Fields are Crystal Clear for Minnesota Cooperative

Drivers passing through Crystal Valley Cooperative's trade area of south central Minnesota may do a double-take when they see two matching John Deere tractors pulling Veris Mobile Sensor Platforms through the fields. Two Precision Ag Specialists drive the precision program at Crystal Valley's 9 locations: Jason Leary focuses on VRS and yield mapping, while Kevin Jeurissen works with precision pH and variable lime applications. Jason reports that they first made a round of sales calls to line up acres for their elite precision program, hoping to book a few hundred acres to get started. “We expected growers to give us a field or two, but they wanted much more...some signed up their whole farms. We had so many acres booked we bought a second MSP3 right away.”

Fields in this region can have pH ranges from below 5 to well over 7, with peat soils interspersed. These variations can wreck VRS and lime prescriptions unless correctly mapped. “When you overlay grid lines or a USDA soil survey over a Veris pH map, you can easily find a wide range of pH and OM values within those cells and polygons,” Kevin notes. “75% of the fields we’ve Veris-mapped have needed less lime than was found in grid-sampling, often paying for the Veris mapping just with savings in lime.” Reductions are due to precisely identifying pH variability, especially along gravel roads, and also precisely mapping the peat areas which have a lower target pH than mineral soils.

Kevin and Jason are anticipating other practices using the multi-layer data from their MSP3’s. Overlaying maps of heavy clay and high pH soils will pinpoint areas to apply chelated iron, a cost-effective way to address iron chlorosis problems in soybeans. With many more applications for Veris maps to follow, Crystal Valley Cooperative is helping their growers make crystal clear decisions.
Avoid Gridlock...
Put Lime Where it Belongs

There's a simple truth about precision ag and soil sampling: 2.5 acre (1 ha) grid sampling does not generate accurate lime application maps. This has been known since the start of precision ag. In October 1996, a Farm Industry News cover story 'When Grids Don't Fit' reported this thoroughly, including examples of wide variations in pH within even 1 ac grids. Ag researchers documented this as well, including an Iowa State study that showed variations of 2 pH points within one acre. They concluded it required 10 samples per acre to capture the variability, but without on-the-go sensing it wasn't feasible to collect this many samples. The Veris pH Manager changes that. Now growers can have the improved lime accuracy they deserve.

Overlaying 2.5 acre (1 ha) grids on a Veris pH Manager map shows the wide range of pH values within each grid. While the single sample in each grid cell may be accurate at the spot it's taken, it is clearly wrong about the pH—and lime needed—in the rest of the grid.

There are big dollars at stake... the difference in lime value between the grid sampled and the precise Veris pH map typically pays for the Veris mapping—and that's just one use of the Veris data. At a $30/ton cost of lime, the accuracy of the Veris map (shown left) is worth more than $20/亩 just in liming.

Saline County Soil Sensors Detect Salinity

Salinity testing in China's Songnen Plain

There are plenty of salinity stories we could tell from our own backyard (Veris Technologies is based out of Saline County, Kansas), instead we look to China's Jilin Province where researchers at the Da'an Sodic Land Experiment Station are working to improve the alkali-saline conditions of the western Songnen Plain.

Salinity in soils can develop from natural factors like a high water table or manmade influences brought on by irrigation. Regardless of the cause, the effect is harmful on a plant's ability to take up water, oxygen and nutrients and is a growing concern in major cropping regions around the world. Therefore, identifying areas of a field with saline soils is an important step in remediation and preventing further encroachment.

Wang Zhichun, Ph.D Professor at the Chinese Academy of Sciences, and his team of researchers used a Veris 3100 to delineate saline hotspots in this region of China where alkali-saline areas have been increasing in size by 20,000 ha per year. The dissolved salts in soil's pore water cause elevated soil EC readings. This makes Veris EC sensors an effective tool in defining saline areas. Not only were boundaries created for saline management zones, the team was able to determine the level of salinization within zones. This allows for different application rates of gypsum to be used to dissolve and displace the sodium ions causing damage to crops.

Researchers from the Da'an Sodic Land Experiment Station observing a Veris MSP on a recent visit to Veris' factory.
Agri-Trend Coaches Growers to Higher Profits

It started in Canada and now it’s moving south into the US—and it’s not a cold front! Beginning in 1997 Agri-Trend has been helping growers achieve exceptional results. Their secret? A network of 170 professional agricultural coaches working to maximize each farm’s potential. From crop consulting to farm business management, precision farming to complete data management, Agri-Trend helps improve efficiency, maximize yield and plan for the future. Agri-Trend has been using Veris soil sensing extensively since 2008. Warren Bills, VP of Agri-Trend’s Geo Solutions division reports that Veris data is a good match for Agri-Trend’s approach, as both are based in solid agronomic science. “We emphasize that agronomy needs a top-down and a bottom-up view. Top-down relates to the crop, so it includes yield maps, crop imagery, tissue tests—the bottom up view is precise soil mapping. Veris data offers a good basis for agronomic understanding, providing a clear and immediate characterization of the field. This helps with the interpretation of the top-down layers.”

Agri-Trend began expanding into the US a couple of years ago, implementing its innovative precision ag program with forward-thinking John Deere dealers. Now partnered with several John Deere dealers from Montana to Indiana to Mississippi, Agri-Trend is rapidly expanding its bench of coaches. In central Indiana, Mark Truser is the Agri-Coach with Reynolds Farm Equipment. In their first year their Agri-Trend program covered more than 8,000 acres of Veris mapping, “it is definitely gaining traction,” reports Mark. “Reynolds’ commitment to precision ag is outstanding and the Veris management zones provide the precision we need for variable rate seeding and zone management on our variable central Indiana soils.”

From the Peace River area several hours north of Edmonton Alberta, across six Canadian provinces, and through nine US states, growers are finding that using Veris maps and working with an Agri-Trend coach are a powerful combination. For more information on Agri-Trend and its Veris services, please visit www.Agri-Trend.com or call 1-877-276-7526

Veris Data Contributes to Record Corn Crop

The Winter Issue of Progressive Farmer details Virginia grower David Hula’s record breaking entry of 455 bushels per acre in the 2013 National Corn Growers Association’s (NCGA) National Corn Yield Contest. David’s secrets reveal an understanding that what happens in the soil affects the outcome of a crop. One important element he mentions is matching genetics to the soil. In addition, the article mentions that he “ran a Veris EC cart over the ground to produce soil maps of the rootzone.” With this detailed soil map as a foundation, he was then able to overlay nutrient and yield data to fine tune fertilizer and soil amendment applications.

As growers and their consultants find further applications for improving management through detailed soil maps, we anticipate this record to be broken again. And it wouldn’t be surprising if the new record yield is also from a grower using Veris maps.
SOIL MATTERS
...it’s at the root of everything you grow.

Fields are Crystal Clear
How to Avoid Gridlock
Agri-Trend Coaches Growers to Higher Profits
Veris and a World Record Yield