

# Crushing and pressing white grapes

UNLIKE red grapes, the skins and seeds of white grapes play almost no positive role in the production of quality white wine. In fact, if the skins and seeds are not removed quickly and gently there can be negative quality issues.

Crushing of the berries is the first procedure in the winemaking process. The aim is to break open individual berries to release the juice without damaging the seeds or excessively damaging the skin.

Grape skins and seeds contain phenols which impart bitter and phenolic flavours to the juice as well as precursors which can cause excessive oxidative browning of the juice. This in turn, reduces the varietal aromas and flavours of the juice and resulting wine.

## Processing a priority

Orlando Wyndham winemakers ensure white grapes are crushed as soon as they arrive at the winery.

The crusher/destemmer unit at Rowland Flat consists of rubber fingers attached to a central rotating spindle inside a perforated cylindrical cage. The grapes are gently pushed through the holes in the cylinder by these fingers, while the larger stalks are carried out the end of the cylinder. The berries then pass through adjustable grooved rollers set so that the grapes are crushed without breaking the seeds or grinding the skins.

These crushed grapes, or must, are then gently pumped to the press via an ultracooler. The must is chilled to approximately 10°C to reduce the rate of oxidation of phenolics which causes browning.

Orlando Wyndham uses tank presses to extract the juice from the skins and seeds (called marc). These presses drain and press the juice in a pressure vessel fitted with internal drainage channels with pressure being applied by an inflatable membrane attached to the internal wall.

The majority of the juice will actually drain from the press without the need for pressure to be applied. This is known as free-run juice, and is of the best quality.

Depending on the variety, region the fruit was grown in, seasonal variations etc. this would constitute about 70p.c. - 75p.c. of the total volume of juice able to be extracted from the grapes.

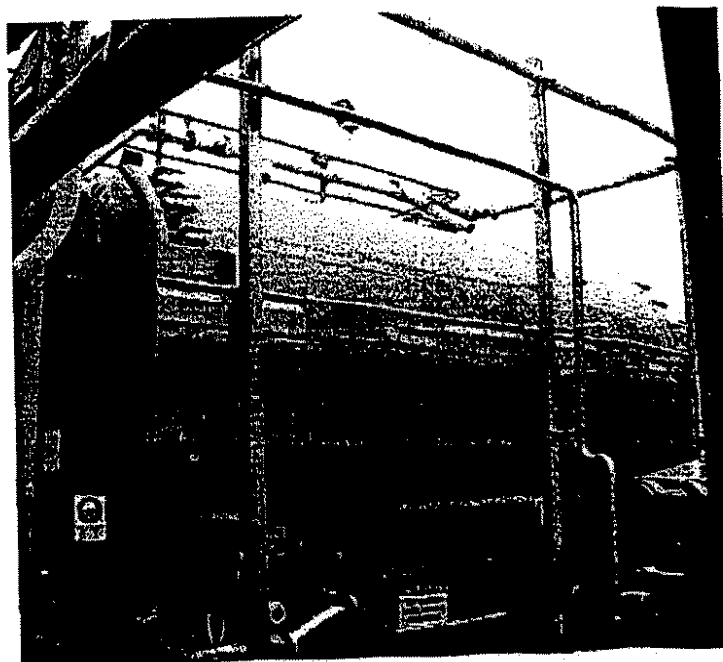
To remove the remaining juice, pressure needs to be applied. Because of this, phenolics are extracted from the skins giving the juice a brown colour and a bitter flavour.

## Improved technology

This resulting juice is of lesser quality and hence used in a lesser product. However, modern tank presses are able to press juice quite gently compared with presses used decades ago (such as continuous screw presses) and the quality of our pressings juice and the wines made from them are correspondingly much higher today.

The good design features of modern crushers destemmers, drainers and presses share one important feature, which is to treat the fruit gently thus giving the winemaker more control over phenolic extraction.

This article was contributed by Senior White Winemaker, Tony Hooper



A Bucher tank press used by Orlando Wyndham.

## Recent appointments

THE BARMERA office has a new face - Lara Weeks has commenced work as Administration Assistant on a permanent part-time basis.

Geoffrey Bray has replaced Elle McLachlan as the Grower Liaison Officer - Riverina/Victoria, and is based in Griffith.

Rachel Reid commenced work as a Viticulturist for Orlando Wyndham in August. She is based at Ramco Vineyards at Waikerie and will provide technical advice at Ramco as well as to growers in Waikerie and Blanchetown.



