

Tyntesfield Trunk Circumferences 2005

Measurements on every 5th row (mm)

\\.\Data\vine trunk circum and canes.xls

\\.\Data\vine trunk circum.xls

Row	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160
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Boundaries for colour coding

(mm)	From	to
	70	129
	130	147
	148	180

Quartile Ranges (mm)

129	First quartile
139	Median Value
147	Third Quartile
180	Maximum Value

Count	140	140	141	141	142	141	143	143	144	144	145	145	146	146	147
Max	163	163	171	165	167	170	180	169	162	166	164	162	165	162	150
Min	0	98	84	90											

Stembridge Trunk Cirumferences 2005

Measurements on every 5th row (mm)

\\Data\vine trunk circum and canes.xls

\\Data\vine trunk circum.xls

Row #	1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90																					
136																																								
135																				63																				
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128																	36	68	60																					
127																		62	69	75																				
126																			69	60																				
125																			61	73	81																			
124																			67	57	62	62																		
123																			58	61	66	75																		
122																				68	61	66																		
121																				71	58	62	70																	
120																				49	70	75	58	69																
119																				51	54	56	75	66																
118																					62	68	72	75																
117																					56	60	64	75	78															
116																					50	70	73	63	57	72														
115																					72	62	76	57	72	70														
114																						65	63	59	67	63														
113																						60	72	69	66	61	62													
112																						54	66	72	73	67	63	64												
111																						60	64	58	58	51	70	57												
110																							52	68	64	64	78	56												
109																							67	75	78	75	64	61	62											
108																							32	67	72	76	82	65	74	74										
107																							75	62	53	73	82	62	90	57										
106																								79	69	74	80	65	80	20										
105																								79	73	75	71	68	51	82	66									
104																								62	69	59	76	84	67	73	70	52								
103																								68	72	72	71	70	73	67	71	68								
102																									83	63	97	83	66	75	86	66								
101																									79	69	71	52	72	72	88	98	67							
100																									76	65	84	104	80	97	105	87	78							
99																									69	70	101	96	95	107	112	88	90							
98																									68	75	87	115	96	125	105	110	106	89						
97																									58	102	96	100	93	87	119	109	77	95						
96																									71	19	119	108	133	107	102	101	110	77						
95																									96	101	103	112	119	117	110	88	105	95						
94																									59	129	117	119	96	105	109	107	102	86						
93																									108	110	122	113	109	110	109	107	102	78						
92																									0	77	123	135	122	133	104		113	109	82					
91																									109	90	75	124	98	103	126		112	100	75					
90																									103	128	142	126	77	118	132		73	87	71					
89																									25	123	122	108	79	83	122		113	76	77					
88																									116	121	101	97	76	82	72		120	94	85					
87																									90	121	89	95	68	67	53		120	90	86					
86																									84	104	94	78	98	80	66	54		124	100	98				
85																									120	93	92	77	94	84	61	47		110	107	84				
84																									107	88	95	76	80	100	58	50		134	112	75				
83																									89	77	92	88	80	109	73	64		115	122	90				
82																									78	90	81	92	80	92	76	78		101	130	87				
81																									87	85	86	90	90	85	98	86	69		84	116	115			
80																									92	95	91	81	78	79	105	87	68		55	116	108			
79																									94	96	82	97	88	86	111	78	75	73	53	105	128			
78																									102	102	96	85	75	88	98	74	81	85	94	81	110			
77																									86	104	101	93	102	98	100	110	79	81	89	75	68	139		
76																									64	98	108	81	78	98	75	113	79	70	80	56	57	110		
75																									107	102	94	87	103	109	99	109	70	71	88	56	49	85		
74																									98	100	98	95	118	94	89	115	74	78	83	75	58	98		
73																									101	104	100	100	96	87	94	98	104	53	77	86	61	60	80	
72																									99	105	64	88	105	93	79	101	113	86	84	97	79	55	110	
71																									103	116	99	99	87	80	97	94	108	73	75	93	75	82	100	
70																									101	106	109	88	109	103	102	100	125	81	87	84	80	78	66	
69																									89	114	107	101	93	96	83	87	121	102	72	87	79	77	111	
68																									84	100	116	111	101	105	102	104	106	133	85	72	82	72	97	106
67																									82	105	109	118	96	85	108	88	103	132	90	84	82	105	92	105
66																									93	111	109	104	113	93	105	92	100	123	81	83	91	78	85	108
65																									95	92	120	96	95	107	105	108	103	132	83	89	78	66	80	101
64																									83	96	103	111	105	98	107	111	115	118	86	80	78	96	85	102
63																																								

