

Winegrape Cultivar Trials in Connecticut

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Connecticut has a variety of mesoclimates that dictate what winegrape cultivars can be grown in a given location. The climate on the southern border of the state is moderated by proximity to Long Island Sound or the Atlantic Ocean. The northernmost parts of the state regularly experience winter temperatures that can damage or kill many grape cultivars, and may not accumulate enough heat units (expressed as growing degree days) to properly ripen many popular winegrape cultivars. Soil fertility and internal drainage can range from very favorable to poor. The introduction of new cultivars has made quality winegrape cultivation possible in areas previously considered unsuitable.

Four cultivar trials were established by The Connecticut Agricultural Experiment Station to determine cultivars suitable to Connecticut conditions (Table 1). These trials were established at two Connecticut Agricultural Experiment Station research farms in Hamden and Windsor and at commercial vineyards in Colchester and Shelton.

Table 1. Grape cultivars planted at research vineyards in Connecticut.

| Cultivar | Type | Color | Vineyard Sites |
|--------------------|--------------------|-------|------------------------------|
| Cabernet Franc | <i>V. vinifera</i> | Red | Colchester, Shelton, Windsor |
| Cabernet Sauvignon | <i>V. vinifera</i> | Red | Colchester, Shelton |
| Cayuga White | Hybrid | White | Windsor |
| Chambourcin | Hybrid | Red | Colchester, Hamden, Windsor |
| Chancellor | Hybrid | Red | Colchester |
| Chardonel | Hybrid | White | Colchester |
| Chardonnay | <i>V. vinifera</i> | White | Colchester, Windsor |
| Chelois | Hybrid | Red | Colchester |
| Marechal Foch | Hybrid | Red | Windsor |
| Merlot | <i>V. vinifera</i> | Red | Shelton |
| Muscat Ottonel | <i>V. vinifera</i> | White | Colchester |
| Riesling | <i>V. vinifera</i> | White | Colchester, Windsor |
| Seyval Blanc | Hybrid | White | Colchester, Hamden, Windsor |
| Vidal | Hybrid | White | Colchester, Windsor |
| Vignoles | Hybrid | White | Colchester |
| Villard Blanc | Hybrid | White | Hamden, Windsor |
| Villard Noir | Hybrid | Red | Hamden, Windsor |

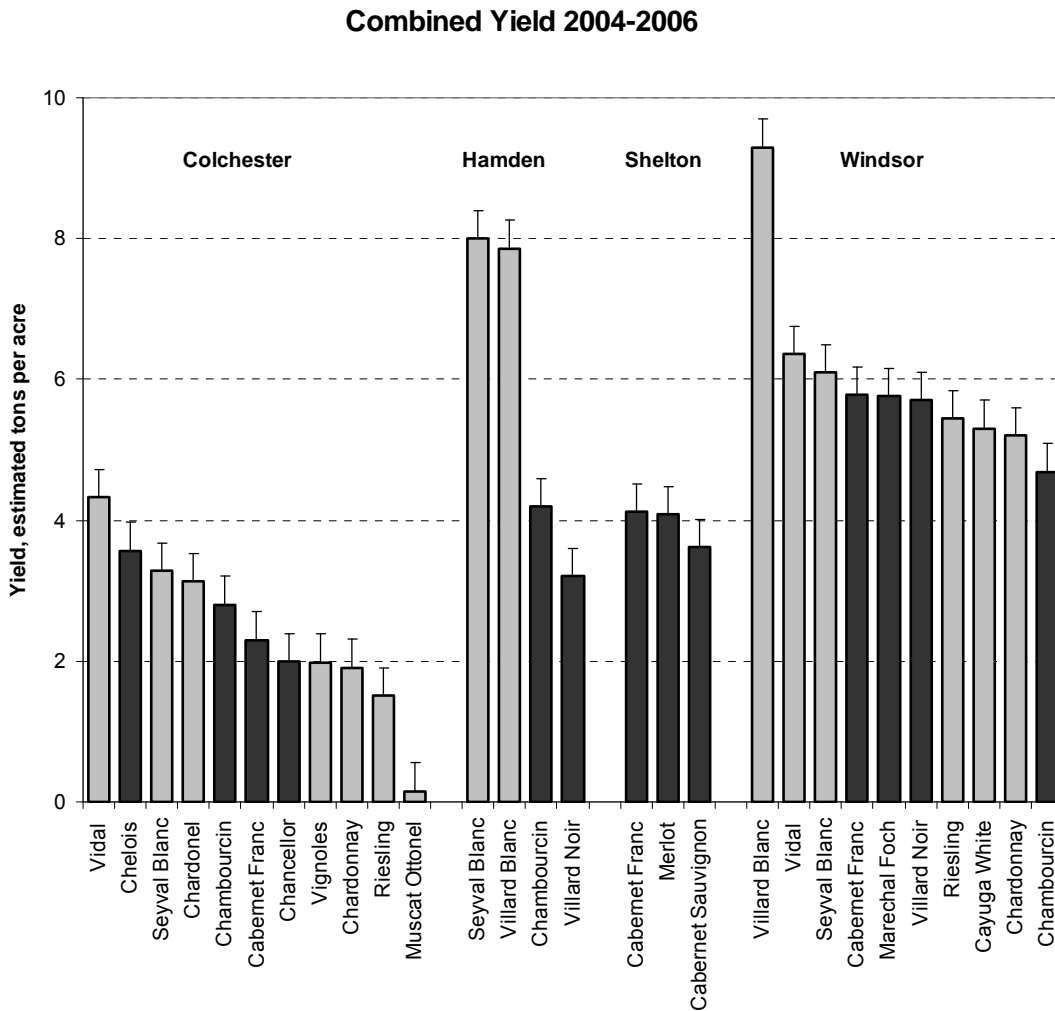
Yields varied considerably among vineyards (Table 2) and among years (data not shown). Variation among vineyards was likely due to different soil types, pest management, and weed control during vineyard establishment.

