



AGRICULTURE DEVELOPMENT DIVISION

Fiscal Year 2016

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Division Director

Michigan Department of Agriculture and Rural Development
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AGRICULTURE DEVELOPMENT DIVISION



Economic Development

PROGRAM MANAGER: Peter Anastor | 517-284-5777 | anastorp@michigan.gov

The Agriculture Development Division delivers expertise and leadership to support economic prosperity in Michigan's food and agriculture sector through industry focused economic development, export assistance and grant management. The division also provides executive support for the Grape and Wine Industry Council and serves as the liaison with Michigan's many agriculture commodity groups.

The Economic Development Team provides assistance to growers, producers, processors and the food and agriculture industry in order to promote growth and investment in Michigan agriculture. Assistance is provided to both new and existing businesses and includes supply chain connections, regulatory assistance, funding, collaboration, and trade for the agriculture, food and forest products sectors. Our team works collaboratively with other federal, state and local economic development partners to provide seamless services to agriculture and food customers. We are also engaged in the broad agriculture, food and forest products sectors to provide a stable, constant connection and up-to-date understanding of opportunity areas.

ACCOMPLISHMENTS:

- Expansion at Yoplait/General Mills in Reed City, where a \$19 million capital investment led to the creation of 25 new jobs and new processing and packaging equipment for organic yogurt products.
- Kraft Heinz invested \$17.2 million and added 50 new jobs to the company's existing 256 employees in Holland. This project consolidates 100% of Grey Poupon production to Holland making Michigan the largest mustard-producing facility in the world.
- La Colombe invested \$13 million and will create 35 new jobs for the coffee roasting company, which specializes in wholesale and retail draft latte products in a can. The product will be marketed through Target and other retailers nationally.
- Kent Quality Foods in Grand Rapids will create 140 new jobs and make a capital investment of \$38.8 million to increase capacity for processing of franks, sausage and other specialty meat.

MEASURING SUCCESS:

Metric	FY 2015	FY 2016
Company Visits	X	222
Economic Development Activities	X	554
Company Investment	X	\$387,527,700
New Jobs Created	X	502

IMPACT FOR MICHIGAN:

- The state's food and agriculture sector generates more than \$100 billion of total economic activity for Michigan each year.
- Michigan is one of the top states when it comes to the diversity of agriculture products grown with significant value-add opportunities in agriculture, food and forest products.
- Michigan is located within 500 miles of almost 50 percent of the North American population and has a network in place to meet the needs of those populations.

PROGRAM GOALS:

- Develop an Agriculture Economic Development plan in partnership with MEDC.
- Increase company visits and activities to identify opportunities for growth.
- Identify opportunities for growth in all agriculture sectors including food processing, forest products, hops, barley, aquaculture, and dairy.
- Identify development-ready sites that can accommodate food processing growth.
- Connect businesses with technical and business development resources in order to provide clear paths to growth and expansion in Michigan.

KEY STAKEHOLDERS

- Businesses and Food Processors
- Agriculture Growers and Producers
- Regional and Local Economic Development Agencies
- Local Communities
- Site Selectors



GRANT PROGRAMS

PROGRAM MANAGER: Heather Throne
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MDARD administered five grants: Specialty Crop Block Grant, Value Added/Regional Food Systems Grant, Strategic Growth Initiative Grant, Tree Fruit Research Grant, and Biofuel Infrastructure Partnership Grant (BIP). The grant funds are used to enhance the competitiveness of specialty crops, develop value added agricultural processing, and assist in efforts focused on removing barriers and leveraging opportunities identified by those in the food and agriculture industry in Michigan.

IMPACT FOR MICHIGAN:

- Enhances the competitiveness of specialty crops
- Provides education on food safety and handling techniques
- Provides research on new industry technology
- Provides research on implementing and developing waste management relating to agriculture or agricultural products
- Provides research on pest management
- Increases agriculture exports
- Improves access to healthy foods
- Works to increase food and agricultural jobs
- Stimulates growth in the value-added processing sector

ACCOMPLISHMENTS:

- MDARD awarded \$1,006,700 in value added grants and leveraged \$1,090,050 in matching funds.
- MDARD administered a portfolio of 104 existing grants totaling \$11,488,920.
- MDARD averaged nine days for the review and disbursement of payments for existing grants.

