

## **Project Theme 5: Adoption and Outreach Progress Report July 2018**

Key Personnel: Weigle (leader), Martin and Knappenberger

### **Year Three Objectives:**

- 1) Conduct educational programming to educate growers on the technology being developed and its application in a vineyard operation.
- 2) Demonstrate technology in 8 grower vineyards
- 3) Engagement with other specialty crop groups to investigate synergies with other industries

### **Educational Programming Conducted in Year Three**

- **2018 Lake Erie Regional Grape Program Growers' Conference**, March 14, 2018, Fredonia State University. A presentation, Technology Adoption and Outreach – The Efficient Vineyard Project was presented by Tim Weigle, NYS IPM Program and Extension and Outreach project lead. Jackie Dresser, research technician, LERGP and member of the Efficient Vineyard research team moderated a breakout session on Variable Rate Management and the Efficient Vineyard project. 115 growers and members of the grape industry participated in the conference.
- **Flash meeting database developed** – a contact list of cell phone numbers for those interested in participating in meetings associated with the Efficient Vineyard project. Many of the activities associated with scanning and variable rate vineyard management are time sensitive and do not allow for planning and advertising of meetings weeks in advance.
- **Flash meeting** at Rak Vineyard, Fredonia, NY, May 23, 2018. Meeting was held to demonstrate variable rate shoot removal in a Concord vineyard. 15 growers participated.
- **Coffee Pot meetings** – Efficient Vineyard project, focusing on benefits of NDVI scanning and loaner sensor program was highlighted during sixteen Coffee Pot meetings, small group meeting held weekly across the Lake Erie grape belt. 254 growers participated in the 16 meetings.
- **Efficient Vineyard Webinars** – Jackie Dresser and Kevin Martin co-host “The Hitchhikers Guide to Precision Viticulture” webinar series to help spread the word about the Efficient Vineyard project to growers across the United States and the world. Monthly series started in June and will continue with all 16 webinars focused on different aspects of the Efficient Vineyard project. 248 people have registered to attend the webinars. The June webinar had 89 participants and the July webinar had 50 participants. Webinars are posted to the Efficient Vineyard website to provide the information if people were unable to attend. The June webinar has been viewed 112 times.
- **Creation of a virtual reality tour of Efficient Vineyard** – Orbitist, a company focused on multimedia production, video production and digital storytelling has been brought on board to create a virtual reality tour of Efficient Vineyard. This website will provide growers across the United States and the world an active experience as they delve into the basics of precision viticulture. The website will help them learn how to choose and implement the tools and techniques used and created by the Efficient Vineyard project team.

- **Efficient Vineyard podcasts** – Six podcasts have been posted in the past six months related to the Efficient Vineyard project. # 51 Calibrating the CMU images with Pruning Weights; #52 tying Spatial Data Layers Together; #53 Crop Load Related to Ripening; #74 Grape Rootworm Scouting; #75 Loaner Sensors in Your Vineyard; and #77 Crop Estimation at 30 Days After Bloom in Concord Grapes
- **Efficient Vineyard Blogs** – 11 blogs, for a total of 48, were added to the website.
  - Early Season Table Grape Imaging Work
  - Vineyard records: Why is it important to keep track of phenology at your vineyard?
  - Efficient Vineyard: Fertilizer Application
  - CMU at CLEREL
  - Using a Sprawl Pruner in ConCORDS?? We're giving it a try!
  - The Ins and Outs of Project Meetings
  - Can Computers Count Dormant Buds?
  - A Shoot-Ton of Pruning a Crop-Load of Mapping
  - Getting the Word Out on Who's Doing What
  - Winter Time? Pruning Time!
  - Applying intelligent automation to the problem of pruning vines during the dormant season.
- **Efficient Vineyard website** – homepage map has been updated with approximate AVA's to help show reach of project. Website has been updated as project team members have left, or joined, the project.

### **Demonstrate technology in eight grower vineyards**

- **Loaner sensor program.** Members of the Lake Erie Regional Grape Program extension team have been working with New York and Pennsylvania growers who are interested in conducting NDVI scans of their vineyards. A team member assists in the setting up of the sensors on the grower's equipment. Once scanning is complete the sensors and datalogger are collected and Rhiann Eckstrom or Jackie Dresser, create the maps. Members of the project team then follow up with participants to assist them in interpreting the maps and investigating solutions to remedy potential trouble spots identified by the scans. During the 2018 growing season, 8 growers have taken advantage of the program to scan 405 acres in the Lake Erie region. Hans Walter-Peterson, Viticulture Extension Specialist with the CCE Finger Lakes Grape Program, contacted the LERGP inquiring about the potential to include growers in the Finger Lakes region. Jackie Dresser has done both soil and NDVI scanning for two vineyards in the Finger Lakes at this time.
- **Grape Rootworm project** – NDVI scanning continues in vineyards of 4 growers participating in the grape rootworm (GRW) project. NDVI maps help to target scouting for GRW as well as show improvement in vine size (greater uniformity across vineyard) through management of GRW. In one vineyard, scans indicated that vine size had dropped outside the area where GRW had been identified. Scouting in the area showed no signs of GRW but competition from the tree line bordering the vineyard, combined with drought conditions, caused the grower to hold off on an

insecticide application but take action to limit the competition coming from the vegetation in the tree line.

#### **Year Four Objectives**

- **Conduct education programming to prepare growers to implement technology developed by project.**
  - a. Continue local educational programming in areas where extension or processor resources are available.
  - b. A train the trainer workshop(s) will be conducted to provide education in the use of the data portal being developed by James Taylor. This portal will allow for the creation of maps by the end user uploading sensor data.
  - c. The Efficient Vineyard VR Tour is being developed to provide information to those growers who do not have the extension/processor/consultant resources available to them to assist in the implementation of the technology.
  - d. Continue update of Efficient Vineyard website through posting of blogs and current research articles.
  
- **Demonstrate technology developed by the Efficient Vineyard project in grower vineyards.**
  - a. Continue loaner sensor program in the Lake Erie region and Finger Lakes.
  - b. Work with extension specialist in eastern NY to follow up on requests for scanning in Hudson Valley vineyards.
  - c. In conjunction with Franka Gabler and George Kantor, develop a demonstration of the CMU camera for use in color assessment in Flame Seedless (mid-June 2019).
  - d. Continue to work to develop an outreach team for work being conducted in California.
  
- **Present Efficient Vineyard Symposia**
  - Planning will take place with project team to develop a symposia that will be conducted on-line. This will decrease the time commitment attending, and travel costs, of project team members having to attend a large number of meetings. This will increase access to the information from the project to growers, extension personnel, consultants, researchers, processors and all members associated with the grape industry in all areas of grape production in the United States and the world.
  
- **Conduct survey to determine grower attitudes toward adoption of new technologies.**
  - A final survey will be conducted using the same questions and survey methods as were used in the survey conducted at the start of the Efficient Vineyard Project.
  
- **Demonstrate technology for other specialty crops.**
  - Conduct on-line Synergies in Precision Ag Workshop in early 2019 with research, extension and consultants involved in the production of specialty crops.