

# Oregon Wine Advisory Board Research Progress Report

1991 - 1992

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## Evaluation of New Wine Grape Cultivars for Production Potential in Southern Oregon

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### Funding History:

Year Initiated: 1988-1989    Funding for 1991-1992: 750

### Significant Findings:

Establishment of the experimental vineyard is near completion, despite the setback due to the freeze of December 1990. Following evaluation of the freeze damage by cultivar (Tables I and 2), damaged portions were removed from the plants and in many cases new trunks were selected and trained to posts. All cultivars recovered from the freeze and produced vigorous shoots in 1991. Most trunks produced side shoots among which two were selected and trained on a horizontal wire. These shoots will be cut in winter 1992 and will produce fruiting canes for the 1993 crop.

### Objective:

The immediate objective of this project is to establish a vineyard at the Southern Oregon Experiment Station in which previously untested wine grape cultivars will be evaluated. The ultimate goal is to characterize the production and wine quality potential of these cultivars in southern Oregon.

**Methods:**

In the first year of the project a list of desired cultivars was established and sources identified. Cuttings were collected from virus-tested material and propagated in a greenhouse. The trial includes 17 candidate cultivars plus 2 standards (Chardonnay and Cabernet Sauvignon). The vineyard was planted in spring 1989 at the Southern Oregon Experiment Station. A drip irrigation system was installed. Upon maturity, performance will be evaluated based on: budbreak and bloom dates, soluble solids and titratable acidity, yield, cluster weight, and disease incidence. Wine characteristics and quality will be evaluated by collaborators in the Department of Food Science and Technology.

**Table 1. Temperatures recorded at the Southern Oregon Experiment Station during late December, 1990.**

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<u>Date</u>	<u>°F</u>		<u>°C</u>	
	<u>Max</u>	<u>Min</u>	<u>Max</u>	<u>Min</u>
Dec 15	45	35	7.2	1.7
16	40	36	4.4	2.2
17	41	33	5.0	0.6
18	50	33	10.0	0.6
19	34	23	1.1	-5.0
20	25	10	-3.9	-12.2
21	17	-6	-8.3	-21.1
22	27	-1	-2.8	-18.3
23	35	9	1.7	-12.8
24	36	13	2.2	-10.5
25	41	15	5.0	-9.4
26	47	24	8.3	-4.4
27	32	23	0.0	-5.0
28	40	27	4.4	-2.8
29	38	19	3.3	-7.2
30	41	15	5.0	-9.4
31	43	16	6.1	-8.9

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Table 2. Injury to grapevines at the Southern Oregon Experiment Station following freezing temperatures during December, 1990.

<u>Cultivar</u>	<u>Mean Injury Rating</u> <sup>1,2</sup>	
Tempranillo	1.28	a
Shiraz (Syrah)	1.62	ab
Sangiovese	1.72	ab
Dolcetto	1.92	abc
Viognier	2.12	abcd
Graciato (Morastel)	2.50	bcde
Refosco	2.64	bcde
Cabernet Sauvignon	2.84	cdef
Nebbiolo	3.00	def
Nebbiolo Fino	3.04	def
Petite Verdot	3.22	efg
Pinot Blanc	3.26	efg
Limberger	3.28	efg
Nebbiolo Lampia	3.52	efg
Cabernet Franc	3.76	fg
Gamay Noir	3.84	fg
Pinot Gris	3.90	fg
Fresia	3.90	fg
Chardonnay	4.12	g

<sup>1</sup> Grapevines were evaluated on May 13, 1991 using the following rating system:

- 0 = no live buds
- 1 = buds sprouting at trunk base, trunk cambium brown
- 2 = buds sprouting at trunk base, trunk cambium green
- 3 = secondary buds sprouting on upper trunk
- 4 = primary buds sprouting on upper trunk (1-10 buds)
- 5 = primary buds sprouting on upper trunk (>10 buds)

<sup>2</sup> Values represent means of mean ratings of 5 replicate groups of 5 plants each for each cultivar. Values followed by the same small letter are not significantly different (Duncan's,  $p=0.05$ ).