Lara Weeks



Geoffrey Bray

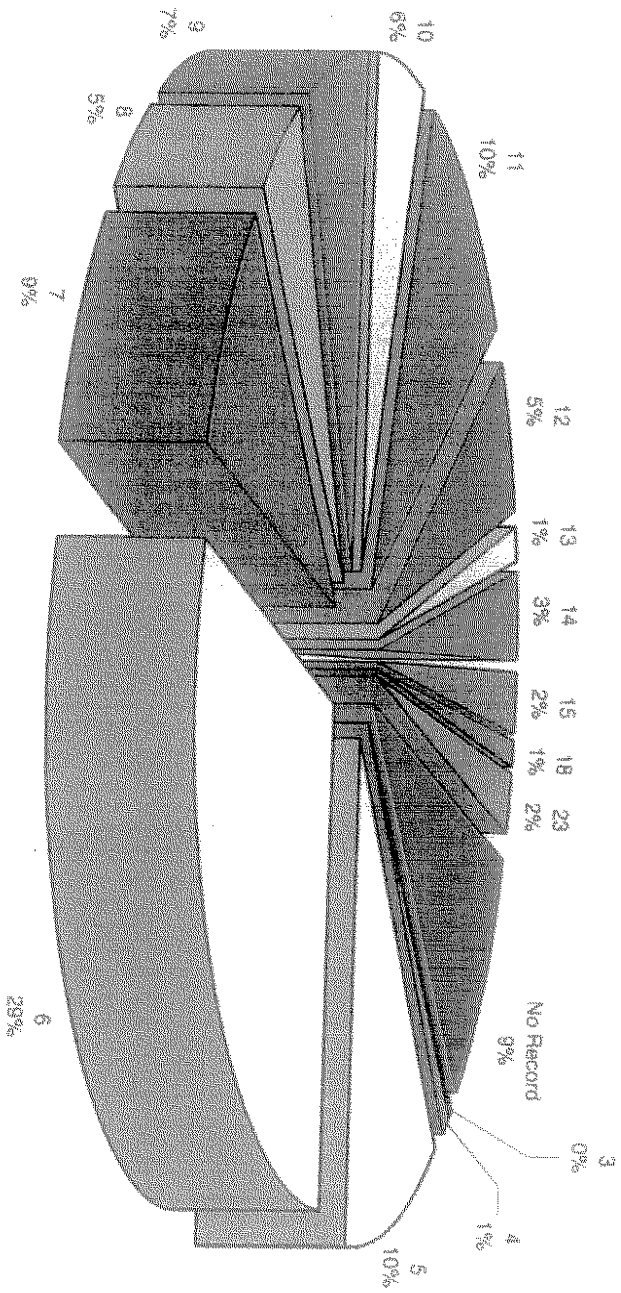


Rachel Reid

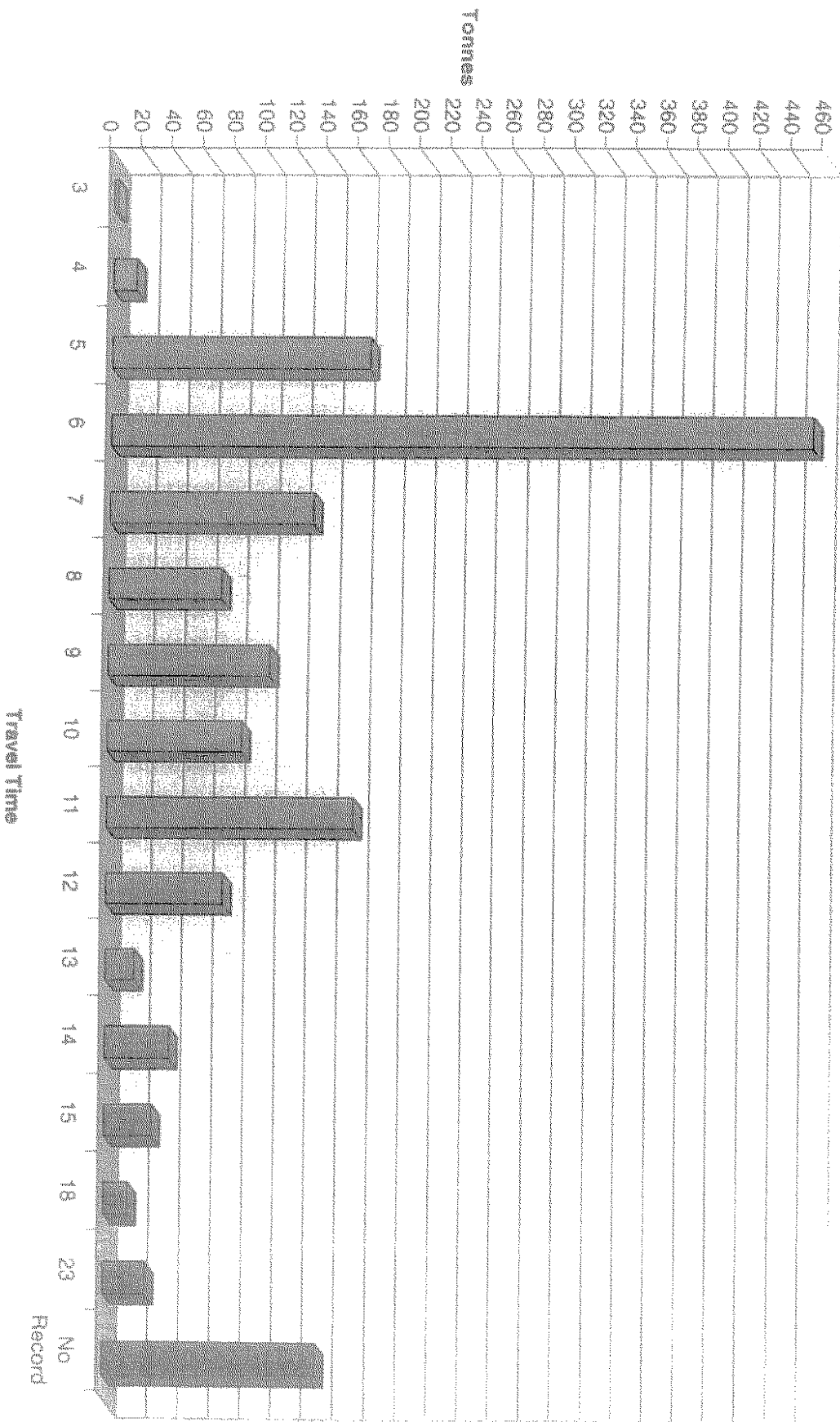


Vintage 1999 - % Crop effected by Travel

NB: Harvest & Loading Times at Vineyard Not Included  
(Add 1 to 1.5 Hours)



**Vintage 1999 - Yield Affected by Travel Time**  
 NB: Harvest & Loading Times at Vineyard Not Included (Add 1 to 1.5 Hours)