MEASURING SUCCESS:

Metric	FY 2015	FY 2016
Active Grant Portfolio	X	104
Awarded Grant Funds	X	\$6,338,613
Leveraged Grant Funds	X	\$1,090,050
Grant Disbursement Response Time (days)	X	9.23

PROGRAM GOALS:

- Maximize allocated grant funds with strong industry matches, to maximize the funding for the industry.
- Continue to review and streamline grant review processes to improved disbursement response times for grantees.
- Implement additional checks and balances with grant financial reviews and conduct site visits for grant projects.

2016 Value-Added/SGI Grants			
<u>Project</u>	<u>Amount</u>	<u>Project</u>	<u>Amount</u>
Foremost Farms	\$210,000	Fair Food Network	\$249,000
Shorline Fruit, LLC	\$210,000	Brewers Guild/MSU	\$29,300
Wolverine Human Services	\$155,000	Seeds and Spores	\$53,400
The Starting Block	\$100,000	Eastern Market (SGI)	\$108,450
Winery at Black Star Farms (SGI)	\$210,000		



KEY STAKEHOLDERS

- Agricultural cooperatives
- Food and agriculture businesses
- Universities and research organizations
- Local governments
- Nonprofit corporations
- Economic development organizations

LEGAL AUTHORITY:

- PA 252 of 2014
- PA 84 of 2015 (Federal Farm Bill)

2016 Specialty Crop Block Grants

<u>Project</u>	<u>Amount</u>	<u>Project</u>	<u>Amount</u>
Michigan Onion Committee	\$99,885	Michigan Tree Fruit	\$99,753
Cherry Marketing Institute	\$100,000	Celery Research Inc.	\$95,280
Michigan Cherry Committee	\$99,996	MBG Marketing	\$95,335
Michigan Potato Commission	\$99,805	Kalamazoo Valley CC	\$97,414
Michigan Agritourism Assoc.	\$85,219	Hop Growers of Michigan	\$76,415
Michigan Apple Committee	\$63,792	Michigan Integrated Food & Farming System	\$100,000
Michigan Asparagus Board	\$84,631	Michigan Nursery and Landscape Association	\$79,799
Michigan Bean Commission	\$99,998	Michigan State Horticulture Society	\$48,300
Michigan Carrot Committee	\$98,707	Michigan Farmers Market Association	\$99,928



AGRICULTURE DEVELOPMENT DIVISION



Commodity Coordination

PROGRAM MANAGER: Heather Throne | 517-712-0841 | throneh@michigan.gov

The Michigan Department of Agriculture and Rural Development has legal, fiscal and program oversight responsibility for the entire group of 13 legislatively established commodity boards that have producer check-offs or producer assessments. The MDARD director delegates this authority to the Agriculture Development Division (AgD) to represent the MDARD director at all regular and executive board meetings.

MDARD also organizes and leads quarterly Commodity Executive meetings to which staff from more than 60 agricultural and food organizations are invited to participate. The half-day meetings cover a variety of important topics and current issues for Michigan's food and agriculture industry.

IMPACT FOR MICHIGAN:

- AgD is responsible for ensuring the Michigan Open Meetings Act and Freedom of Information Act regulations are being followed at the check-off boards.
- MDARD is responsible for ensuring that funds are being used according to industry adopted programs and in compliance with State of Michigan statutory financial and generally-accepted accounting standards.
- MDARD reviews all commodity audits and provides a written review of the audits provided to ensure financial soundness and compliance with generally accepted accounting practices.

ACCOMPLISHMENTS:

- MDARD is working with blueberry representatives through the referendum process to create a new check-off marketing board.
- Commodity Board Trainings are being conducted and will continue to be done in 2017.
- The AgD team attended 95% of all commodity meetings.

MEASURING SUCCESS:

Commodity Meetings with MDARD Staff Participation	Number Attended 2016	Percentage Attended 2016
Bean Commission	4	67%
Wheat Committee	6	100%
Soybean Committee	6	100%
Cherry Committee	4	80%
Tree Fruit Commission	4	80%
Apple Committee	4	100%
Beef Commission	3	75%
Corn Committee	3	75%
Asparagus Committee	3	100%
Carrot Committee	3	100%
Onion Committee	3	100%
Potato Commission	2	100%
Dairy Committee	2	100%

KEY STAKEHOLDERS:

