

Producing Cold-Hardy Grapes In The Upper Midwest

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<http://agronomy.unl.edu/viticulture>



AGRONOMY AND HORTICULTURE

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Stressful Climatic Conditions



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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'



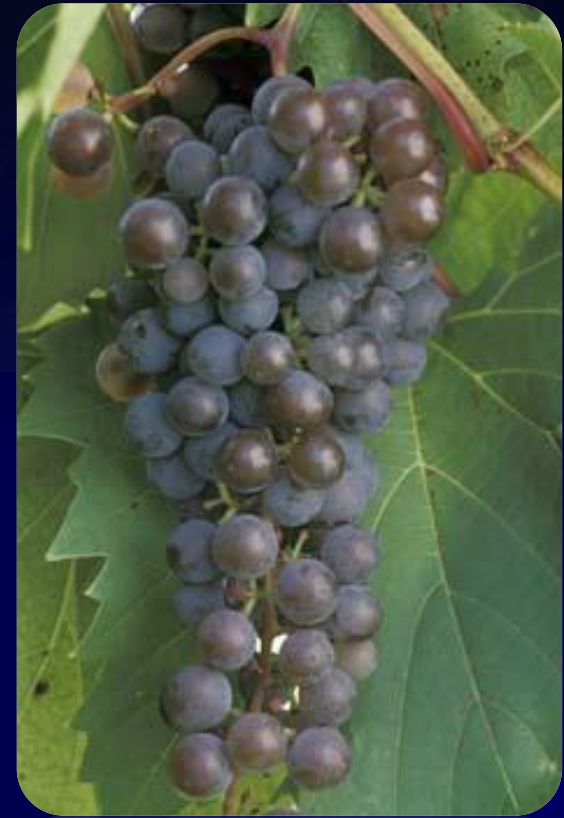
The University of Minnesota Grape Breeding Program

- '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 Breeding Program

- 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 1. Example Ratings of Mean Hardiness and Spring Bud Break

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

*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.



Cheers!!!



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