### Vintage 1999 Travel Time Data

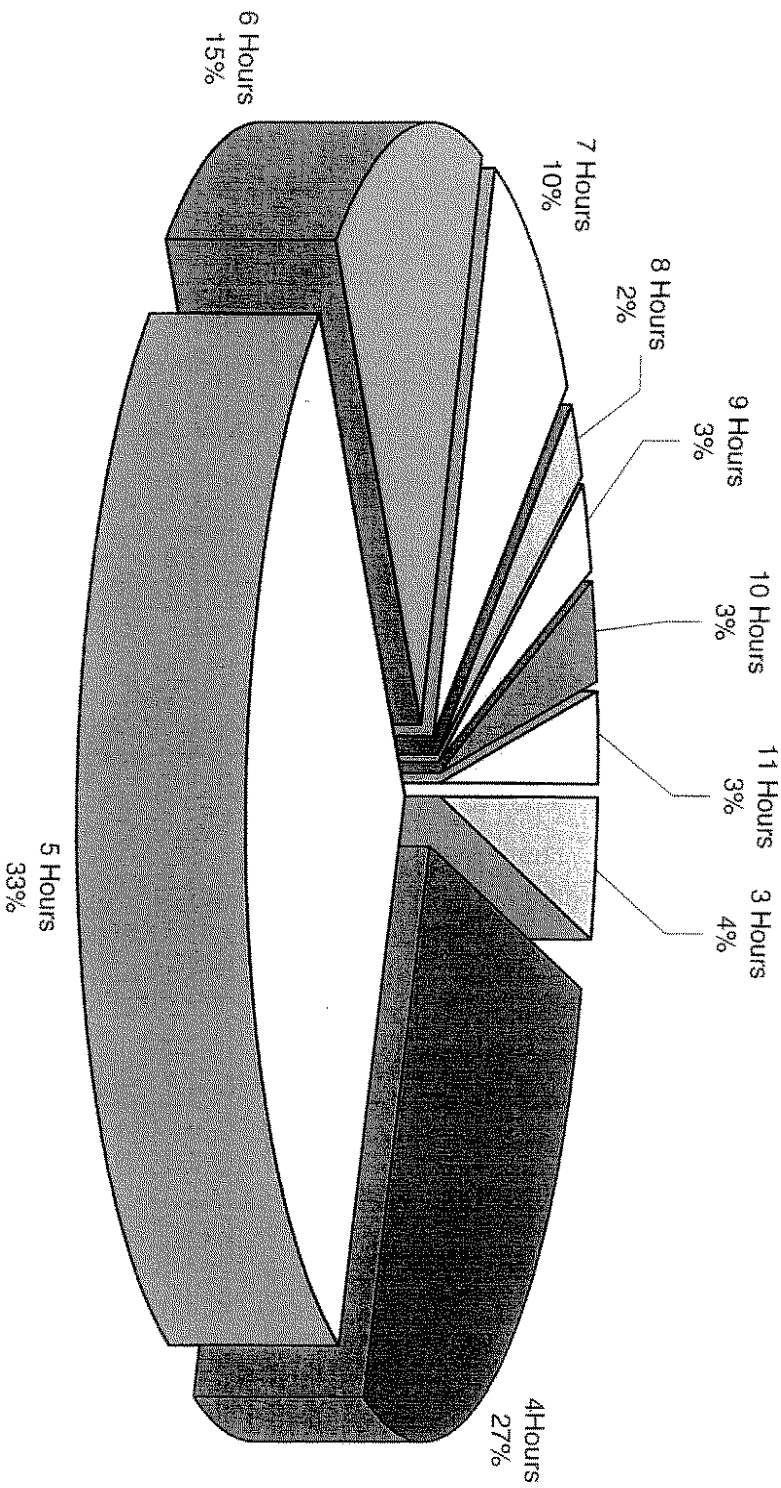
Block	GVS Date	GVS Ref	Time Loaded	Depart. Vineyard	Block	O.W Date	O.W Ref/Delivery Auth.	Depart. Time	Weight (Tonnes)	Time Travel (Hours)
93G					93G	16-Feb-99	17561	10:07	2.00	
93G	27-Feb-99	66	22:30	12:15	93G	27-Feb-99	18141	4:19	26.31	5:49
93G	3-Mar-99	89	21:28	10:00	93G	4-Mar-00	18013	1:24	14.90	3:56
93G	4-Mar-99	91	10:15	3:00	93G	4-Mar-00	18015	19:24	5.67	9:09
K	16-Feb-99	10	23:45	3:00	K	16-Feb-99	17556	10:04	2.76	10:20
K	17-Feb-99	11	23:15	0:15	K	17-Feb-99	17562	5:03	24.98	5:47
K	17-Feb-99	12	23:45	4:00	K	17-Feb-99	17563	9:16	24.88	9:30
K	17-Feb-99	13	6:50	8:15	K	17-Feb-99	17565	13:58	25.54	7:08
K	17-Feb-99	14	10:35	12:00	K	17-Feb-99	17566	17:11	24.77	6:36
K	18-Feb-99	15	23:10	0:45	K	18-Feb-99	17567	10:26	19.93	11:16
K	18-Feb-99	16	23:40	3:45	K	18-Feb-99	17570	12:03	22.82	12:23
K	19-Feb-99	19	20:00	1:15	K	19-Feb-99	17571	4:58	7.44	8:58
M	19-Feb-99	20	23:30	1:15	M	19-Feb-99	17572	5:21	17.29	5:51
M	19-Feb-99	21	3:00	4:10	M	19-Feb-99	17573	8:30	22.12	5:30
M	19-Feb-99	22	6:15	7:40	M	19-Feb-99	17574	14:49	24.52	8:34
M	19-Feb-99	23	9:25	11:00	M	19-Feb-99	17575	15:36	22.31	6:11
M	20-Feb-99	26	22:45	0:00	M	20-Feb-99	18203	4:00	24.58	5:15
M	20-Feb-99	30	23:45	2:45	M	20-Feb-99	18208	10:47	12.71	11:02
NEA	15-Feb-99	5	9:00	3:00	NEA	16-Feb-99	17555	10:01	2.26	1:01
NEA	23-Feb-99	56	5:40	6:45	NEA	23-Feb-99	18132	11:54	21.22	6:14
NEA	23-Feb-99	57	7:10	8:30	NEA	23-Feb-99	18133			#####
NEA	23-Feb-99	58	8:35	10:00	NEA	23-Feb-99	18134	14:36	23.41	6:01
NEA	2-Mar-99	83	2:30	2:30	NEA	2-Mar-99	18005	9:55	13.29	7:25
NEA	2-Mar-99	84	4:00	5:00	NEA	2-Mar-99	18006	11:19	20.62	7:19
NEA	2-Mar-99	85	5:49	8:45	NEA	2-Mar-99	18009	15:25	2.66	9:36
NEB	20-Feb-99	25	20:00	2:45	NEB	20-Feb-99	18207	11:06	2.03	15:06
NEB	23-Feb-99	59	9:00	10:00	NEB	23-Feb-99	18135	14:03	2.21	5:03
NEB	2-Mar-99	84	4:00	5:00	NEB	2-Mar-99	18007	12:06	2.67	8:06
NEB	2-Mar-99	85	5:49	8:45	NEB	2-Mar-99	18008	15:33	23.84	9:44