MFV Soil Test Results

Tyntesfield

Analysis	Optimal Range	Pit 1			Pit 2			Pit 3			Pit 4		
		0-25cm	25-73cm	73-100cm	0-25cm	25-50cm	50-105cm	0-20cm	20-50cm	50-100cm	0-30cm	30-55cm	55-95cm
pH	5.8-6.2	5.6	5.9	5.5	6.2	5.6	5.7	6.5	5.6	5.4	6.8	5.8	5.8
P (Olsen)	15-40 mg/L	13	14	16	16	31	20	14	21	27	16	16	18
K	0.4-0.8 me/100g	0.39	0.17	0.29	0.43	0.24	0.13	0.33	0.18	0.13	0.35	0.25	0.18
Ca	6-12 me/100g	5.1	2.8	3.5	7.1	3	0.8	11.6	4	1	12.9	6.7	3.9
Mg	1-3 me/100g	1.45	0.97	1.61	2.03	1.1	0.39	1.48	1	0.47	2.19	2.35	2.08
Na	0-0.4 me/100g	0.11	0.12	0.14	0.21	0.26	0.16	0.22	0.32	0.17	0.22	0.22	0.2
CEC	12-25me/100g	13	8	14	15	13	6	17	13	8	18	14	11
Base Saturation	50-80%	55	49	41	65	36	25	82	44	22	89	68	61
Volume Weight	0.6-1.0g/ml	1.10	1.31	1.07	1.03	1.02	1.38	1.02	1.04	1.25	1.07	1.12	1.21
Soluble Salts (field)	0.05-0.3%	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Organic Matter	7-17%	4.2	1	1.9	4.2	2.9	1.4	5.1	3.3	2.4	4.7	2.1	1.5
Total Soluble Salts	mg/L	224	99	92	145	125	99	198	205	132	257	284	191
Saturated pastes													
Nitrate-N	mg/L	12	2	2	9	3	2	6	4	< 1	5	4	3
Ammonium-N	mg/L	3	3	3	3	3	2	3	3	3	4	4	3
Phosphorus	mg/L	1	< 1	< 1	1	1	< 1	1	1	< 1	1	1	< 1
Potassium	mg/L	8	2	< 1	< 1	< 1	2	6	< 1	2	3	3	1
Calcium	mg/L	37	8	8	19	9	3	36	19	8	45	36	20
Magnesium	mg/L	11	4	3	8	5	1	7	5	2	9	11	9
Sodium	mg/L	8	9	8	13	19	18	13	29	23	17	23	23

Row 97 North End			Row 101 North End			Row 105 South End			Row 108 South End		
1	2	3	1	2	3	1	2	3	1	2	3
Silt loam	fine sandy loam Most Roots 40-50% stone	fine-coarse sands large stones	silt loam	heavier clay base mass roots	Fine gravel coarse sands	Top soil Silty	Silt Clay Most roots	Gravel Matrix	Silt loam	mixed clay Most Roots	Gravel more roots deeper
					main rooting zone		Opposite soil probe				

MFV Soil Test Results

Stembridge

Analysis	Optimal Range	Pit 1			Pit 2		Pit 3		Pit 4	
		0-55cm	55-113cm	113-123	0-25cm	25-90cm	0-40cm	40-90cm	0-50cm	50-92cm
pH	5.8-6.2	5.9	6.8		5.6	5.6	6.3	6.3	6.1	
P (Olsen)	15-40 mg/L	14	3		61	15	15	4	7	
K	0.4-0.8 me/100g	0.34	0.13		0.64	0.36	0.37	0.23	0.25	
Ca	6-12 me/100g	4.6	4.7		4.6	1.7	5.2	2.1	4.8	
Mg	1-3 me/100g	1.42	1.48		0.97	0.67	1.08	0.66	1.28	
Na	0-0.4 me/100g	0.1	0.11		0.05	< 0.05	0.11	0.07	0.09	
CEC	12-25me/100g	10	8		12	5	9	4	9	
Base Saturation	50-80%	66	8.4		53	59	75	76	69	
Volume Weight	0.6-1.0g/ml	1.18	1.24		1.09	1.56	1.11	1.54	1.21	
Soluble Salts (field)	0.05-0.3%									
Organic Matter	7-17%									
Total Soluble Salts	mg/L	99	152		178	158	125	66	119	
Saturated pastes										
Nitrate-N	mg/L	5	4		10	4	8	4	9	
Ammonium-N	mg/L	4	2		3	6	4	3	3	
Phosphorus	mg/L	1	< 1		3	< 1	2	< 1	< 1	
Potassium	mg/L	11	5		20	16	16	9	7	
Calcium	mg/L	16	21		25	14	19	8	19	
Magnesium	mg/L	7	7		8	5	8	4	6	
Sodium	mg/L	8	11		6	9	13	5	6	
Lime Requirement		0.4	< 0.1		1.8	0.7	< 1	< 1	< 1	

