

Story Title	GIS Maps – The Backbone for Implementing Research-based Information in the Lake Erie Region
Program	Lake Erie Regional Grape Program - System Approach to Concord Productivity and Fruit Quality
Project Leaders	Timothy H Weigle, NYS IPM Program/Lake Erie Regional Grape Program (LERGP) Terence R Bates, Director, CLEREL, LERGP, Cornell University Kevin M. Martin, LERGP, Penn State University
Impact "Nugget"	In the second year after the first GIS vineyard block map was generated, National Grape Cooperative has teamed up with the Lake Erie Regional Grape Program, to fast track the implementation of GIS mapping for all their grower members. Currently, over 204 grape growers in the Lake Erie region have taken advantage of the maps offered by the Lake Erie Regional Grape Program. As a result, growers representing 43% of the 31,727 grape acres in the Lake Erie grape belt have access to extremely accurate acreage maps that can be used for tasks as simple as accurately calculating fertilizer requirements for the block to the implementation of NDVI sensor canopy mapping and on-the-fly yield monitors.
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 a GIS map was created of all the vineyard blocks in the Lake Erie Region. These maps have become the backbone for implementation of current research-based information that is ready for implementation as well as cutting edge tools such as NDVI sensor canopy mapping and on-the-fly yield monitoring. National Grape Cooperative (better known for its marketing arm Welch's) has teamed up with the Lake Erie Regional Grape Program by funding a half time position to provide GIS maps for all its members. Currently, 204 grape growers in the Lake Erie region (150 of the 204 National Grape Growers in the region) have taken advantage of the maps offered by the Lake Erie Regional Grape Program. As a result, growers representing 43 % of the 31,727 grape acres in the Lake Erie grape belt have access to GIS acreage maps and can make better informed decisions on a block-by-block. Growers have found these maps particularly helpful when calculating spray and fertilizer 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.
Accomplishments and Impacts	National Grape Cooperative teamed up with the Lake Erie Regional Grape Program to fast track the implementation of GIS mapping in the region by funding a half time GIS position with the team, and by making it mandatory participate in the GIS mapping program mandatory. Once growers have obtained GIS maps of their vineyards they have the base map layer that can be overlain with cutting edge research-based tools. Canopy sensing using NDVI can be overlain on their maps to identify areas of high, medium and low vigor allowing them to pinpoint areas of the vineyard where inputs may be necessary to develop a vineyard with more uniform vine size.
Collaborators	Rhiann Jakubowski, Program Assistant, GIS mapping, LERGP
Special funding sources (if any)	Special Extension Administration Smith Lever funding National Grape Cooperative Northeast Center for Risk Management Education