NEB	2-Mar-99	87	9:38		NEB	2-Mar-99	18011	23:54	27.02	14:16
NEB	2-Mar-99	88	9:51		NEB	2-Mar-99	18012	22:46	10.98	12:55
NEB	4-Mar-99	91	12:55	3:00	NEB	4-Mar-00	18014	19:43	21.70	6:48
NEB	4-Mar-99	92	2:47		NEB	4-Mar-00	18016	20:41	15.36	17:54
NEB					NEB	2-Mar-99	18010	22:41	27.10	22:41
NEC	15-Feb-99	4	20:30	3:00	NEC	16-Feb-99	17554	10:57	2.60	14:27
NEC	24-Feb-99	60	22:50	0:10	NEC	24-Feb-99	18136			#####
NEC	24-Feb-99	62	23:35	1:40	NEC	24-Feb-99	18137	10:26	25.69	10:51
NEC	24-Feb-99	63	2:30	3:30	NEC	24-Feb-99	18138	13:18	26.17	10:48
NEC	24-Feb-99	64	3:45	5:00	NEC	24-Feb-99	18139	14:41	22.85	10:56
NEC	24-Feb-99	65	5:10	6:35	NEC	24-Feb-99	18140			#####
PA	20-Feb-99	27	20:00	2:45	PA	20-Feb-99	18206	11:07	2.11	15:07
PA	23-Feb-99	49	22:00	2:30	PA	23-Feb-99	18128	8:36	2.27	10:36
PA	28-Feb-99	79	8:43	9:15	PA	28-Feb-99	18150	14:36	26.85	5:53
PA	28-Feb-99	80	10:22		PA	28-Feb-99	18001	18:40	27.58	8:18
PA	1-Mar-99	81	21:45	23:45	PA	2-Mar-99	18002	2:53	26.64	5:08
PA	1-Mar-99	82	23:18	0:30	PA	2-Mar-99	18003	4:47	26.67	5:29
PA	2-Mar-99	83	1:40	2:30	PA	2-Mar-99	18004	9:26	13.79	7:46
PA	5-Mar-99	93	12:33	2:00	PA	5-Mar-00	18017	18:48	21.87	6:15
PB	18-Feb-99	17	20:00	0:45	PB	18-Feb-99	17568	9:39	2.19	13:39
PB	23-Feb-99	50	22:00	2:30	PB	23-Feb-99	18129	8:38	2.03	10:38
PB	28-Feb-99	70	2:25	3:35	PB	27-Feb-99	18144	7:15	7.97	4:50
PB	27-Feb-99	71	4:10	5:05	PB	27-Feb-99	18145	18:25	26.32	14:15
PB	28-Feb-99	74	1:32	1:56	PB	28-Feb-99	18146	6:05	26.75	4:33
PB	28-Feb-99	75	3:08	3:10	PB	28-Feb-99	18147	8:10	25.63	5:02
PB	28-Feb-99	76	5:00	5:40	PB	28-Feb-99	18148	10:46	26.00	5:46
PB	28-Feb-99	77	6:45	7:05	PB	28-Feb-99	18149	12:31	25.82	5:46
PB	15-Feb-99	8	22:30	3:00	PB	16-Feb-99	17558	11:11	2.44	12:41
PC	18-Feb-99	18	20:00	0:45	PC	18-Feb-99	17569	9:43	1.89	13:43
PC	20-Feb-99	29	23:45	1:15	PC	20-Feb-99	18204	6:08	24.23	6:22
PC	20-Feb-99	31	0:40	2:45	PC	20-Feb-99	18205	11:02	4.82	10:22
PC	20-Feb-99	32	2:35	4:00	PC	20-Feb-99	18209	14:07	24.76	11:32