Row 65 South End			Row 65 North End		Row 63 North End		Row 63 South End	
1	2	3	1	2	1	2	1	2
top soil	silt	gravel	top soil	coarse sand/gravels	fine sandy loam	sand/gravels	top soil	gravel
0-75 compaction zone			competition from sward				less compact under dripper	
less compact under dripper			Dense vine root volume					
	Active root zone		Drippers at 300mm				Active root zone	
High vigour site			low vigour site		Medium vigour site		High vigour site	
Opposite probe site								

MFV Soil Test Results

Tohu	Analysis	Optimal Range	Pit 1				Pit 2		Pit 3		Pit 4	
			0-30cm	30-55cm	55-75cm	75-100cm	0-30cm	30-98cm	0-33cm	33-95cm	0-20cm	20-45cm
	pH	5.8-6.2	6.3	6.6	6.2		6.3	5.8	6.1	5.9	6.7	5.7
	P (Olsen)	15-40 mg/L	13	6	10		14	14	7	12	8	9
	K	0.4-0.8 me/100g	0.33	0.12	0.18		0.37	0.27	0.33	0.12	0.55	0.18
	Ca	6-12 me/100g	10.6	8	7.8		10.6	4.9	8.9	1.7	12.7	4.6
	Mg	1-3 me/100g	1.06	3.37	3.17		1.06	0.99	0.93	0.41	1.12	0.93
	Na	0-0.4 me/100g	0.16	0.13	0.16		0.16	0.11	0.14	< 0.05	0.18	0.12
	CEC	12-25me/100g	16	14	15		16	12	15	5	17	12
	Base Saturation	50-80%	77	82	76		75	53	67	44	85	50
	Volume Weight	0.6-1.0g/ml	0.98	1.18	1.10		0.98	1.11	1.00	1.57	0.95	1.10
	Soluble Salts (field)	0.05-0.3%	< 0.05	< 0.05	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
	Organic Matter	7-17%	8	0.9	2.2		5	2.5	5.2	1.8	6.3	2.7
	Total Soluble Salts	mg/L	172	99	178		409	125	165	86	257	198
Saturated pastes												
	Nitrate-N	mg/L	14	3	8		60	7	15	7	20	19
	Ammonium-N	mg/L	4	3	3		3	4	3	3	4	3
	Phosphorus	mg/L	3	< 1	< 1		1	2	2	< 1	2	1
	Potassium	mg/L	7	< 1	< 1		3	7	< 1	< 1	8	1
	Calcium	mg/L	35	12	23		79	15	34	12	55	31
	Magnesium	mg/L	6	6	9		10	6	6	3	7	6
	Sodium	mg/L	11	8	12		13	4	7	4	13	8

Row 65 South End				Row 54 South End		Row 54 North End		Row 65 North End	
1	2	3	4	1	2	1	2	1	2
Rootstock 5C				Rootstock 101-14				Rootstock 5C	
top soil	wet	red grey	gravel in	silt loam	Silt	silt loam	Massive	silt loam	Heavier clay
silt loam	silt clay	drier							
		silt clay		roots at	smaller %	roots	sorted	< 5% gravel	base
extensive	faint signs	highly		base	clay with	increasing	gravel with		20% gravel
root dev.	of mottling	mottled			gravel	clay @	sandy		majority of
esp under					throughout	base on	matrix		roots
dripper		pockets of buried		Compacted below 30 cm		contact with	some		sticky and
		soil below 55 cm		in tractor line		gravels	roots		moist

