2002 Leopold Grape Cultivar x Management System Trial
- 2004 Report -

Supported by a grant from the Leopold Center for Sustainable Agriculture.
### Grape Cultivars

<table>
<thead>
<tr>
<th>Wine</th>
<th>Table</th>
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</thead>
<tbody>
<tr>
<td>Maréchal Foch</td>
<td>Marquis</td>
</tr>
<tr>
<td>Frontenac</td>
<td>Vanessa</td>
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<tr>
<td>Cynthiana</td>
<td>Reliance</td>
</tr>
<tr>
<td>St. Croix</td>
<td>Mars</td>
</tr>
<tr>
<td>Chambourcin</td>
<td>Jupiter *</td>
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<tr>
<td></td>
<td>Seyval Blanc v</td>
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<tr>
<td></td>
<td>La Crosse v</td>
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<td></td>
<td>Vignole v</td>
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<tr>
<td></td>
<td>Traminette v</td>
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<tr>
<td></td>
<td>Edelweiss v</td>
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</tbody>
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* v: Trained to VSP  
* *: Planted in 2003
**Management Systems**  
**2004 Treatments**

<table>
<thead>
<tr>
<th>Systems:</th>
<th>Weed Control</th>
<th>Insect &amp; Disease Control</th>
<th>Fertilizer</th>
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</thead>
<tbody>
<tr>
<td><strong>Conventional</strong></td>
<td>Pre- &amp; Post-emergence Herbicides</td>
<td>Lime sulfur &amp; Captan*</td>
<td>Urea</td>
</tr>
<tr>
<td><strong>IPM / Best Management</strong></td>
<td>Pre- &amp; Post-emergence Herbicides</td>
<td>Lime sulfur &amp; Captan*</td>
<td>Urea</td>
</tr>
<tr>
<td><strong>Organic Approved</strong></td>
<td>Straw Mulch &amp; Mechanical</td>
<td>Lime sulfur &amp; Fixed Copper*</td>
<td>Corn gluten meal</td>
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</tbody>
</table>

* Vines were not cropped in 2004. Disease control was minimal.
Applying pre-emergence herbicide

Oryzalin + Roundup
Straw mulch for weed control
Encountered problems with:
- Straw seed germinating in 2003
- Bluegrass encroaching in 2004
Applying a dormant liquid lime sulfur spray to control anthracnose
Pruning at the Armstrong Farm

Vines were pruned to ¼ inch diameter wood or “green” tissue.
Trimmings were weighed & recorded.
Training the VSP vines to the bottom wire at the Horticulture Farm
In 2003, the Armstrong Farm was much drier than the Horticulture Farm, and this was reflected in the 2004 pruning weights.
At both sites, the organic-approved vines had the lowest pruning weights.
In both 2003 & 2004, the organic-approved vines exhibited a paler leaf color. Petiole analysis of Foch vines confirmed lower N.

2004 Petiole N *
Conven. 1.18
IPM/Best 1.16
Organic 1.03

* From Craig Dilley’s research
Pruning Weights (lb)

- Foch
- Frontenac
- Cynthiana
- St. Croix
- Chambourcin
- Seyval
- La Crosse
- Vignole
- Traminette
- Edelweiss
- Marquis
- Vanessa
- Reliance
- Mars
- Jupiter

* Planted in 2003.
A high frequency of bud failure was observed on some cultivars & the percentage die-back was estimated.
% Cane Die-Back

Differences between sites was attributed to when the first killing frost occurred.

Killing frost:
- Oct 2 (26 F)
- Nov 1 (28 F)

* Planted in 2003.
Armstrong R & D Farm

Growing conditions were good in 2004, & most vines filled the cordon.
The Armstrong Farm suffered 2,4-D Injury. It was rated in September on a scale of 1 (no apparent injury) to 5 (very severe injury).
Cynthiana & Vanessa exhibited the severest symptoms.
The results were similar to those recorded in 2003.