### Vintage 1999 Travel Time Data

Block	GVS Date	GVS Ref	Time Loaded	Depart. Vineyard	Block	O.W Date	O.W Ref/Delivery Auth.	Depart. Time	Wieght (Tonnes)	Time Travel (Hours)
PC	20-Feb-99	33	4:00	5:30	PC	20-Feb-99	18210	14:48	22.39	10:48
PC	20-Feb-99	33	5:20	8:00	PC	20-Feb-99	18211	13:49	24.25	8:29
PC	27-Feb-99	57	23:45	1:55	PC	27-Feb-99	18142	5:50	25.66	6:05
PC	27-Feb-99	69	1:55	3:35	PC	27-Feb-99	18143	7:42	18.06	5:47
PC	15-Feb-99	9	23:20	3:00	PC	16-Feb-99	17559	11:05	2.36	11:45
RA	20-Feb-99	28	21:00	2:45	RA	20-Feb-99	18202	11:04	2.33	13:04
RA	20-Feb-99	34	20:50	22:00	RA	21-Feb-99	18212	3:00	25.27	6:10
RA	21-Feb-99	35	22:35		RA	21-Feb-99	18213	4:00	25.75	5:25
RA	21-Feb-99	36	23:45	1:30	RA	21-Feb-99	18214	11:02	22.28	11:17
RA	21-Feb-99	37	23:55	2:30	RA	21-Feb-99	18215	10:00	25.18	10:05
RA	21-Feb-99	39	4:30	6:10	RA	21-Feb-99	18217	13:10	22.43	8:40
RA	15-Feb-99	7	22:00	3:00	RA	16-Feb-99	17557	8:55	2.78	10:55
RB	21-Feb-99	40	4:30	6:00	RB	21-Feb-99	18218	14:03	2.53	9:33
RB	21-Feb-99	41	23:55	0:55	RB	22-Feb-99	18219			#####
RB	22-Feb-99	42	23:55	1:20	RB	22-Feb-99	18220			#####
RB	22-Feb-99	43	2:05	3:15	RB	22-Feb-99	18221	9:18	25.66	7:13
RB	22-Feb-99	44	4:00	5:20	RB	22-Feb-99	18222	9:47	25.11	5:47
RB	22-Feb-99	45	6:05	7:30	RB	22-Feb-99	18223	12:26	20.50	6:21
RB	15-Feb-99	6	21:30	3:00	RB	16-Feb-99	17560	10:51	2.82	13:21
RC	19-Feb-99	24	9:25	11:00	RC	19-Feb-99	18201	15:38	2.03	6:13
RC	15-Feb-99	3	20:00	3:00	RC	16-Feb-99	17553	10:14	2.46	14:14
RC	21-Feb-99	38	3:00	4:00	RC	21-Feb-99	18216	11:06	23.31	8:06
RC	22-Feb-99	46	6:00	7:30	RC	22-Feb-99	18224	12:22	4.92	6:22
RC	22-Feb-99	47	8:15	9:30	RC	22-Feb-99	18225	14:37	24.68	6:22
RC	22-Feb-99	52	23:30	12:45	RC	23-Feb-99	18126			#####
RC	23-Feb-99	53	23:30	2:30	RC	23-Feb-99	18127	8:24	20.29	8:54
RC	23-Feb-99	54	3:20	4:35	RC	23-Feb-99	18130	9:15	26.04	5:55
RC	23-Feb-99	55	3:50	6:45	RC	23-Feb-99	18131	11:57	5.36	8:07
SB	8-Feb-99	1	23:30	7:15	SB	8-Feb-99	17551	11:05	25.34	11:35
SB	8-Feb-99	2	22:00	9:50	SB	8-Feb-99	17552	12:26	5.30	14:26

