

VITICULTURE RESEARCH FIELD SEMINAR

Tuesday, September 13, 1994

E & J Gallo - "Liberty" Vineyard

Trellis System Block

Purpose: Evaluate the benefits and problems three basic trellis systems have with respect to six winegrape varieties in San Joaquin County, specifically in the Lodi-Woodbridge viticultural area. The three trellis treatments include:

Quadrilateral (2.5 ft) 7' x 12' spacing
Bilateral (2.0 ft "T") 7' x 10' spacing
Vertical (positioning wires) 7' x 8' spacing

The varieties to be observed are:

Cabernet Sauvignon
Chardonnay
Merlot
Sauvignon blanc
Syrah
Zinfandel

Goal: Evaluate vine growth, crop production, fruit quality and cultural techniques/problems that result from using a specific trellis system.

Rootstock - Irrigation trial

4 reps of each rootstock (8 vines/rep)

Purpose: Monitor the effects of 15 rootstocks and 2 irrigation regimes on Cabernet Sauvignon and Chardonnay.

Goal: Evaluate scion growth, yield, fruit maturity, and quality as affected by rootstock. At the same time determine drought tolerance of the stocks by irrigating both at an optimum level of 75% ET seasonal water use and at 50% ET water use.

Rootstocks include:

Freedom	dormant benchgraft
Salt Creek	dormant benchgraft
110R	" "
SO4	rooting
Teleki 5C	dormant benchgraft
Kober 5BB	rooting
1103 Paulsen	dormant benchgraft
101-14 MGT	" "
140 Ruggeri	" "
420 A	" "

039-16	“	“
3309 Couderc	“	“
Schwarzman	green benchgraft	
K51-32	“	“

Variety Observation Block

Purpose: Evaluate growth and production characteristics of potential “new” varieties with several standard varieties. Interest in other varieties for blends or varieties to replace less desirable or distinctive selections currently found in the area.

Goal: Measure the merits and faults of several varieties that have potential for improving blends or to provide distinctive varieties. Growth and production characteristics will be noted as there is little to no information for the area, or California as a whole. Varieties from several regions will include:

Bordeaux

- Cabernet Franc
- Petit Verdot
- Merlot
- Malbec
- Cabernet Sauvignon
- Semillon (various clones) w

Rhone

- Syrah (Shiraz)
- Mourvedre (Mataro)
- Cinsaut (Black Malvoisie)
- Tannat
- Bastardo
- Viognier w
- Marsanne w
- Roussane w
- Clairette Blanche w

