

## 2017 MGWIC RESEARCH REPORT

### **PROPOSAL TITLE: UPGRADING VITICULTURAL RESEARCH CAPABILITIES AT THE MSU NORTHWEST HORTICULTURE RESEARCH CENTER**

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**Fiscal Funding:** 2017  
**Project Activity Dates:** January 1 to December 31, 2017

#### **1. Use of the financial support from MGWIC**

The funding requested to the MGWIC in 2016 (\$ 13,000) was used in 2017 to (1) buy new grapevines that will be delivered by Double A Vineyard and Hendriks grapevines in the spring of 2018 (5 cultivars; Chardonnay, Pinot grigio, Pinot noir, Pinot blanc and Cabernet franc, all grafted on 101-14 MTG), (2) to compensate Harbor Hill Vineyard Services for the cost of vine removal and to (3) cover travel expenses from East Lansing to Traverse City for meetings with grape growers focused on discussions on (a) clonal selection and (b) future extension activities in the new planting at the MSU Northwest Horticulture Research Center (NWHRC).

#### **2. Summary of the problem and priority addressed**

The NWHRC, contrarily to the Southwest Michigan Research and Extension Center (SWMREC), lacks the capacity to conduct viticultural and enological research on principal grape varieties that are fundamental to the Michigan wine industry. The removal of 1 acre of existing grapevines (former NE1020 block, grape variety trial planted in 2008) and replant with new vines (*V. vinifera*) is to (1) facilitate targeted applied research and to (2) investigate and refine cultural practices in support of industry priorities in the near future. The project was developed under the of northwest growers and winemakers and developed in collaboration with Michigan State University, to provide a new research plot with high value cultivars that are the foundation of the industry's brand and central to its economic future.

In a series of extension meetings held in the late winter and early spring of 2017 (Leorie Vineyards, Shady Lane Vineyards, Villa Mari, and NWMHRC), northwest growers and winemakers, together with representatives of MSU Viticulture and the NWMHRC, discussed the role and resources of the research station in support of the industry. A critical priority was realignment of the station to support the expanding industry and to move forward, it was necessary to invest in the replanting of acreage currently devoted to alternative varieties (NE1020 Project, a multi-state trial) and replant 1 acre with the *vinifera* varieties (listed above) that, together with Riesling, are expected to continue to be the foundation of the NW state's industry and reputation. Each new variety will approximately 200 vines available for future research, both viticultural and enological.

### **3. Project Scope**

Future research and extension proposals with a direct impact on our NW state wine industry, will depend on the availability of these new vines. This investment was deemed necessary by grape growers and winemakers to meet existing and future research needs if we expect our industry to grow in volume, quality, reputation, and economic impact. With this upgrade in site resources, future research can now be aligned to one or more of these MGWIC priorities:

#### ***Climate Change and Extreme Weather Conditions:***

- 1) Understand the effects of climate change and extreme weather events on viticulture production systems.

#### ***Fruit and Wine Quality:***

- 1) Understand the effects of viticulture production systems and environmental factors on grape and wine composition and quality
- 2) Understand the relationship between the components of grapes and wine and their impact on wine quality.
- 3) Continued improvement of wine quality and grape productivity through testing of varieties and clones, both new to Michigan and established.

#### ***Sustainability:***

- 1) Understand vineyard ecosystem and develop vineyard management systems and methods of cultivation that are sustainable, economical, and environmentally responsible.
- 2) Decrease the environmental impacts of vineyard operations through reduced inputs of pesticides, fertilizers, and energy. Includes precision agriculture applications.

#### ***Production and Process Efficiency***

- 1) Optimize vineyard production systems for cost, quality, and environment. Includes mechanization of vineyard operations.

### **4. Results and accomplishments in 2017**

1. Removal of the existing 1 acre of NE1020 variety trial vines (Winter, 2017)
2. Repair and reuse of existing trellis system (Spring, 2017)
3. Site preparation (Spring, 2017)
4. Extension meetings to discuss varieties, rootstock and future activities (Winter and Spring 2018)
5. Order of 1,210 vines (4x9 spacing) (June, 2017)
6. Planting of the vines will be in the spring of 2018

### **5. Future project impact**

We expect the following outcomes:

- The successful upgrading of our field research capabilities in the northwest growing region with a service lifetime of 10 years or more;
- An increase in northwest participation in MSU research projects;
- An increase in research design flexibility using sites in one or both of the principal growing regions, allowing MSU to investigate similarities and differences and then make region-specific recommendations to increase productivity, efficiency, quality, and sustainability;
- An increase in support for applied research based on priorities established in consultation with industry leaders and affiliated organizations.