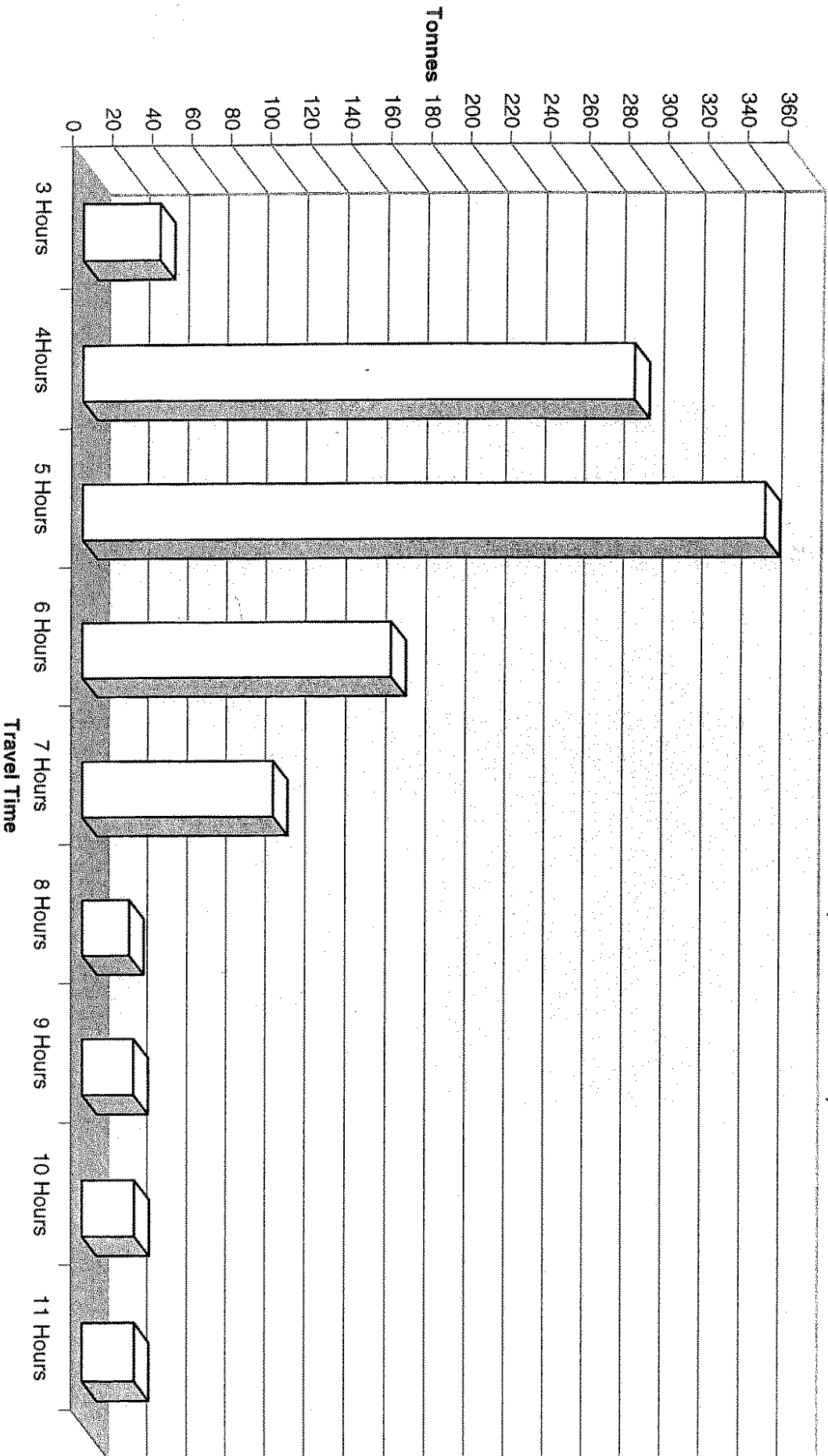
Vintage 2000 - % Crop effected by Travel

NB: Harvest & Loading Times at Vineyard Not Included  
(Add 1 to 1.5 Hours)