Michigan Wheat Committee
 Michigan Soybean Promotion Committee
 Michigan Onion Committee
 Michigan Carrot Committee
 Michigan Asparagus Committee
 Michigan Apple Committee
 Michigan Tree Fruit Commission
 Michigan Dry Bean Commission
 Michigan Cherry Committee
 Michigan Corn Marketing Program
 Michigan Beef Industry Commission
 Michigan Dairy Marketing Program
 Michigan Potato Industry Commission

LEGAL AUTHORITY:

- PA 232 of 1965, the Michigan Agricultural Commodities Marketing Act (MI Apple, MI Asparagus, MI Carrot, MI Cherry, MI Corn, MI Dairy, MI Onion, MI Soybean, MI Tree Fruit, and MI Wheat commissions)
- PA 29 Michigan Potato Industry Commission
- PA 114 Michigan Bean Commission
- PA 291 Michigan Beef Industry Commission



Grape and Wine

PROGRAM MANAGER: Karel Bush
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The Michigan Grape and Wine Industry Council provides a forum for statewide collaboration in research, promotion and professional development to meet the changing needs of this exciting growth industry.

IMPACT FOR MICHIGAN:

- Growth area of the Michigan food and beverage sector
- Accounts for more than 5,000 jobs across the state
- Maintains land in agricultural production
- Contributes to Michigan's tourism and agricultural economies
- Generates tax revenue for the State of Michigan and local and federal governments

ACCOMPLISHMENTS:

- The Michigan Wine Collaborative, an industry-led organization with a mission to enhance the sustainability and profitability of the Michigan wine industry, made great strides in creating bylaws and building an active board of directors and membership.
- Wine Enthusiast magazine named Michigan one of six "Wine Regions on the Rise" around the world.
- The Council funded \$119,510 in research projects at Michigan State University to advance knowledge of wine grape growing and winemaking to serve the industry into the future.

MEASURING SUCCESS:

Metric	2015	2016
Winery participation in Council activities	66%	78%
Increase in wine production (TTB)	10.8%	N/A
Acreage in wine grapes (USDA NASS)	2,900	2,900
Number of wineries recognized by the Council	119	125

PROGRAM GOALS:

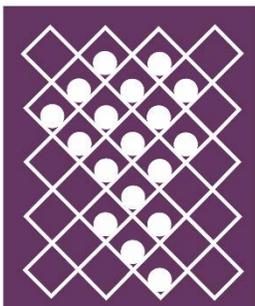
- Participation in Council-sponsored activities by 65 percent of businesses recognized by the Council as “producers of Michigan wine”
- Increase annual production of Michigan wine by 10 percent per year
- Production of three million cases of Michigan wine per year by 2024
- Increase the size of the industry to 10,000 acres of wine grapes by 2024

KEY STAKEHOLDERS

- Wineries
- Wine grape growers
- Wine trade partners: retailers, restaurants, wholesalers
- Michigan State University and other educational institutions
- Tourism organizations

LEGAL AUTHORITY:

- Public Act 58 of 1998



AGRICULTURE DEVELOPMENT DIVISION



International Marketing Program

PROGRAM MANAGER: Jamie Zmitko-Somers | 517-284-5738 | zmitkoj@michigan.gov

The International Marketing Program's mission is to assist Michigan food and agriculture businesses in developing trade opportunities to effectively export their products and achieve economic growth.

The International Marketing Program works to implement its mission by assisting Michigan producers and processors in developing trade opportunities through new market development or expanding existing markets to increase export sales. To showcase Michigan companies in the global arena, the International Marketing Program organizes and implements activities such as export seminars, buyers' missions, trade missions, and Michigan Pavilions at selected domestic and international trade shows.

IMPACT FOR MICHIGAN:

Increasing exports of food and agriculture products from Michigan led to more economic impact in the state. Benefits to the economy include increased jobs due to exports and helping keep prices stable for Michigan growers and farmers.

