

2007-2010 Wine Grape Evaluations

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METHODS:

The establishment of the wine grape trial started in the summer of 2007 with the planning of the location. Fall 2007 we began laying subsurface tiling between each planned row on 9 foot centers. After the tile was installed, the ground was plowed and disked then seeded to grass. In April 2008 the rows were marked out between the tile lines, and then a banded application of roundup was applied to burn down the grass in row.

May 2008 four cultivars of French American and seven cultivars of Vinifera wine grapes were planted using a posthole digger to make the hole, then the grapes were set by hand, making sure that the graft union was above the soil level to avoid rooting from the graft. Six replications of each cultivar were planted within the research trial. The French American plants were spaced seven foot between plants with the Vinifera plants spaced six foot between plants. The plants were then watered in following planting.

June 2008 the trellis was constructed in the vineyard. A high cordon trellis system was constructed for the French American varieties, and a vertical shoot position (vsp) trellis was constructed for the Vinifera varieties. Two bamboo poles were placed by each plant to assist with the training of the vines up to the trellis. The young shoots were secured to the bamboo using a tapener gun. Two shoots were trained up the trellis per plant. When the French American vines reached the wire, they were then trained horizontally down the wire and secured to the wire with tape. Once the Vinifera vines reached the bottom wire of the trellis they were trained horizontally down the wire and secured to the wire with tape. All lateral shoots were removed below the wire under both trellis systems. Weeds in the vineyard row were controlled with shielded applications of roundup throughout the summer and fall. In November 2008 compost was purchased to hill up around the base of each plant to cover the graft union to assist with the prevention of winter injury to the vines.

In March 2009 the compost was removed from around the base of each vine and spread out over the row. As the vines came out of dormancy, some vines had been injured by low winter temperatures, resulting in many vines under both systems needing to be retrained up and to the wire. All laterals were removed below the trellis wire and trained to the different trellis systems throughout the growing season. A standard fungicide and insecticide program, outlined in the Midwest Small Fruit and Grape Spray Guide, OSU bulletin 506B2, was followed to control disease and insect pressure over the growing season. An application of Chateau was applied in April, along with shielded applications of roundup over the growing season. October 2009 the grapes were hilled up using a hilling plow built by OSU South Centers Farm Manager, Wayne Lewis following plans from Michigan State University.

In March of 2010 the grapes were un-hilled using a tractor mounted un-hilling plow. The grapes were pruned back to three spurs in late March and vines reattached to the trellis wire using BranchLok plastic clips. Both the French American and Vinifera grapes were trained according to their trellis system. A frost event in April damaged some of the primary blooms, however this damage was spotty across the vineyard. Clusters were thinned over the course of the growing season as needed to reduce the

number per vine. 2010 was the first year we allowed the vines to fruit, in 2008 and 2009 all clusters were removed from the plant to promote vine growth. A standard fungicide and insecticide program outlined in the Midwest Small Fruit and Grape Spray Guide, OSU bulletin 506B2, was followed to control disease and insect pressure throughout the growing season. Shielded applications of Roundup herbicide were applied throughout the growing season to control weeds in the rows. Bird netting was applied in July after the grapes started to break veraison. Harvest of grapes began in September and continued into October.

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2010 Wine Grape Evaluations Data

Table 1: 2010 French American results.

| Cultivar | Pounds per Vine | Average Fruit Weight (ounces) | Clusters per Vine | Fruit per Cluster |
|-----------------|------------------------|--------------------------------------|--------------------------|--------------------------|
| Vidal | 30.60 | 1.80 | 33.54 | 205.28 |
| Chambourcin | 18.64 | 2.22 | 20.04 | 199.99 |
| Hibernal | 9.68 | 1.87 | 13.04 | 170.91 |
| Noiret | 4.89 | 1.91 | 9.58 | 117.80 |
| LSD | 10.84 | .27 | 11.12 | 53.57 |

Table 2: 2010 Vinifera results.

| Cultivar | Pounds per Vine | Average Fruit Weight (ounces) | Clusters per Vine | Fruit per Cluster |
|--------------------|------------------------|--------------------------------------|--------------------------|--------------------------|
| Petite Verdot | 11.30 | 1.19 | 23.04 | 185.43 |
| Tempranillo | 10.65 | 1.56 | 11.25 | 251.38 |
| Petite Syrah | 7.47 | 1.62 | 9.20 | 140.18 |
| Pinotage | 6.83 | 1.06 | 17.37 | 155.19 |
| Merlot | 6.78 | 1.33 | 17.00 | 136.46 |
| Viognier | 6.36 | 1.34 | 9.87 | 203.06 |
| Cabernet Sauvignon | 4.95 | 1.14 | 12.79 | 127.14 |
| LSD | 3.34 | .25 | 4.87 | 60.52 |

Table 3: 2010 Fruit Chemistry.

| Cultivar | Brix | pH | Titrateable Acidity |
|--------------------|-------------|-----------|----------------------------|
| Hibernal | 25 | 3.47 | .45 |
| Noiret | 21 | 3.26 | .525 |
| Vidal | 21.6 | 3.47 | .63 |
| Chambourcin | 25 | 3.11 | .675 |
| Cabernet Sauvignon | 21 | 3.13 | .705 |
| Merlot | 23 | 3.52 | .465 |
| Petite Verdot | 21 | 2.8 | 1.11 |
| Viognier | 25 | 3.71 | .465 |
| Tempranillo | 23.9 | 3.75 | .54 |
| Petite Syrah | 19 | 3.45 | .66 |
| Pinotage | 26.2 | 3.94 | .66 |