 pH range.

We are now using this as a base foliar on corn, soybeans, wheat, forage & vegetable crops.

THE BENEFITS OF K-MAN:

Research documents that the most effective water pH for foliar absorption of nutrients into plants is from 6.5 down to 5.5.

K-Man uses a full analysis fertilizer for its base mix: 5-10-27-4Ca-1.5Mg-.5Zn-.5Mn-.008Co-.008Mo. Research shows that the use of a full analysis base mix increases the plants protein receptors and increases nutrient absorption and translocation throughout the plant.

Research shows that having potash in a foliar application improves the guard cells opening of the leaf stomata's, located under the leaves, for improved absorption of nutrients.

K-Man greatly improves a plants ability to absorb nutrients such as manganese through foliar application. For the past 4 years, weighted yield comparisons in soybeans have averaged 3 to 4 bushels per acre. This is for one treatment made with a glyphosate application. The cost of 2.5 gallons is less than the current cash price for 1 bushel of soybeans!

For the past 3 years, weighted yield comparisons in corn have averaged 2 to 4 bushels per acre. This is for one treatment made with a glyphosate application. The cost of 2.5 gallons is less than the current cash price for 2 bushels of corn!

For the past 2 years, weighted yield comparisons in wheat have averaged 4 to 5 bushels per acre. This is for one treatment made after green up in early spring. The cost of 2.5 gallons is less than the current cash price for 3 bushels of wheat!

Over the last several years, our trials have shown that multiple applications of K-Man to any grain crop, gives an incremental (doubling) of the yield increase!

We offer another form of K-Man we call K-Man Plus. K-Man Plus has the addition of BioForge. BioForge is a strong antioxidant once inside a plant and has shown to be very effective in reducing stress ethylene. Our trial work has shown that when K-Man Plus is used along with a strobilurin fungicide; that it increases and extends the short "plant health" benefit of the strobilurin fungicide. We see that this program increases the hit / miss yield increase from spraying the strobilurin alone.

RECOMMENDED USES AND RATE / ACRE:

Substitute 2.5 gallons of K-MAN for 2.5 gallons of your spray water in a 10 to 15 gallon spray mix.

Soybean application timings include:

- Any timing along with a glyphosate spray.
- Any timing along with either fungicides or insecticides.

Corn application timings include:

- Any timing along with a glyphosate spray.
- Any timing along with either fungicides or insecticides.

Wheat application timings include:

- Along with your 28% nitrogen in your top-dress. Reduced burning from the 28% has been commonly observed.
- Any timing along with either fungicides or insecticides.

Sprayer Tips:

Clean the sprayer tank thoroughly and make sure filters are clean. Clean spray nozzles, check their flow rates, and replace the ones that are spraying more than 10 percent of the original output. Run water through the spray system to make sure everything is working properly. Find out if the sprayer is delivering the proper application rate (gallons per acre).

Do you apply chemicals on your own farm?

“HOOK” is a new product offered by W&A that is actually an adjuvant capable of spreading and enhancing chemical penetration into the plants. It is capable of making the active ingredients in your spray mixture behave as a surfactant.

“HOOK” offers superior adhesion to plant surfaces, improved contact activity which means more efficient spreading and penetrating power to your active ingredient without adding a lot of soap. Contact W&A for information on prices.

Technology Tips— *Dusty Sonnenberg, CCA*

New capabilities are available for the Field-IQ™ crop input control system that will allow operators to monitor seed delivery and fertilizer blockage, and to manage application of up to six products. The new capabilities include support for row crop planters, air seeder, strip till, and spreader platforms.

Seed monitoring on row crop planting systems gives operators information on how their seeding system is performing. This includes factors such as singulation, skips and multiples, and quality of spacing for an entire planter (average values) or by individual row (detail).



Contact the W&A Precision Ag. team for more information about all the features that TRIMBLE Field IQ has to offer your farming operations.

Food Safety & Traceability— *by Rex Marquart, CCA*

The following items should be covered in your initial employee orientation training topics, as well as reviewed annually.