ACCOMPLISHMENTS:

- Conducted first ever MDARD Director-led trade mission to China
 - Seven companies and one commodity group participated
 - Companies reported an expected increase of sales over the next 6-12 months of \$950,000 and a total of 45 new buyer contacts
- Offered Michigan Pavilions at five domestic and international trade shows
- Awarded the 2016 MI Ag Exporter of the Year to Bayside Best Beans

Note: the annual report is for the calendar year of 2016

MEASURING SUCCESS:

Metric (Calendar Year 2016)	2015	2016
Michigan company participation in Food Export programs and services	83	80
Number of company visits by export team	2	25
Companies or organizations attending export seminars	58	60
Number of Followers on Twitter	1,113	1,244
Number of Likes on Facebook	223	423

PROGRAM GOALS:

- Assist Michigan companies in the export of food and agriculture products leading to first time exports or an increase in exports
 - Conduct educational seminars
 - Assist companies in navigating federal and state export assistance programs
 - Increase number of contacts with Michigan companies
- Expand partnerships with organizations that provide export programs and services
- Partner with the International Trade Program at the Michigan Economic Development Corporation to provide additional services to Michigan food and agriculture companies
- Collaborate with Michigan commodity groups to assist their industries in growing exports

KEY STAKEHOLDERS

- Michigan food and agriculture exporters
- Michigan food processors
- Michigan forest products companies
- Growers and farmers
- Commodity groups



2016 Agriculture Development Grants

Grantee	Funding Source	Purpose	Grant Amount	Match Funds	End Date
Celery Research, Inc.	Specialty Crop - Federal	Research	\$95,280.00	No Additional Funds	9/30/2018
Cherry Marketing Institute	Specialty Crop - Federal	Marketing	\$100,000.00	No Additional Funds	9/30/2018
Hop Growers of Michigan	Specialty Crop - Federal	Training	\$76,415.00	No Additional Funds	9/30/2018
Kalamazoo Valley Community College	Specialty Crop - Federal	Development	\$97,414.00	MEDC, USDA, & NIFA	9/30/2018
Michigan Blueberry Growers Marketing	Specialty Crop - Federal	Research	\$95,335.00	Project GREEN	9/30/2018
Michigan Agritourism Association	Specialty Crop - Federal	Development	\$85,219.00	No Additional Funds	9/30/2018
Michigan Apple Committee	Specialty Crop - Federal	Marketing	\$63,791.98	No Additional Funds	9/30/2018
Michigan Asparagus Advisory Board	Specialty Crop - Federal	Research	\$84,631.00	No Additional Funds	9/30/2018
Michigan Bean Commission	Specialty Crop - Federal	Research	\$99,998.00	No Additional Funds	9/30/2018
Michigan Carrot Committee	Specialty Crop - Federal	Research	\$98,707.00	No Additional Funds	9/30/2018
Michigan Cherry Committee	Specialty Crop - Federal	Research	\$99,996.00	No Additional Funds	9/30/2018
Michigan Farmers Market Association	Specialty Crop - Federal	Development	\$99,928.00	No Additional Funds	9/30/2018
Michigan Integrated Food and Farming Systems	Specialty Crop - Federal	Development	\$100,000.00	No Additional Funds	9/30/2018
Michigan Nursery and Landscape Association	Specialty Crop - Federal	Research	\$79,799.00	No Additional Funds	9/30/2018
Michigan Onion Committee	Specialty Crop - Federal	Research	\$99,885.00	No Additional Funds	9/30/2018
Michigan Potato Industry Commission	Specialty Crop - Federal	Research	\$99,805.00	No Additional Funds	9/30/2018
Michigan State Horticultural Society	Specialty Crop - Federal	Research	\$48,300.00	No Additional Funds	9/30/2018
Michigan Tree Fruit Commission	Specialty Crop - Federal	Development	\$99,753.00	MI Apple, MSU AG Bio, MI Horticulture, & MI Cherry	9/30/2018
The Starting Block	Value Add - GF	Development	\$100,000.00	\$25,000	2/28/2018
Brewers Guild/Michigan State University	Value Add - GF	Research & Development	\$29,300.00	\$18,000	12/1/2017
Foremost Farms	Value Add - GF	Development	\$210,000.00	\$101,250.00	12/1/2017
Seeds and Spores	Value Add - GF	Development	\$53,400.00	\$17,800	12/1/2017
Shoreline Fruit, LLC.	Value Add - GF	Development	\$210,000.00	\$210,000	12/1/2017

2016 Agriculture Development Grants

Wolverine Human Services	Value Add - GF	Development	\$155,000.00	\$60,875.00	12/1/2017
Fair Food Network	Value Add - GF	Development	\$249,000.00	\$695,000	3/31/2017
Winery at Black Star Farms	SIGI - GF	Development	\$210,000.00	\$255,000	2/28/2018
Village of Breedsville	One Time	Development	\$220,000.00	5% match & MDOT	8/31/2018
Eastern Market Corporation	SIGI - GF	Development	\$108,450.00	No Additional Funds	9/30/2016
Michigan Tree Fruit Commission	One Time	Development	\$500,000.00	No Additional Funds	9/30/2016

MICHIGAN GRAPE AND WINE INDUSTRY COUNCIL FY 2016 ANNUAL REPORT

The Michigan Grape and Wine Industry Council continues to provide an important forum for statewide collaboration in research, promotion and professional development to meet the changing needs of this exciting growth industry. The Council has established a goal to increase the size of the industry to 10,000 wine grape acres and 3 million cases of wine by the year 2024.

