

**Contract** 18-01-188  
UNL Viticulture Program

**Grant Amount**  
\$56,618

### **Contact Information**

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### **Issue of Interest**

The focus of this research and extension project is to evaluate cultivars to provide information to Nebraska grape growers or those who wish to start vineyards with up-to-date science-based information. Many of the more than 75 grape genotypes under trial have not been sufficiently evaluated, nor have their cultural practices been adequately studied for Nebraska vineyards.

### **Approach to Problem**

Over a 14-year period, more than 75 grape genotypes (cultivars/varieties) and breeders' selections have been planted in four locations in Nebraska (subsequently referred to as UNVP Research Vineyards). These research sites are located on private lands south of Nemaha, northwest of Peru, and north of Nebraska City, as well as on property of the Panhandle Research and Extension Center (PREC). Data are gathered on plant growth, resistance to winter cold, fall and spring low temperature events, tolerance to disease and other pests, response to canopy management and trellis systems, and yield and harvest parameters (degrees Brix, titratable acidity and pH). Results are reported via presentations at field days, fall workshops, the Annual Nebraska Grape Growers and Wineries Forum and Trade Show, the Nebraska VineLines newsletter, and the UNVP web site (<http://agronomy.unl.edu/viticulture>).

### **Goals/Achievement of Goals**

The desired outcomes were to acquire information noted above and to determine from these data which cultivars and breeders' selections have the greatest potential for Nebraska grape growers to achieve success. Periodically the UNVP has presented the results of these studies, as noted in the above section. Specific issues have been addressed individually, as appropriate. An example is that in Vintage 2010, continual excessive rainfall caused undue pressure from numerous diseases. Therefore, we took advantage of this opportunity to assess the relative disease tolerance of the genotypes growing in the UNVP research vineyards and noted in commercial vineyards. This was a highly unusual year and many grape cultivars hitherto considered tolerant of specific diseases were determined to be less tolerant than originally thought. Highlights of this information were reported in the "Harvest Edition" of the Nebraska VineLines as well as the UNVP web site.

### **Results, Conclusions, Lessons Learned**

The results noted in the previous sections enable us (UNVP personnel) to advise growers on a wide range of practices, including matching trellis systems to cultivar; the importance of due diligence in fungicidal spray programs, especially when faced with extremely high moisture growing seasons; appropriate canopy management practices to minimize disease pressure and

assure maximum fruit quality and choice of cultivar for the part of the state in which the grapes are to be grown. Vintage 2010 was one of the most stressful in recent memory, with unusually serious Downy Mildew, Black Rot, Phomopsis and bunch rot problems. Therefore, the lessons learned about the critical importance of timeliness of the spray program, appropriate canopy management and selection of best-choice cultivars are much better understood than previously.

### **Progress Achieved According to Outcome Measures**

The Nebraska grape and wine industry will benefit from the increased understanding of disease challenges exacerbated by excessive precipitation in unusual years such as that posed by Vintage 2010. In the long term, consideration of disease tolerant cultivars, such as Norton/Cynthiana and perhaps Delaware, along with attention to timely spray programs will result in production of higher quality fruit and thus lead to production of world-class wines.

**Please note:** As in previous years, results of UNVP research programs will be reported to colleagues in other Midwest states at conferences and regional meetings such as the NE-1020 meeting to be held November 10-12 in Traverse City, Michigan. In addition, our results with regard to cultivar evaluation, bud break delay, and trellis selection were reported at the International Cool Climate Symposium in June, 2010 and the American Society for Horticultural Science meeting in August 2010.

### **Financial Report**

The funding for this project covers technician and student labor and benefits, equipment, costs of vehicle rental, fuel and maintenance, and vineyard supplies.

Salaries, wages, benefits	\$	24,201
Equipment, parts	\$	24,278
Overhead	\$	6,181
Miscellaneous supplies, vehicle rental	\$	1,958
Total	\$	56,618