**Vintage 2000 - Yield Affected by Travel Time**

**NB: Harvest & Loading Times at Vineyard Not Included (Add 1 to 1.5 Hours)**



## Vintage 2000 Travel Time Data

Block	Globe Date	Depart. Vineyard	Block	O.W Date	O.W Ref	Issued Time	Depart. Time	Weight (Tonnes)	Travel Time (Hours)
88 Grafts	2/19/00	3:55	88 Grafts	2/19/00	28785	6:38	7:50	7.97	3:55
93 Grafts	2/19/00	3:55	93 Grafts	2/19/00	28786	6:42	8:02	18.12	4:07
93 Grafts	2/19/00	9:50	93 Grafts	2/19/00	28790	12:18	13:40	10.48	3:50
93 Grafts	3/3/00	5:30	93 Grafts	3/3/00	28793	9:33	9:52	28.34	4:22
Ken	2/11/00	6:35	Ken	2/11/00	28747	11:13	11:44	26.14	5:09
Ken	2/11/00	14:30	Ken	2/11/00	28748	17:34	18:39	26.41	4:09
Ken	2/12/00	3:00	Ken	2/12/00	28749	7:16	9:44	25.34	6:44
Ken	2/12/00	6:30	Ken	2/12/00	28750	10:19	12:59	5.15	6:29
Marie	2/12/00	6:30	Marie	2/12/00	28751	11:08	13:04	21.25	6:34
Marie	2/12/00	9:40	Marie	2/12/00	28752	13:09	14:31	25.72	4:51
Marie	2/12/00	13:30	Marie	2/12/00	28753	17:30	19:12	21.86	5:42
New Eng A	2/16/00	13:00	New Eng A	2/16/00	28768	15:33	16:48	26.33	3:48
New Eng A	2/17/00	0:15	New Eng A	2/17/00	28769	2:04	5:08	26.14	4:53
New Eng A	2/17/00	1:35	New Eng A	2/17/00	28770	5:00	6:20	26.16	4:45
New Eng B	2/17/00	6:20	New Eng B	2/17/00	28773	9:05	11:32	7.89	5:12
New Eng B	2/17/00	11:00	New Eng B	2/17/00	28774	14:11	15:39	27.59	4:39
New Eng B	2/17/00	22:55	New Eng B	2/18/00	28775	2:35	3:19	27.63	5:31
New Eng B	2/18/00	0:36	New Eng B	2/18/00	28776	4:05	4:49	27.25	4:14
New Eng C	2/17/00	4:15	New Eng C	2/17/00	28771	7:42	10:10	23.45	5:55
New Eng C	2/17/00	6:20	New Eng C	2/17/00	28772	11:40	11:43	12.89	5:23
New Eng C	2/18/00	5:45	New Eng C	2/18/00	28779	9:13	10:17	16.21	4:32
Pines A	2/12/00	13:03	Pines A	2/12/00	28755	17:00	17:09	2.49	4:08
Pines A	2/13/00	20:00	Pines A	2/13/00	28756	23:00	1:00	26.68	5:00
Pines A	2/13/00	22:35	Pines A	2/14/00	28757	1:05	4:05	26.78	5:30
Pines A	2/13/00	23:58	Pines A	2/14/00	28758	2:05	5:05	25.84	5:07
Pines A	2/15/00	1:00	Pines A	2/15/00	28759	11:07	11:59	5.23	10:59
Pines B	2/15/00	10:30	Pines B	2/15/00	28764	13:18	17:57	27.30	7:27
Pines B	2/16/00	2:00	Pines B	2/16/00	28765	5:28	7:46	26.31	5:46
Pines B	2/16/00	4:30	Pines B	2/16/00	28766	7:38	8:44	25.26	4:14
Pines B	2/16/00	6:30	Pines B	2/16/00	28767	9:58	11:40	22.56	5:10
Pines C	2/12/00	13:30	Pines C	2/12/00	28754	17:17	17:57	2.97	4:27
Pines C	2/15/00	1:00	Pines C	2/15/00	28760	5:44	11:56	21.24	10:56
Pines C	2/15/00	4:05	Pines C	2/15/00	28761	7:23	13:38	26.57	9:31
Pines C	2/15/00	6:25	Pines C	2/15/00	28762	9:50	14:58	26.04	8:33
Pines C	2/15/00	8:05	Pines C	2/15/00	28763	11:24	16:30	23.74	8:25
Raph A	2/19/00	6:30	Raph A	2/19/00	28788	9:48	11:02	25.52	4:32
Raph A	2/19/00	8:20	Raph A	2/19/00	28789	11:21	12:29	23.68	4:09
Raph A	2/19/00	9:50	Raph A	2/19/00	28791	13:26	13:42	16.55	3:52
Raph A	2/19/00	10:50	Raph A	2/19/00	28792	13:13	14:08	25.70	3:18
Raph A	3/3/00	5:30	Raph A	3/3/00	28794	9:17	9:27	2.59	3:57
Raph B	2/18/00	10:00	Raph B	2/18/00	28782	13:07	15:38	24.32	5:38
Raph B	2/18/00	23:30	Raph B	2/19/00	28783	1:56	4:05	26.82	4:35
Raph B	2/19/00	1:45	Raph B	2/19/00	28784	4:41	5:53	25.90	4:08
Raph B	2/19/00	4:30	Raph B	2/19/00	28787	7:24	9:25	25.42	4:55
Raph C	2/18/00	1:45	Raph C	2/18/00	28777	5:26	8:55	22.98	7:10
Raph C	2/18/00	5:45	Raph C	2/18/00	28778	9:27	10:13	10.24	4:28
Raph C	2/18/00	9:10	Raph C	2/18/00	28780	12:00	13:20	23.83	4:10
Raph C	2/18/00	9:35	Raph C	2/18/00	28781	12:36	14:09	23.28	4:34
Sav Blanc	2/7/00	9:30	Sav Blanc	2/7/00	28746	11:51	12:01	12.90	2:31