INDUSTRY HIGHLIGHTS

- Six wineries were recognized by the Council as “producers of Michigan wine”. Two wineries closed operations, bringing the total of recognized wineries to 124.
- Production of Michigan wine in the state rose 9.2 percent in calendar 2015.
- After two years of extended, severe cold winter weather, plus hail and frost that reduced productivity of many wine grape varieties, the winter of 2015-2016 was mild, with no ill-timed damaging frosts. The 2016 harvest is near-normal, and a fairly long, warm season will result in high-quality wine grapes.
- Millions of dollars in investment was made by the industry in new construction and capital improvements to existing facilities.
- The Michigan Wine Collaborative, an industry-led organization with a mission to enhance the sustainability and profitability of the Michigan wine industry, made great strides in creating bylaws, and building an active board of directors and membership.
- Michigan wineries garnered more than 130 gold medals in national and international wine competitions outside the state.
- Wine Enthusiast magazine named Michigan one of six “Wine Regions on the Rise” around the world.

COUNCIL HIGHLIGHTS

- 78% of the wineries recognized by the Council participated in one or more promotional partnerships with the Council during the year.
- The Council participated for the fifth consecutive year in a marketing partnership with Travel Michigan for a “Wines of Pure Michigan” spring/summer radio/digital campaign focused on Cincinnati, OH, that was effective in driving web traffic to www.michiganwines.com.
- Council staff managed a USDA-funded project to implement recommendations regarding a wine sustainability program for Michigan.
- Michigan Wine Month in April continued to grow in consumer and trade education impact.
- Michigan Wine Showcase events were held in Detroit (May) and in Chicago (August)
- Social media activity on the “Michigan Wines” Facebook page and Twitter increased, and an Instagram account was established.

- The Council sponsored a two-day Michigan Grape and Wine Industry Conference in Kalamazoo in February, with attendance of 300 participants.
- The Michigan Wine and Spirits Competition received 352 entries from 51 wineries. Of particular note, the quality of the red wines in the competition was extremely high, with 26 Gold medals awarded.
- Membership in Vintage Michigan, the Council's loyalty program, increased 6%, to more than 4,700 members.
- The Council funded \$119,510 in research projects at Michigan State University to advance knowledge of wine grape growing and winemaking to serve the industry into the future.
- Council staff serve on the Executive Committee of the West Michigan Tourist Association.

Table 1
MICHIGAN GRAPE AND WINE INDUSTRY COUNCIL
FY 2016 BUDGET SUMMARY

Category	Total Expenditures
Administration	\$468,095
Research and Grower Education	\$116,510
Promotion and Consumer Education	\$147,626
Industry Support	\$35,019
Council Expenses	\$5,207
Total MDARD Administrative Costs	\$772,457

Table 2
MICHIGAN GRAPE AND WINE INDUSTRY COUNCIL
FY 2016 RESEARCH PROPOSALS FUNDED

Principal Investigator	Title of Proposal	Award
5 Lakes Energy	Pilot Measurement of Water Use in Wineries	\$15,000
Isaacs, Rufus	Biology and Management of Grape Mealybug	\$19,725
Isaacs, Rufus	Michigan Vineyard IPM Extension Program	\$16,448
Sabbatini, Paolo	Control and Management of Sour Rot and Volatile Acidity in Vinifera Grapes Grown in Michigan	\$23,537
Schilder, Annemiek	Statewide Survey to Determine Diversity and Impact of Grapevine Viruses on the Michigan Wine Grape Industry	\$20,000
Zabadal, Tom	Developing Methods of Use of Own-rooted Vitis Vinifera Vines in Michigan Vineyards	\$21,800
	Total	\$116,510

