Contract
UNL –Year 1 of Trellis Study - #18-13-049 - $2,100

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Issue of Interest
The problem addressed was the need to know upon what trellis system new hybrid grapes would best perform, determine if trellis systems have an influence on cold-hardiness, and examine the influence of trellis systems on fruit quality parameters. Growers were increasingly raising this concern, since the newness of hybrids such as Frontenac, Marquette, and Saint Croix had received little scholarly attention.

Approach to Problem
The problem was approached by discussions with proprietors of Czechland Vineyards (Crete, Nebraska), who volunteered their vineyard as a site for testing different trellis systems for Frontenac and Saint Croix hybrids. Replicated six-vine plots were placed on five vineyard trellis systems: vertical shoot positioned (VSP), high cordon (HC), Geneva Double Curtain (GDC), Smart-Dyson (SD) and Scott Henry (SH). Data on light penetration in the canopy were projected to be taken in years two and three, along with fruit yield and quality parameters in year three and beyond. The Nebraska Grape and Winery Board approved $2,100 from the Winery and Grape Producers Promotional Fund to pay for this Viticulture Program activity. The procedure for this project will involve the following:

- Marquette grapevines will be planted in each cooperating state using the same four trellis systems – High Cordon (HC, the system employed when testing MN 1211 in the UNVP research site at Nemaha), Vertical Shoot Positioning (VSP), Smart-Dyson (SD) and Geneva Double Curtain (GDC). Spacing will be 8 feet in rows 12 feet apart.
- Each trellis system will be replicated four times with six vines per replication in a randomized block design.
- Border plants will be planted on the end of each row in the experimental planting.
- Standard vineyard management practices will be employed as practiced in the respective vineyards.

Goals/Achievement of Goals
Data will be analyzed by LSD and SAS systems of analysis; analysis of variance, multiple comparisons and interactions will be analyzed based on Dr. David Marx's recommendations including the use of the appropriate SAS Software Package (SAS Institute, Cary, North Carolina).

The goals of this project are to:

- Conduct a study of Marquette (formerly designated as MN 1211) grapevines on four different trellis systems;
- Compare yield and crop uniformity among four trellis systems;

- Determine if the trellis system has an influence on cold-hardiness; and

- Examine the influence of trellis systems on fruit quality parameters.

The approved funds will partially pay for viticulture technologist salary, planting stock, and travel costs for local project oversight and implementation.

Results, Conclusions, Lessons Learned
No results could be assessed in the first year of the study, but the establishment of the experiment was successful and made it feasible to achieve the goals of this study in subsequent years.

Progress According to Outcome Measures
No results could be assessed in the first year of the study, but the establishment of the experiment was successful and made it feasible to achieve the goals of this study in subsequent years.