

Grape Growers Implementing GIS Mapping in the Lake Erie Region

Project Investigators

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Impact “Nugget”

Less than a year after the first GIS vineyard block map was generated by the Lake Erie Regional Grape Program, significant progress has been made in terms of grower participation in the GIS mapping program. Currently, over 55 grape growers in the Lake Erie region have taken advantage of the maps offered by the Lake Erie Regional Grape Program. As a result, over 11% of the 31,727 grape acres in the Lake Erie grape belt can be connected to a specific variety. Growers take part in the project by identifying their vineyard blocks either by short office visits, phone calls, or through emails. Each grower then receives three maps – acreage/variety, elevation, and soil – that give them a unique perspective of their farms.

Issues/Needs and Audiences

The Lake Erie grape production region has unique temperature, precipitation, and soil profiles suitable for cool-climate grape production. This unique environment is the primary reason Concord production was established and continued to persist in the region. Growers content, however, that sub-regions (or sub-appellations) exist across the belt with different productivity and ripening profiles. However, despite this contention, production practices are often implemented across the entire vineyard operation rather than using a block-by-block management strategy.

Extension Responses

During 2011/2012 an intern with the Lake Erie Regional Grape Program created a map of all the vineyard blocks in the Lake Erie Region using the software package ArcGIS. Once the region wide map was created, the next step was for growers to implement into their vineyard operation. Growers have been made aware of this project through Coffee Pot meetings during the growing season, the LERGP electronic newsletter “The Crop Update” as well as through field men with the Lake Erie grape processors. Growers take part in the project by identifying their vineyard blocks either by short office visits, phone calls, or through emails. Each grower then receives three maps – acreage/variety, elevation, and soil – that give them a unique perspective of their vineyard operation. Currently, over 55 grape growers in the Lake Erie region have taken advantage of the maps offered by the Lake Erie Regional Grape Program. As a result, over 11% of the 31,727 grape acres in the Lake Erie grape belt can be connected to a specific variety. Growers have found these maps particularly helpful when calculating spray inputs for each block, rather than estimating their total acreage. Some growers have also benefitted by having a more specific acreage calculation when their harvest costs are associated with acreage rather than tonnage. The main benefit from the elevation maps is in helping growers visualize the overall slope of their vineyards as well as pin-point areas susceptible to frost damage. Elevation and soil maps can also be used to indicate areas prone to drainage problems.

Accomplishments and Impacts

Currently, over 55 grape growers in the Lake Erie region have taken advantage of the maps offered by the Lake Erie Regional Grape Program. As a result, over 11% of the 31,727 grape acres in the Lake Erie grape belt can be connected to a specific variety. After the 2012 harvest, a short survey was sent out to growers participating in the project. Of the 32 growers that received the survey (those who had implemented maps into their vineyard operation during the growing season), 29 returned the completed survey to the office. Overall, 97% of respondents were satisfied with the finished product, and 93% of respondents would recommend the mapping service to fellow growers (7% were neutral). Some grower quotes collected via the survey "I saved \$175 on harvest costs by knowing what my true acreage was" And one grower reported saving about \$550 on spray applications by using the acreage maps. "GIS maps are a great resource to the farmer. I hope more applications are available from this project [in the future]." "These maps are great. I wish I had them 40 years ago." "I was very satisfied with the results sent. I have gotten a better perspective of my vineyards."

Collaborators

Rhiann Jakubowski, Program Assistant, GIS mapping, LERGP

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