Interview

CHUCK BOLTE,
manager, Ag Consulting Services, VAS Laboratories

By Joe Kertzman, managing editor, *Badger Common'Tater*

NAME: Chuck Bolte

TITLE: Manager-Ag Consulting Services

COMPANY: VAS Laboratories

LOCATION: Northeast Wisconsin

YEARS IN PRESENT POSITION: 1.5, but 25 years with the organization

PREVIOUS EMPLOYMENT: Richland County Land Conservation Department and Frito-Lay

SCHOOLING: University of Wisconsin-Stevens Point

AWARDS/HONORS: 2016 Wisconsin Certified Crop Advisor (CCA) of the Year

FAMILY: Wife, Kim, and stepson, Ryan

HOBBIES: Gardening, turkey hunting, fishing, woodworking and visiting micro-distilleries and breweries

Above: For his work focused on phosphorus runoff in the Antigo Flats region of Wisconsin, and looking at soil health as the driver to reduce the phenomenon, Chuck Bolte of VAS Laboratories, formerly known as AgSource Laboratories, has been awarded several Wisconsin Potato & Vegetable Growers Association (WPVGA) competitive research grants over the years.

For his ongoing water flow and phosphorus monitoring project in the Antigo Flats potato and vegetable production area, Chuck Bolte of VAS Laboratories, formerly known as AgSource Laboratories, has been awarded WPVGA competitive research grants annually for several years.

Potato growers in the Antigo Flats area of Wisconsin are taking a leadership role in an effort to proactively control phosphorus runoff in the Spring Brook and Eau Claire River watersheds.

The Antigo Flats is designated by the Wisconsin Department of Agriculture, Trade and Consumer Protection as an area with unique characteristics that best represent the state soil—Antigo silt loam.

The project of controlling and monitoring phosphorous runoff started in early 2016 when the Wisconsin Potato & Vegetable Growers Association (WPVGA) awarded AgSource Laboratories a grant to build a spatial database of the PI (Phosphorus Index) for all the potato growers in the area.

With a 50-plus-year history of soil testing and nutrient management planning, AgSource Laboratories, a full-service agronomy lab, recently merged with its sister company, VAS, a leader in software for dairy operations.

Known for its VAS PULSE Platform and Dairy-Comp cattle monitoring database software, VAS has an extensive background in web-based suites, including field data collection and monitoring for farms.

The goal of VAS Laboratories remains the same—to create clarity out of research and raw data points, equipping growers with the power to make informed management decisions.

Do you have an agriculture background, Chuck, and if so, in what respect? I grew up on the outskirts of Appleton, Wisconsin,

Above: As part of an ongoing water flow and phosphorus monitoring program, Chuck Bolte and his VAS Laboratories team, with funding from the WPVGA, University of Wisconsin Discovery Farms and The Nature Conservancy, have set up three Edge of Field Monitoring Stations in the Antigo Flats area. A closeup of the flume at right shows sediment runoff from a potato field.

so I did not grow up on a farm. My grandparents had a registered Ayrshire dairy farm near Lake Poygan, and I always enjoyed visiting them and helping with my grandma's garden.

How I wish I could move that soil to my current residence in Rhinelander. It was magical how Grandma could grow the best of everything in that garden. Perfect soil and moisture, and of course it had dairy manure.

What experience do you have in the field via your career? My love of playing in the dirt led me to UW-Stevens Point, where I majored in soil science with minors in biology and waters.

During school, I held several jobs, including scouting potatoes for Pest Pro's, and with Oneida County Planning and Zoning, and the Jefferson County Land Conservation Department.

Upon graduation, I took a job as county conservationist for Richland County for five years. From there, I moved to Frito-Lay research in Rhinelander for a year before starting at AgSource Laboratories, now VAS Laboratories, where I have been employed since.

How did you end up becoming a certified crop advisor (CCA) and a precision ag/nutrient management planner? I started at AgSource (now VAS) doing soil sampling when precision ag was in its infancy, and in 2004, we added nutrient management to the services I performed for clients.