PLANT TISSUE ANALYSIS - Marlborough Focus Vineyard

Tyntesfield

Nutrient	Recommended Optimal Range		Dec-04	Apr-05	Apr-05	Apr-05	Apr-05	Dec-05
			80% Flower	pre-harvest.....		pre-harvest.....		80% Flower
			Petiole	North 96-102	South 103-109	North 96-102	South 103-109	Petiole
				Petiole	Petiole	Leaf	Leaf	
Total Nitrogen	0.8-1.0	%	0.90	0.38	0.38	1.55	1.49	0.70
Phosphorus	0.21-0.40	%	0.30	0.22	0.30	0.16	0.20	0.56
Potassium	1.5-2.5	%	2.50	2.30	1.50	1	0.90	2.40
Sulphur	0.21-0.40	%	0.18	0.14	0.13	0.33	0.35	0.16
Calcium	1.4-2.5	%	2.38	3.44	3.67	4.31	4.74	2.17
Magnesium	0.31-0.80	%	0.46	0.69	0.76	0.29	0.31	0.35
Sodium	0.02-0.50	%	0.03	0.06	0.06	0.02	0.02	0.03
Iron	30-100	mg/kg	17	21	23	85	96	20
Manganese	25-150	mg/kg	100	131	56	452	369	54
Copper	5-20.	mg/kg	49	4.8	4.5	5.3	5.3	48
Zinc	25-50	mg/kg	11	46	55	104	228	8
Boron	31-50	mg/kg	37	22	24	24	26	37
Cobalt		mg/kg				0.05	0.04	
Selenium		mg/kg				0.01	0.01	
Molybdenum		mg/kg				0.14	0.17	
P*100/N				57.73	81.05	10.5	13.45	
S*100/N				38.04	35.46	20.99	23.27	
Potassium/Magnesium Ratio				0.3	0.5	0.29	0.34	

PLANT TISSUE ANALYSIS - Marlborough Focus Vineyard

Stembridge

Nutrient	Recommended Optimal Range	Dec-04	Apr-05		Apr-05		Dec-05
		80% Flower	pre-harvest.....		pre-harvest.....		pre-harvest.....
		Petiole	North 62-66	South 62-65	North 62-66	South 62-65	Petiole
Total Nitrogen	0.8-1.0 %	0.80	0.51	0.56	1.85	2.14	1.00
Phosphorus	0.21-0.40 %	0.10	0.08	0.08	0.17	0.18	0.25
Potassium	1.5-2.5 %	4.10	5	4.10	1.80	1.30	4.40
Sulphur	0.21-0.40 %	0.20	0.18	0.14	0.33	0.41	0.2
Calcium	1.4-2.5 %	1.15	1.65	2.28	2.14	4.26	1.81
Magnesium	0.31-0.80 %	0.26	0.51	0.74	0.19	0.3	0.31
Sodium	0.02-0.50 %	0.05	0.08	0.06	0.02	0.02	0.04
Iron	30-100 mg/kg	39	53	26	465	171	35
Manganese	25-150 mg/kg	80	392	66	156	104	53
Copper	5-20. mg/kg	34	3.60	4.70	3.30	4.90	89.00
Zinc	25-50 mg/kg	6	34	28	34	28	11
Boron	31-50 mg/kg	24	21	21	27	26	33
Cobalt	mg/kg				0.19	0.09	
Selenium	mg/kg				0.01	0.02	
Molybdenum	mg/kg				0.06	0.06	
P*100/N			15.26	14.45	9.11	8.23	
S*100/N			35.03	25.33	17.67	19.07	
Potassium/Magnesium Ratio							