1. Employees must wear proper attire (no open toe shoes, no shorts).
2. Employees are to wash their hands before starting work, after using the restrooms and after breaks.
3. Only wedding bands are permitted. All jewelry must be removed before starting work.
4. Only drinking water with single use cups are permitted in the field.
5. No food or drinks are permitted in the field.
6. Smoking, chewing tobacco and chewing gum is not permitted in the field.
7. No glass items are permitted in the field.
8. Only use product containers for their intended use.
9. All trash must be put into the proper trash collection containers
10. Employees who are sick must report to their supervisor immediately.
11. Employees who become ill must report to their supervisors immediately.
12. All cuts and open sores must be properly covered before starting work.
13. Any products that come in contact with blood must be destroyed.

All Employees must use the toilets provided



Insurance Requirements

For use of Widmer & Associates nurse wagons: Driver must have own auto insurance. Customer assumes responsibility for any damages. Equipment must be pulled by appropriate vehicle.

For any customers utilizing a W&A owned nurse wagon, you will see the above wording on the tickets you sign when picking-up your product this year. This is not a new policy. Traditionally the insurance on a towed wagon or trailer follows the vehicle that is towing it. For W&A insurance purposes, we have been encouraged to remind everyone of this at the time they pick-up a nurse wagon. Thank you for your cooperation!

Where is production agriculture information management technology headed?

By Rick Murdock, Ag Connections

The Challenge of “Knowing your Numbers”

Knowing your numbers is a key part of knowing your profitability. When we are required to report information to our business partners, when our banker needs production cost budgets and when we need to make marketing decisions, the only way we can do that efficiently is if we “know the numbers”. The problem with knowing your numbers is that you need to collect data and to have that data accessible in order to be able to summarize and make decisions from the data.

In our software business, we are all about creating tools that make production agriculture specifics easy to record and give our users the functionality to report and to retain the history of what they have recorded. Success in collecting the data comes when you put the people and data collection tools into play that fit your operation.

The Challenge of “Collecting the Data”

That is where technology comes into play. The future looks bright on how data can be collected. Computers, smart phones, 3G /4G networks, tablets, mobile computers, telematics, and RFID systems are becoming the foundation for quick and accurate data management. The ability of these technologies to collect information and transfer it back to software systems that summarize, move, report and archive data are in rapid development.

Computers and their operating systems: Horsepower and hard drive storage on computers have made huge progress over the last couple of years. The software operating systems like Windows 7 are now happily accepted by the marketplace and have found a stability that was not seen with Vista. Software development companies are back focusing on building software versus spending their time working on operating system compatibility.

Smartphones: Mobile phones have literally created a revolution in information access and distribution. These phones create an automatic connection to the user and their servers that control storage and distribution of their information. We are excited about the new HTML5 browser-database, which allows the user to open an interface on their smart phone, enter data and synchronize with the server for later import into software. The HTML5 cache-manifest allows the user to collect data when there is no cell phone signal or Wi-Fi and later submit that data when they have signal access. This meets the needs of agriculture where we are not always in a connected world. We are heavily focused on developing software solutions based on these technologies and have AgC Mobile currently in the marketplace and AgC Scout on the way.

3G / 4G Networks: We remember the days when we said to someone on a cell call, “I only have 2 bars” or “Can you hear me now?” With the arrival of 3G networks we could actually look at websites on our phones without going to sleep. The 3G networks running at 1.5 megabits per second now have competition from the 4G networks. The 4G networks have hardware system requirements of 100 megabits per second download speeds. These networks are going to be a big part of data management in the future.

Tablets: The iPad has created a new successful hardware segment that had previously failed. Now numerous hardware manufacturers are chasing that market of a high powered, long battery life, visually pleasing and compact computer. The ability for this to become your very portable computer in the future is here. Several of our growers across the country now use these tablets for collecting information in the field and then submit the records back to the office.