From there, we have grown to having a team of 10 conducting nutrient management and soil sampling services. In 2017, we purchased Andy Merry's crop scouting business and added that to the service offerings.

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AgSource Laboratories recently merged with VAS, a business that has dairy software management tools. How has the transition been, and has your position changed? The transition has been challenging and rewarding. Learning how to work in a different culture with leaders who have new ways of doing things is challenging.

Rewarding comes in having a new CEO who is a fantastic motivational leader and approachable. He commonly reaches out just to say hi and ask how it is going and if he can help.

How do AgSource Laboratories and VAS fit together? VAS is a leader in software for dairy operations, and AgSource's original history is in milk testing, and then they added agronomy services and food and environmental testing.

VAS has the PULSE Platform where farms can store and access all their dairy production records in one place. The milk testing records seamlessly load into the platform where producers can then create reports showing how their animals are producing and performing.

Development is in process to add spots for agronomy records and build a platform that can show whole farm sustainability.

Above: A plot of potatoes is planted for a phosphorus runoff trial in the silt loam soil of the Antigo Flats.

VAS has an extensive background in data and web-based product suites, field data collection and monitoring for farms, specifically Dairy-Comp database software for monitoring cattle. Do you use similar technology daily and how? Does it improve your efficiency? We also use technology to help us be more efficient. We use

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Taken by Chuck Bolte at noon in late May 2021, after an overnight rain of 1.25 inches, the dramatic photo shows a stark contrast between a potato field at right that exhibits soil tilth versus the field at left that has no soil structure, and thus the water ran off it instead of soaking in.

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Sirrus/Summit software for our soil testing and precision ag applications, which allows us to share and transfer data between employees and clients.

For NMP (Nutrient Management Plan) writing, we utilize Snap Plus. It allows us to track all applications on the farm and create reports for the growers to implement their nutrient management plans and improve profitability.

Finally, for crop scouting, we have been using the FarmDog app. It is easy to use and creates reports so growers can see the things that we see in the field, and where within the production area.

What are your ultimate goals in your job/work, Chuck? My goal is to have the growers I work with be more successful and profitable in what they do and to mentor the young staff to take over, as I see retirement in the future.

Above: This is what happens when a field is tilled in too wet of conditions, says Chuck Bolte, who also points out that the soil has no structure. "If it's too wet in the spring or fall, that tillage pass isn't worth it," he notes.

Above: Chuck Bolte installs a streamflow monitor on a waterway to document phosphorus (P) loss from runoff events. Three goals of the monitoring project are to learn about stream flow, reduce P loads to the Spring Brook and Eau Claire River watersheds and evaluate the impact of in-field actions on water quality.

Tell me about the research you have been doing for growers on phosphorus reduction in the Antigo Flats area. How did that come about, and how has it progressed? Our work has focused on phosphorus runoff, but with a shift toward looking at soil health as the driver to reduce nutrient runoff and leaching.

When we started this project, I could see where environmental protection was going with the Wisconsin River TMDL (Total Maximum Daily Load) and felt it was time for the growers to take control of their options in the future.

This is now being done through localized research that can not only show what is happening here, but also what we can do to reduce our impact on the environment and still

be sustainable and profitable in the future.

You were recently awarded another $15,000 grant (annually the last few years) by the WPVGA for water flow and phosphorus monitoring in the Antigo Flats. How will that money be utilized to help growers? The funds are used to help pay for educational seminars/activities and the Edge of Field Monitoring stations.

We currently have two Edge of Field Monitoring stations paid for by UW Discovery Farms and a third one funded by a combination of grants from the WPVGA and The Nature Conservancy.

In addition, we are doing soil health and carbon testing this year and will continue, in 2023 and 2025, to gauge practice changes of growers.

Why is it important for you to work with the growers and WPVGA? The growers of the Antigo Flats are customers of our business, and for my company, team and me to be successful, they must first be successful.

