

Oregon Wine Advisory Board Research Progress Report

1994 - 1995

Chardonnay Clonal Trial

Steve Price and Barney Watson
Departments of Horticulture and Food Science and Technology

The Chardonnay clonal trial was harvested on September 29th this year at the end of a week of unusually hot and dry weather. Most of the vines had been pruned to 20 nodes per vine but crop load was light due to small clusters. Yields ranged from less than 0.5 tons/acre to 1.95 tons/acre. As was seen last year, clones UCD 4 and UCD 5 had the highest cluster weights and UCD 4 had the highest yields in the trial. Clone UCD 16 had serious problems with the lowest clusters per vine and the lowest cluster weights. This is a very distinct clone, easily identified by its unusual leaf dentation pattern. The Dijon clones and ESP 352 had low cluster weights and yields with the exception of DJN 75 which had higher yields.

Cluster weights of the Dijon clones in this trial were low for Oregon Chardonnay. Interestingly the cluster weights and yields of Chardonnay clones DJN 76, 78, and 96 were equal to the cluster weights of the Pinot noir clones DJN 113, 114, and 115 in the same trial, grown under similar management conditions, and harvest of the Chardonnay clones this year was only two days later than the Pinot noir clonal trial (Table 1).

Table 1 Yield component and berry composition of ten Chardonnay clones, Woodhall Vineyard, Alpine, Oregon, 1994.

	YIELD (kg/v)	YIELD (tons/acre)	CLUSTERS /VINE	CLUSTER WEIGHT (g)
UCD 4	2.19	1.95	27.9	78.0
UCD 5	1.95	1.73	23.5	81.2
UCD 6	2.13	1.90	33.9	62.7
UCD 14	1.27	1.13	16.0	73.9
UCD 16	0.40	0.35	10.5	37.9
ESP 352	2.05	1.82	36.2	56.0
DJN 75	2.03	1.80	29.8	68.1
DNJ 76	1.61	1.44	28.7	54.6
DJN 78	1.40	1.24	27.5	50.0
DJN 96	1.48	1.32	26.6	55.2

Experimental wines were produced from nine of the twelve clones. Three clones had insufficient fruit

for processing. Wine lot volumes produced ranged from as little as 2.75 to 4.75 gallons. Degrees Brix in the must at pressing ranged from 23.5 to 24.6 with titratable acidities (TA) from 4.9 to 6.65 g/L and pH's from 3.11 to 3.29. Malic acid concentration in the must ranged from 0.95 to 1.44 g/L. UCD 4, and 5 (commonly referred to as 108) had lower Brix, higher TA, greater malate content, and lower must pH than the Dijon clones which appeared to be more advanced in maturity as we saw last year but the differences were less than 1993 (Table 2). New wines ranged from 13.8 to 15.0% alcohol with TA's from 5.15 to 6.90 g/L, and pffs from 3.07 to 3.40. Dijon clones 75 and 96 had the lowest TA's and UCDE 4, 5, and Esp 352 the highest. Total phenols in new wines were similar for all clones (Table 2).

Table 2

**1994 Chardonnay Clonal Trial
Must and Wine Analysis
Woodhall Vineyard, Alpine, OR
Harvest Date September 29**

Must				
Clone	°Brix	g/L TA	pH	g/L MAL
UCD4	23.8	6.10	3.11	1.41
UCD5	23.5	6.0	3.15	1.26
UCD6	23.6	6.65	3.16	1.32
UCD14	24.4	4.90	3.20	1.06
DJN75	24.4	5.3	3.24	1.20
DJN76	24.6	5.25	3.20	1.22
DJN78	24.6	5.05	3.25	1.13
DJN96	24.1	4.50	3.29	0.95
ESP352	24.0	6.10	3.16	1.44

Wine					
Clone	Alc. %	g/L TA	pH	%R.S.	mg/L Phenols
UCD4	14.6	6.95	3.30	0.43	189
UCD5	14.1	6.90	3.29	0.38	167
UCD6	13.9	6.10	3.07	0.76	156
UCD14	14.8	5.15	3.11	0.52	185
DJN75	14.8	5.55	3.02	0.45	179
DJN76	15.0	6.40	3.32	0.49	166
DJN78	14.1	6.30	3.32	0.37	185
DJN96	15.0	5.50	3.40	0.43	174
ESP352	14.6	6.90	3.29	0.53	163

Chardonnay in Oregon is generally thought of as later ripening variety than Pinot noir and it is generally cropped at high levels. As use of the Dijon clones becomes more common, this relationship may change. Management of Chardonnay may need to change to reflect the lower crop loads and earlier maturity these clones apparently offer.