PLANT TISSUE ANALYSIS - Marlborough Focus Vineyard

Tohu

Nutrient	Recommended Optimal Range	Dec-04	Apr-05			Apr-05			Dec-05				Jan-06				Mar-06			
		80% Flower Petiole	101-14 Petiole	5C 5C	Yellow Leaves Yellow Leaves	101-14 Blade	5C 5C	Yellow Yellow	101-14 Petiole	Pre-harvest Blade	5C Petiole	Blade Blade	101-14 Petiole	Pre-harvest Blade	5C Petiole	Blade Blade	101-14 Petiole	Pre-harvest Blade	5C Petiole	Blade Blade
Total Nitrogen	0.8-1.0 %	1	0.45	0.39	0.38	1.75	1.74	0.8	0.9	2.9	0.8	2.8	0.6	2	0.7	2.1	0.6	1.9	0.6	2
Phosphorus	0.21-0.40 %	0.25	0.07	0.09	0.06	0.13	0.15	0.09	0.33	0.25	0.14	0.19	0.11	0.14	0.22	0.16	0.09	0.14	0.22	0.16
Potassium	1.5-2.5 %	1.70	2	1.70	2.60	1	0.90	1.20	1.7	0.9	1.30	0.7	0.8	0.8	2.50	1.1	1.9	1	2.70	1.1
Sulphur	0.21-0.40 %	0.22	0.12	0.12	0.12	0.28	0.26	0.23	0.15	0.27	0.11	0.23	0.1	0.36	0.13	0.33	0.12	0.25	0.12	0.27
Calcium	1.4-2.5 %	2.49	0.03	3.14	2.34	3.42	4.56	4.15	1.91	2.16	1.63	1.77	1.6	2.07	1.85	2.46	2.04	2.6	2.25	3.03
Magnesium	0.31-0.80 %	0.80	0.66	0.74	0.53	0.26	0.32	0.24	0.46	0.29	0.53	0.32	0.79	0.32	0.42	0.26	0.87	0.35	0.66	0.28
Sodium	0.02-0.50 %	0.03	0.03	0.03	0.01	0.01	0.02		0.02	<0.01	0.02	<0.01	0.03	0.02	0.02	0.01	0.03	0.01	0.03	0.01
Iron	30-100 mg/kg	32	30	34	36	140	167	177	25	149	28	138	32	134	44	112	42	239	42	334
Manganese	25-150 mg/kg	54	60	44	39	152	121	115	46	120	33	77	31	72	49	100	70	120	52	110
Copper	5-20 mg/kg	10	2.50	2.30	2.40	2.50	2.20	2.60	40	24.00	26.00	21	20	19.00	46.00	17	51	27.00	51.00	26
Zinc	25-50 mg/kg	58	44	53	51	19	18	26	7	9	4	7	3	4	5	6	3	4	3	3
Boron	31-50 mg/kg	31	21	19	22	17	19	20	27	30	27	26	24	21	26	20	27	21	22	18
Cobalt	mg/kg				0.07	0.08	0.1													
Selenium	mg/kg				0.01	0.01	0.01													
Molybdenum	mg/kg				0.05	0.12	0.07													
P*100/N			14.88	22.56	17.02	7.6	8.68	11.49												
S*100/N			26.43	31.54	32.44	15.71	15	29.1												
Potassium/Magnesium Ratio			0.33	0.43	0.2	0.26	0.32	0.2												

Nitrate-N

Nitrate-N
Sulphate-S
Aluminium

Marlborough Focus Vineyard Pruned Wood Test Results 2005

Tyntesfield

		North End		South End	
		Old Wood	Young Wood	Old Wood	Young Wood
		96-102	96-102	103-109	103-109
Analysis	Unit				
Nitrogen	%	0.4	0.5	0.6	0.5
Phosphorus	%	0.07	0.08	0.07	0.08
Potassium	%	0.6	0.6	0.6	0.6
Sulphur	%	0.04	0.04	0.04	0.04
Calcium	%	0.48	0.51	0.56	0.48
Magnesium	%	0.10	0.11	0.10	0.10
Sodium	%	< 0.01	< 0.01	< 0.01	< 0.01
Iron	mg/kg	21	18	25	17
Manganese	mg/kg	33	18	27	16
Zinc	mg/kg	150	17	150	20
Copper	mg/kg	20	6	13	6
Boron	mg/kg	9	9	8	9

Stembridge

		North End		South End	
		Old Wood	Young Wood	Old Wood	Young Wood
		62-66	62-66	62-65	62-65
Analysis	Unit				
Nitrogen	%	0.4	0.6	0.6	0.6
Phosphorus	%	0.07	0.08	0.06	0.08
Potassium	%	0.6	0.7	0.6	0.7
Sulphur	%	0.04	0.05	0.04	0.04
Calcium	%	0.39	0.47	0.52	0.42
Magnesium	%	0.09	0.12	0.11	0.10
Sodium	%	< 0.01	< 0.01	< 0.01	< 0.01
Iron	mg/kg	41	36	38	20
Manganese	mg/kg	36	51	27	20
Zinc	mg/kg	110	31	160	19
Copper	mg/kg	4	4	9	7
Boron	mg/kg	8	10	8	< 3

Tohu

		South End		South End	
		Old Wood	Young Wood	Old Wood	Young Wood
		on 101-14 51-55	on 101-14 51-55	on 5C 63-67	on 5C 63-67
Analysis	Unit				
Nitrogen	%	0.6	0.8	0.7	0.8
Phosphorus	%	0.07	0.08	0.08	0.08
Potassium	%	0.5	0.7	0.5	0.6
Sulphur	%	0.04	0.04	0.05	0.04
Calcium	%	0.45	0.39	0.52	0.37
Magnesium	%	0.12	0.11	0.14	0.12
Sodium	%	< 0.01	< 0.01	< 0.01	< 0.01
Iron	mg/kg	44	22	71	21
Manganese	mg/kg	16	14	16	12
Zinc	mg/kg	96	12	93	12
Copper	mg/kg	6	4	6	5
Boron	mg/kg	8	8	10	8