Overall, white hybrid cultivars had higher yields than the other categories (Figure 1). There was no significant difference between red hybrid and red vinifera cultivars. White vinifera cultivars had the lowest yield. However, white vinifera cultivars as a group performed poorly in 2004, and Muscat Ottonel had very little fruit in any year. The difference between red and white vinifera cultivars was not as great in 2005 and 2006.

Table 2. Average yields (pounds per vine) for common cultivars in four Connecticut vineyards 2004-2006.

| Cultivar | Vineyard | | | |
|----------------|------------|--------|---------|---------|
| | Colchester | Hamden | Shelton | Windsor |
| Cabernet Franc | 5.8 | | 10.5 | 14.8 |
| Chambourcin | 7.0 | 10.4 | | 11.4 |
| Chardonnay | 4.5 | | | 12.9 |
| Riesling | 4.2 | | | 11.9 |
| Seyval Blanc | 8.3 | 19.8 | | 14.6 |
| Vidal | 12.1 | | | 14.2 |
| Villard Blanc | | 19.5 | | 23.1 |
| Villard Noir | | 7.9 | | 14.2 |

Figure 1. Combined winegrape yield data from four Connecticut vineyards 2004-2006. White cultivars are designated by light bars, red cultivars are dark bars.



Future projects

New cultivar plantings were established in 2008 at the CAES research farms in Hamden and Windsor. These plantings are part of NE-1020: Multistate Evaluation of Winegrape Cultivars and Clones, a nationally coordinated research project involving over 30 states, including Massachusetts, New Hampshire, and Vermont. The planting in Hamden consists of 24 cultivars consisting of *V. vinifera*, French-American hybrids, and *V. riparia*-based hybrids from the Midwest. The planting in Windsor is smaller and consists of French-American and *V. riparia* hybrids. In each NE-1020 planting, certain “core” or “sentinel” cultivars are planted based on climatic condition. These are all the same plant material from a common source, so valid comparisons can be made among plantings in various states. Data collection from these plots will begin in 2010.

Table 3. Cultivar evaluations in Connecticut for NE-1020: Multistate Evaluation of Winegrape Cultivars and Clones. Types designated as “hybrid” are traditional French-American hybrids, while “cold hybrid” designates extremely cold-hardy cultivars derived from *Vitis riparia*.

| Cultivar | Type | Color | Site | |
|------------------|-------------|-------|--------|---------|
| | | | Hamden | Windsor |
| Auxerrois | vinifera | white | √ | |
| Brianna | cold hybrid | white | | √ |
| Cabernet Franc | vinifera | red | √ | |
| Cayuga white | hybrid | white | √ | |
| Chambourcin | hybrid | red | √ | √ |
| Corot Noir | hybrid | red | | √ |
| Dornfelder | vinifera | red | √ | |
| Frontenac | cold hybrid | red | √ | √ |
| Frontenac gris | cold hybrid | white | √ | |
| Grüner Veltliner | vinifera | white | √ | |
| LaCrescent | cold hybrid | white | | √ |
| Marquette | cold hybrid | red | | √ |
| MN 1189 | cold hybrid | red | √ | |
| MN 1200 | cold hybrid | red | √ | √ |
| MN 1211 | cold hybrid | red | √ | |
| MN 1235 | cold hybrid | red | √ | |
| Noiret | hybrid | red | √ | |
| NY76.0844.24 | hybrid | white | √ | |
| NY81.0315.17 | hybrid | white | √ | √ |
| Petit Manseng | vinifera | white | √ | |
| Pinot Blanc | vinifera | white | √ | |
| Pinot noir | vinifera | red | √ | |
| Rkatsiteli | vinifera | white | √ | |
| Skujinsh 675 | other | white | √ | √ |
| St. Croix | cold hybrid | red | √ | √ |
| Traminette | hybrid | white | √ | |
| Vidal | hybrid | white | √ | √ |
| Zweigelt | vinifera | red | √ | |