Table 3
Michigan Grape and Wine Industry Council
FY 2015 Research Results

Principal Investigator	Title and Summary of Results	Award
Andresen, Jeff	<p>Strategic Modernization of Enviroweather Stations Serving the Michigan Grape and Wine Industry</p> <p>Michigan State University's Enviroweather program provides Michigan's agriculture with online access to weather-based pest, crop and production management information for decision-making. By providing access to local weather data and tools, Enviroweather helps Michigan grape and wine producers understand the effects of weather on their crops and enables them to make relevant pest and production management decisions mitigating negative effects.</p>	\$3,912
Isaacs, Rufus	<p>Biology and Management of Invasive Insect Pests in Michigan Vineyards</p> <p>Fifteen Michigan vineyards were monitored for four species of invasive moths, with no detections in 2014 or 2015. Spotted wing Drosophila (SWD) was present in all sampled locations, and the highest SWD captures occurred during harvest, while African fig fruit fly was only found at one site in 2015. Brown marmorated stink bug was not detected in vineyards. Early ripening red varieties may be the most susceptible to SWD infestation, and infestation by other Drosophila species was similar across varieties. Leaf-pulling and insecticide application reduced fruit fly numbers and sour rot incidence, but these differences were not statistically significant.</p>	\$22,624
Isaacs, Rufus	<p>Michigan Vineyard IPM Extension Program</p> <p>This work demonstrated how reduced-risk pesticides can provide effective insect and disease management when they are integrated into commercial grape production. Reduced-risk and standard broad-spectrum pesticide programs provided similar pest and disease control, and in some cases the reduced risk program out-performed the standard program. Scouting information was collected each week and summarized in biweekly reports that were published in MSU Extension Grapes News and are now archived at www.grapes.msu.edu. Results from this and related studies were presented at grape workshops in southwest and northwest Michigan during the growing season, and provided information on current insect, disease and horticultural topics.</p>	\$15,599
Sabbatini, Paolo	<p>Leaf Removal: a Tool to Improve Crop Control and Fruit Quality in Vinifera Grapes</p> <p>Cool summers and wet fall in Michigan often limits technological fruit maturity at harvest especially in cultivars prone to cluster-rot. Several important wine grape varieties in Michigan have high susceptibility to harvest season cluster rot (e.g. Riesling, Chardonnay, Pinot blanc, Pinot gris, Pinot noir, all <i>Vitis vinifera</i> L.). A detrimental characteristic common to all of these varieties is the compactness of the berries held on the cluster rachis. The aim of this work is to determine whether a quantified amount of leaf removal at bloom would reduce fruit set and consequently produce a controlled reduction in cluster compactness. Our study was conducted to 1) verify whether early leaf removal can be consistently used as a tool for controlling cluster bunch rot through reducing cluster compactness on Riesling and determine the effects of leaf removal on grape quality (skin/flesh ratio, color and basic fruit chemistry parameters).</p>	\$22,120
Schilder, Annemiek	<p>Impacts of Grapevine Leafroll Virus on Chardonnay Vines and the Role of Potential Vectors</p> <p>The goal of this 2-year project was to gain a better understanding of the impact of grapevine leafroll virus disease in Michigan. In the study vineyard, 95-99% of sampled vines tested positive for GLRaV-3 and 19% for Tobacco ringspot virus (TRSV). Fruit yield decreased with increasing severity of foliar leafroll symptoms (up to 88% loss) and Brix decreased by 2-3 degrees. There was an inverse spatial correlation between leafroll and TRSV symptoms. The grape mealybug (<i>Pseudococcus maritimus</i>) was common in SW Michigan and found in NW Michigan for the first time. GLRaV-3 was detected in sampled mealybugs, confirming their role as vectors.</p>	\$14,068

Zabada, Tom	<p>Developing Methods for the Use of Own-rooted Vitis Vinifera Vines in Michigan Vineyards</p> <p>Wine grape varieties of the species Vitis vinifera are recognized worldwide for producing the very best wine quality. Recently chemical control of root Phylloxera may be a possible alternative to grafting for V. vinifera production. This project is evaluating that option along with methods for the rapid establishment of own-rooted V. vinifera grapevines. Results to date have indicated as little as a two-year period for establishment of productive vines, no decline in own-rooted V. vinifera vines and advantages of own-rooted vines in regard to recovery from winter injury. Further evaluation is needed to determine if this technology can provide sustainable Vitis vinifera productivity.</p>	\$21,800
	Total	\$100,123