"Sitting in the harvester with a grower at the end of the season is one of the most rewarding things I get to do—seeing the result of our work together."

– Chuck Bolte

For what research purposes are the Edge of Field Monitoring stations used? We have three that monitor quantity of water, sediment, phosphorus and nitrogen in runoff. In addition, we are going to do more soil health and carbon testing to determine levels within fields and to prepare growers for the future of carbon markets.

Why is the work important, Chuck, not only to the industry, but also to you? I cherish the relationships I've built with the growers and strive to make them more successful.

In the future, the industry will be required to show that it is not having a negative impact on the environment.

Personally, I believe everyone wants to leave a career legacy and mine is to make sure the growers I work with are in a better position when I leave than they were before.

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Above: Field runoff after a 2-inch rain is shown in the image at left, and then the same waterway is pictured three days later minus the silt.

Is the work important for the environment, because of regulatory issues or both? It is a combination, and I believe our work will show that we have less phosphorus runoff than the current models indicate.

But the most important point is that a healthy soil will ensure that the next generations of potato and vegetable growers can also be sustainable and profitable. Healthy soils will reduce runoff issues.

What are your other duties with VAS Laboratories, and what other projects are you working on? I manage a staff of 11 NMP/GPS consultants who are located across Wisconsin. I mentor young staff, manage budgets and provide input into our continual business development and growth.

Our main project right now is looking at ways we can assist growers in navigating permit compliance and the new emerging markets of carbon capture and measurements of it.

Where does your passion lie, Chuck, as far as what you're most dedicated to in your job as an ag nutrient planning manager? I am dedicated to teaching growers how to best utilize the scientific tools available to manage the nutrients on the farm, whether that is manure or commercial fertilizer.

Timing and amount of those applications can make or break the profitability of the farm each year.

Sitting in the harvester with a grower at the end of the season is one of the most rewarding things I get to do—seeing the result of our work together.

What exactly is nutrient management planning in your words? Nutrient management planning is just that—it is helping the grower use best practices to manage the placement, timing, method, rate and amount of nutrients.

I help match crop nutrients with the goal of yields that make the grower's operation more profitable and sustainable.

Tell me about your day-to-day interactions with growers—do you enjoy working with the growers in the Antigo Flats? I enjoy working with growers all over, but the Antigo Flats is my home territory and holds a special place. Very few consultants get the opportunity to work with the concentration of growers that I do here.

Chuck Bolte checks the rain gauge on an Edge of Field Monitoring station in the Antigo Flats.

I love getting out on the farm to provide insights and help them make decisions. Seeing them make changes over the years that help protect the environment and improve the soil health is what drives me to continue what we do.

Do you work in other parts of the state, and solely with potato and vegetable growers? I work with growers in all corners of the state. Some of those do grow vegetable crops like snap beans and sweet corn, but the majority outside of the Antigo area are dairy farms. With them, we do nutrient management planning and soil testing.

What specifically do you hope the water flow and phosphorus monitoring work will result in? I hope it will result in showing that the growers on the Antigo Flats can help protect the environment while still being profitable.

I strongly believe most growers want that as well, and that they are always looking for new ideas to implement on their farms to improve them while protecting the precious resources we have.

The unique soil of the Antigo Flats makes this area so special, and we need to protect and improve that resource.

Is there anything I've missed, Chuck, that you'd like to add? I really need to thank the growers for allowing me work with them and the trust they have in my work.

I also need to thank our partners at UW Discovery Farms, The Nature Conservancy and my team members, Kevin Gallenberg, Katelin Bradley and Anna Lubinski, who help with pulling samples. BC'T

Above: In the first image, erosion is shown after a 3-inch rainfall, in early June, within a potato field. In the second picture, gully erosion has occurred at the worst time of year, right after planting and with no soil cover.

Bottom Right: This is what a nice potato crop grown in healthy soil should look like, says Chuck Bolte of VAS Laboratories. The picture was taken at a Kakes Farms field in Bryant, Wisconsin.