Mobile computers: We have seen in agriculture that ruggedized computers have become the controllers in tractors, sprayers and combines; currently they collect and manage huge amounts of data. Connecting this data to the office is one of the new frontiers in agriculture. We are excited about how these systems are going to play in automating data collection and providing platforms for daily evaluation of data quality and accuracy.

Telematics: From irrigation control systems, to weather station and soil sensor data, to remote vehicle communications, this data is becoming part of daily decision making systems. In tractors, sprayers and combines, the controllers that manage guidance, as well as data coming from the CANbus on the vehicle, needs to get back to the office. Several manufacturers are racing to get that data wireless back to the office. Having all of these expensive assets in the field and to be able to monitor every conceivable variable has tremendous value.

RFID: Radio Frequency Identification: When we manage multiple trucks, pallets and anything else that has value and needs to be inventoried, these tags are a solution for data collection automation. In the future, a truck leaves the harvester and its GPS location and RFID is shot, the data goes to the server, the truck pulls on the scales and the truck RFID is read, the gross weight is collected, at the storage location the RFID is shot, the truck pulls back on the scales for the tare weight. All of these data points are sorted chronologically and we end up with a record that shows the field, the gross weight, the storage location and the tare weight. Sounds like data automation to me!

The Challenge of “Managing the Data”

If you are involved in production agriculture, “planting, growing and harvesting” is what we love to do. The issue in modern farming operations is that we are now managing so many variables that we have to spend more time with our data and our numbers. The data helps us make decisions; the data confirms our decisions and keeps us from second guessing our actions. Profitability mistakes can be huge if we make uninformed decisions. Multiple families depend on us making the right choices.

Did you ever think you would say “planting, growing, harvesting, collecting data and managing variables” is what I love to do? Maybe that needs to be our new attitude as we learn how to use these new technologies to manage our operations for profitability and sustainability. Thinking about how we perceive our future technology management challenges, I finish with a plaque I saw in a grower’s office in Idaho, that makes the point:

“WORK IS PLAY AND PLAY IS WORK AND DON’T FORGET IT BECAUSE YOU ARE GOING TO DO IT 95% OF YOUR LIFE, SO YOU MIGHT AS WELL START ENJOYING IT” BUS DRISCOLL

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Wheat Production Tips - Doug Mitchell, CCA

By the week of April 25th this year, most of the wheat in this area will be in Feekes Growth Stage 6. This is a critical stage in wheat development. It marks the point at which most herbicides can no longer be applied and also the start of the crop's most rapid uptake of Nitrogen. Determining Growth Stage 6 is done by peeling back the lower leaves of the main stem of the plant (not tillers) and checking for a slight swelling near the soil line, or a change in the shade of green from the rest of the stem. This indicates the presence of the first node on the stem above the soil line. The presence of 2 nodes on the stem would mean the plant is in the next stage, Feekes 7. Nitrogen applications should be made by or soon after GS 6.

The wheat crop in this area looks to be in generally good condition with good tiller development and very little heaving. Large numbers of tillers will provide a more dense crop canopy, which could be conducive to foliar disease development going forward. Monitoring environmental conditions and scouting wheat fields for foliar diseases is a powerful production tool for wheat growers. Wet weather from mid-April to mid-May and temperatures in the 60's would be favorable to Septoria Leaf Blotch. The symptoms are blotches with dark brown borders, gray centers, and black fungal bodies. Powdery Mildew is favored by dry conditions but high humidity with temperatures in the upper 60's. Stagonospora Leaf Blotch, which has a

chocolate brown center and a yellow margin, can develop when weather is wet from mid-May through June. Wet weather during wheat flowering, which also generally occurs in late May is conducive to Head Scab. Head Scab can be especially devastating to yields when conditions are right. One relatively new fungicide called Prosaro is labeled for control of Head Scab as well as all the common foliar diseases. Control of foliar diseases with fungicides (including Prosaro) is most effective when applied at onset of symptoms or flag leaf emergence (Feekes 8). However, control of Head Scab with Prosaro requires an application at wheat flower emergence (Feekes 10). K-man can be added to these application as well!