Producing Cold-Hardy Grapes In The Upper Midwest

Paul E Read

Stephen Gamet
Stressful Climatic Conditions
Breeding Grapes

- As Early as 1884
  “I have produced several new types of vines through Hybrid breeding, which will bring forth a completely new revolution in winegrowing.... they are just as hardy all winter in the great coldness in the northern part of American as the wild growing riparia.”

  Louis Suelter
Significant Breeding Programs

– The University of Minnesota Grape Breeding Program
– Elmer Swenson Breeding Program
– Cornell University Breeding Program

Discussion will focus on UM and Swenson Cultivars
The University of Minnesota Grape Breeding Program

- University of Minnesota early introductions
  - ‘Bluebell’
  - ‘Blue Jay’
  - ‘Moonbeam’
  - ‘Red Amber’
The University of Minnesota Grape Breeding Program

- University of Minnesota more recent releases
  - ‘Frontenac’
  - ‘Frontenac Gris’
  - ‘La Crescent’
  - ‘Marquette’
The University of Minnesota Grape Breeding Program

‘Frontenac’
The University of Minnesota Grape Breeding Program

- ‘Frontenac Gris’
The University of Minnesota Grape Breeding Program

- ‘La Crescent’
The University of Minnesota Grape Breeding Program

- 'Marquette'
Elmer Swenson (1913-2004)

- Dairy farmer from Osceola, Wisconsin
- Most interested in table grapes suitable for the upper Midwest
- Several of his grapes found favor with mid-western winemakers
Elmer Swenson
Breeding Program

'Edelweiss'
Elmer Swenson Breeding Program

‘Lacrosse’
Elmer Swenson Breeding Program

- ‘Saint Pepin’
Elmer Swenson Breeding Program

`‘Esprit’`
Elmer Swenson Breeding Program

- ‘Brianna’
Elmer Swenson Breeding Program

‘Saint Croix’
<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Mean Hardiness Rating*</th>
<th>Mean Bud Break Rating**</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brianna</td>
<td>9.00</td>
<td>n.a.</td>
<td>Intermediate bud break</td>
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<tr>
<td>Edelweiss</td>
<td>8.43</td>
<td>4.10</td>
<td>Sometimes hurt by late freeze</td>
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<tr>
<td>Frontenac</td>
<td>8.66</td>
<td>2.80</td>
<td></td>
</tr>
<tr>
<td>La Crescent</td>
<td>7.95</td>
<td>3.65</td>
<td></td>
</tr>
<tr>
<td>Marquette</td>
<td>7.60</td>
<td>5.15</td>
<td></td>
</tr>
<tr>
<td>Lacrosse</td>
<td>8.33</td>
<td>3.60</td>
<td></td>
</tr>
<tr>
<td>Marechal Foch***</td>
<td>6.98</td>
<td>5.90</td>
<td>Late frost susceptible</td>
</tr>
<tr>
<td>Saint Croix</td>
<td>8.71</td>
<td>3.95</td>
<td></td>
</tr>
</tbody>
</table>

*Ratings: 1 to 9, with 1 = dead and 9 = all buds alive and breaking. Averaged over four locations and three years.

** Ratings: 1 to 6, with 1 = tight buds, 6 = buds open and shoots beginning to elongate.

*** Marechal Foch is included for comparison with University of Minnesota and Swenson cultivars.