Valuable Maps for High Value Crops

Veris Technologies was in its first year of production when Dr. Jim Yager, owner of Impact Marketing Enterprises, Inc. in Fresno CA saw a demonstration of a Veris 3100. Dr. Yager purchased serial #6, the first Veris unit sold west of the Rocky Mountains.

With a solid agronomic background that includes a Ph.D in Agronomy and more than two decades with DuPont, where he led several research initiatives, Jim started his company to connect proven agronomic principles to new GPS-based technologies. Impact Marketing surveys and samples many permanent crops such as: almonds, cherries, citrus, grapes, nectarines, peaches, walnuts, and high density oil olives. They also consult on open ground such as: alfalfa, cotton, tomatoes, wheat, and permanent crop redevelopment. In most of these permanent crops, Jim reports that “you can see the cumulative affects that soil textures and associated irrigation practices have on the crop growth, size, vigor, and yield/quality as you conduct the survey.” He quickly learned that yield data without soil data was almost impossible to interpret. “Once you have the Veris data separating out soil zonal differences, and deep core samples to define chemistry and texture, only then does yield data make sense. I’ve seen the yield difference between sandy loam and loamy sand to be as much as $4000/A.” Jim finds that it is not uncommon to find the best, most productive soils with tree survival problems because of over-watering heavy poorly drained soil, which creates a micro-environment for root and soil-borne diseases.

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Impact Marketing services include Veris surveying, directed deep core sampling, data analysis, and customized crop management plans and prescriptions for variable input of seed, plants, amendments, fertilizer, and water. Jim reports, “The savings of the first year of soil amendments pays for the cost of the mapping and then the same EC maps can be used year after year. I have some customers where we have continued to refine prescriptions each year for 12 years, using the same original survey.” How many acres has his company mapped with their 14-year-old Veris? He says he’s not sure, perhaps more than 100,000. “I haven’t kept track, but I do know that I’m on my 7th set of coulter blades!”

Jim notes there is a resurgence of interest in USDA soil survey maps done in the mid-1900’s, now that they can be quickly accessed. Jim warns, “Once you start putting Veris EC data on an old soil survey map, you quickly understand how limited those old surveys are. Bad data is worse than no data—if you do variable rate application using a map that does not truly represent a field, you have added more variability.”

Looking to the future, Jim points out “we have to use new technologies to get more output from existing farming land with less input. The Veris cart is a tool that can help us do both but you need to make sure you maximize the tool and data you get from it.” He encourages service providers to offer services that help farmers apply information developed from a Veris survey and deep core sampling. “Learning your soils is the starting point. Then you have all sorts of variable rate opportunities for fertilizers, soil amendments, seeding/planting, compost/manures, irrigation, moisture monitoring, crop sensors, yield monitoring, and quality monitoring.”

Veris Maps in the Classroom

Keith Morris was finishing his Masters and Ph.D at Purdue University in the late 1990’s when he first used a Veris Soil EC Mapping System. At the time he was managing Purdue’s Site-Specific Management Center. He quickly realized the importance of the detailed soil information that Veris sensor provided.

After Dr. Morris finished at Purdue he worked at NASA for four years. But his love for soil led him to Louisiana State University where he taught until 2009. He continues to educate students on soil specifics in his new role as Associate Professor of Spatial Technologies at Arkansas State University. While at both universities his department purchased a Veris EC system to use in his courses. Dr. Morris teaches his students how to assess soil variability and shows them how soil variability affects crop production. Dr. Morris believes the detailed soil maps from Veris on-the-go soil sensors are ideal teaching tools to illustrate soil variability. “Soil is the foundation for everything we do.”

Visiting the Veris booth at The National Farm & Machinery Show 2012
The Quest for Precise Soil Maps...

Using its fleet of Veris Soil EC mapping systems, Agrii is conquering the farm fields of the United Kingdom. Agrii’s agronomy division SoilQuest has covered over 100,000 hectares in the past two years, and now with 8 Veris systems in its arsenal, anticipates generating more high-quality maps in the future. Agrii is the leading agronomy company in the United Kingdom, with more than three hundred trained advisers. SoilQuest, managed by Stuart Alexander, uses Veris sensors to create detailed texture maps that Agrii consultants use to help growers understand their soil. Stuart says “the first step is to get to know your soils—on many farms here in the UK the large variations in soil texture and depth can have a big impact on yield.” SoilQuest’s Veris units ‘scan’ the soil variations to specify areas to soil sample. A detailed nutrient map is created which brings a clearer understanding of soil variations and allows for better targeting of inputs such as fertilizer, herbicide rate, and seed rate. Their program SeedQuest is dedicated to developing precise variable rate seeding prescriptions. Based on Veris maps, SeedQuest prescriptions help make crops grow more uniformly, for more efficient managing of inputs. Agrii also provides SoilQuest Management Software so that the information obtained and application maps created can be stored online for easy access for all growers. With their integrated approach of combining precision farming data and the expert knowledge of agronomists, Agrii’s SoilQuest agronomy division is providing a service well-tailored to its customers.

Famed ‘Long Man of Wilmington’ oversees Veris mapping

Service Corner

Data Card Tricks

Whether you’re using the Datalogger with SD card or Veris Instrument with a CF card, we recommend archiving data files daily to insure no data is lost. Remember, cards can become corrupted and are not intended for long term storage.

After archiving your data be sure to clean cards on a regular basis to remove old files, and never put non-Veris files on the cards. Always use the recommended card type for your Veris electronics, as this is crucial for correct field operation.

Did you know?

North American soils produce a wide assortment of food, energy, and fiber: from high-value specialty crops in the west, across vast plains of wheat, to cotton throughout the south, and into the rich soils of the cornbelt. Soil variability affects each crop differently—and each crop production system uses Veris soil sensor data uniquely. This map of Veris customers shows that Veris maps are being used in all the major crop production areas, and are improving variable rate applications across North America. Veris systems are in use in more than 30 countries around the globe. Regardless of the crop or production system, growers and consultants are seeing the value of precise soil maps.
SOIL MATTERS
...it’s at the root of everything you grow.

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Veris Maps in the Classroom
Veris Attire Available Online
The Quest for Precise Soil Maps