Evaluation of Wine Grape Cultivars

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Introduction

In conjunction with the Northeast Regional Research Project NE-1720 "Multi-state Coordinated Evaluation of Winegrape Cultivars and Clones," Iowa State University (ISU) established a cold-hardy wine grape cultivar trial in 2018 at the ISU Horticulture Research Station, Ames, Iowa. The Iowa trial evaluates the performance of cultivars Itasca, NY81.0315.17, Petite Pearl, NY06.0514.06, and Crimson Pearl. This is the first year of a 10-year study.

Materials and Methods

On June 21, 2018, grape vines (standard 1-1 nursery grade) were established at a spacing of 6 ft within row x 14 ft between row. Prior to planting, Snapshot 2.5 TG was integrated into the top 1-2 in. of tilled soil at a rate of 150 lb/acre. Selections were watered in immediately after planting and the following day (June 22, 2018) plants were fertilized with 19N-1.7P-6.6K (Harrell's 19-4-8), 5-6 month controlled-release fertilizer at 0.5 lb N/plant.

In the second growing season, vines will be trained to a high wire cordon system.

Selections were arranged in a randomized complete block design with four replications and four vines per replication. Data collected included vine survival, shoot number and length of three longest shoots at end of season.

Results and Discussion

Iowa experienced slightly above average temperatures during June-August and slightly below average temperatures September-November, 2018 (Table 1).

At the end of the 2018 season, all selections had similar shoot count and average nodes per shoot (Table 2). In spring 2019, a single cane (previous season's shoot) will be selected and trained upright to the top wire.

Acknowledgements

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Table 1. Seasonal high and low temperatures compared with averages for Ames, Iowa.

Months	Avg. temperature (°F)		2018 temperature (°F)	
	High	Low	High	Low
June - Aug.	80.7	59.3	81.9	63.1
Sept. - Nov.	63.0	40.2	57.6	39.7

Table 2. Shoot count and average shoot length of five wine grape selections.

Selection	Shoot count (no.)[z]	Average nodes/shoots (no.)[y]
Itasca	4.8[x]	20.1
Petite Pearl	4.6	21.6
NY81.0315.17	5.1	19.6
NY06.0514.06	5.7	21.3
Crimson Pearl	5.2	23.9
HSD	2.2	4.5

[z]Shoot count: total number of shoots/plant recorded at the end of the season.

[y]Average number of nodes/three longest shoots recorded at the end of the season.

[x]Means (within a column) with the same letters are not statistically different according to Tukey's Honestly Significant Difference test (α = 0.05).

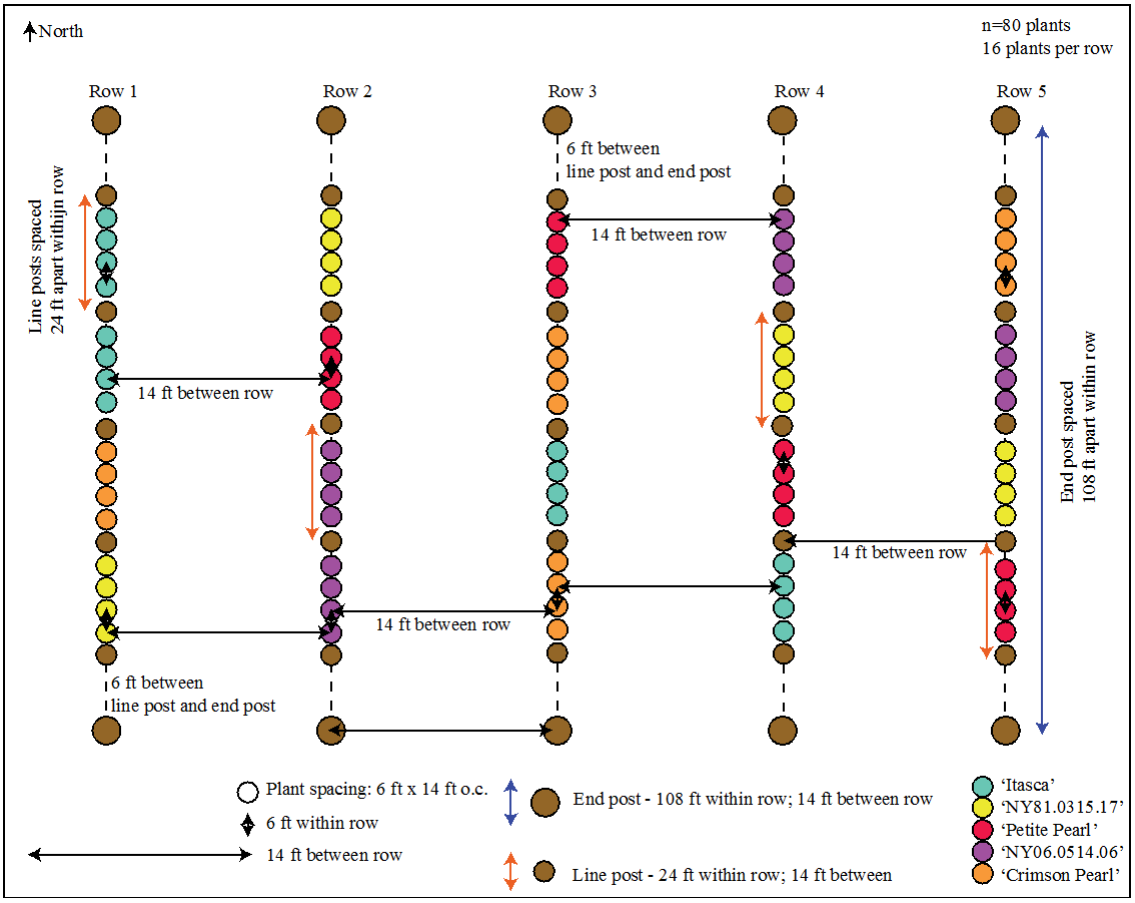

Figure 1. NE1720 wine grape plot map.