Italian

- Barbera
- Nebbiolo
- Sangiovese
- Primitivo
- Dolcetto
- Verdelho w

Spanish

- Morrastel
- Marzemina
- Valdepenas

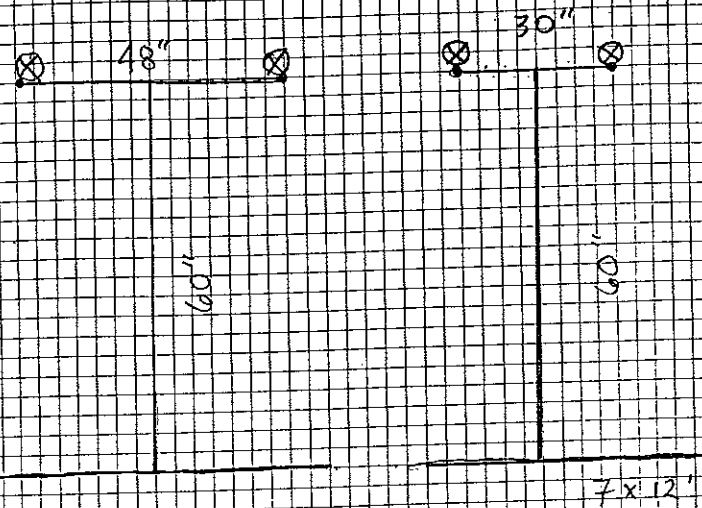
Other

- Symphony w
- Melon w

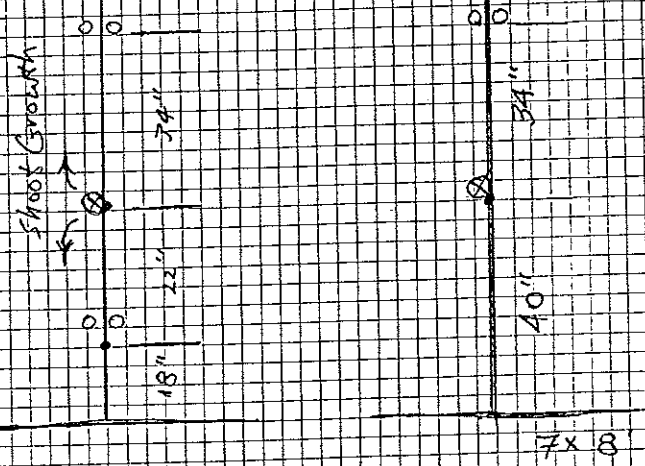
TRELLIS SYSTEM EVALUATION

Gallo Liberty Vineyard
Kennebec Rd Acampo

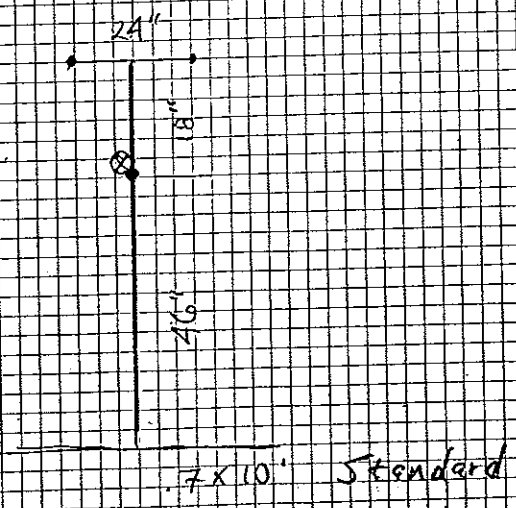
Center Rows



7x12' Quadrilateral



7x8' Vertical



7x10' Standard

- Merlot
- Cabernet Sauvignon
- Sauvignon Blanc
- Chardonnay
- Shiraz
- Zinfandel
- Shiraz 3 rows

- Permanent Wire
- Positioning Wire
- ⊗ Cordon

TRELLIS SYSTEMS
Gallo Liberty Lodi
1993

		Cabernet Sauvignon						
8 Sep 93		Yield lb/vine	Clusters	Berry wt g	Brix	pH	T.A. g/l	Prunings
	Quad	34.1	107	1.13	24	3.5	8.1	5.4
	Vertical	15.7	53	1.01	23.6	3.57	8	4.4
	Standard	18.4	44	1.22	23.4	3.52	8.1	4.4
		Merlot						
8 Sep 93	Quad	10.9	42	1.22	21.6	3.55	7.9	1.7
	Vertical	5.8	23	1.13	21.6	3.69	7.7	1.4
	Standard	5.4	22	1.29	21	3.61	8.2	1.3
		Zinfandel						
4 Sep 93	Quad	36.8	48	1.89	16	3.42	6.2	1
	Vertical	26.2 (5.0)	29 (8)	2.19	18.8	3.53	7.5	2.1
	Standard	21.1 (8.4)	16 (12)	2.17	17.8	3.49	6.6	2.1
		Syrah						
4 Sep 93	Quad	31.7	84	1.57	23.8	3.45	6.2	2.5
	Vertical	12.5	38	1.5	22.2	3.42	7.8	3.7
	Standard	19.2	41	1.55	22	3.42	6.9	5.4

Chardonnay		Yield lb/vine	Clusters	Berry wt g	Brix	pH	T.A. g/l	Prunings
3 Sep 93	Quad	17.6	52	1.25	26.6	3.6	7.3	1.7
	Vertical	12.2	33	1.32	26	3.62	8.6	4.2
	Standard	14.2	33	1.32	26.7	3.61	8.4	2.7

Sauvignon blanc		Yield lb/vine	Clusters	Berry wt g	Brix	pH	T.A. g/l	Prunings
3 Sep 93	Quad	19.0 (0.4)	62 (1)	1.32	26.5	3.59	6.3	3.5
	Vertical	4.6 (0.4)	27 (2)	1.42	25	3.6	7	4.2
	Standard	13.0 (1.7)	30 (4)	1.55	24.8	3.55	6.8	5.7

Numbers in () = Rot

Spacings

Quadrilateral	7 x 12	519 vines
Vertical	7 x 8	622
Standard	7 x 10	778

TRELLIS SYSTEMS

Liberty Gallo

1994

		<u>Sauvignon blanc</u>					
		Yield	Cluster	Berry	Brix	pH	TA g/l
		lb/vine		wt g			
23 Aug 94	Quad	41.3	141	1.67	22.2	3.22	9.8
	Vertical	25.3	89	1.67	21.6	3.24	11.2
	Standard	29.5	86	1.69	23.0	3.28	11.4
		<u>Chardonnay</u>					
26 Aug 94	Quad	30.5	86	1.33	23.4	3.32	10.2
	Vertical	28.8 (0.5)	67 (1)	1.52	22.4	3.25	11.4
	Standard	30.8 (1.3)	63 (4)	1.33	24.0	3.32	11.5

number in () = rot

Spacings

Quadrilateral	7 x 12	519 vines
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ROOTSTOCK OBSERVATION TRIAL

Gallo - Liberty, Lodi

	Chardonnay			Cabernet Sauvignon		
	Yield	Cluster no.	Ranking	Yield	Cluster no.	Ranking
Freedom	12.4	41	7	26.8	83	3
Harmony	12.4	35	8	26.5	74	4
3309 C	20.6	43	5	15.9	49	8
110 R	27.0	60	3	25.8	84	5
1103 Paulsen	30.0	55	2	29.7	88	1
140 Ruggeri	30.2	57	1	28.3	71	2
Kober 5BB	20.7	47	4	19.3	56	6
S04	16.8	50	6	17.2	55	7

	Pruning weight lb/vine	Pruning weight lb/vine
Freedom	6.1	8.1
Harmony	6.3	7.0
3309 C	4.7	5.6
110 R	5.6	7.3
1103 Paulsen	5.9	7.6
140 Ruggeri	5.5	7.3
Kober 5BB	5.4	6.5
S04	4.6	5.6

"T" > 2 wire > vertical SP

6.2 5.6 4.5

	Chardonnay				Cabernet Sauvignon			
	°Brix	pH	TA g/l	Berry wt g	°Brix	pH	TA g/l	Berry wt g
Freedom	23.0	3.45	8.1	1.26	23.2	3.4	7.5	1.36
Harmony	22.6	3.51	8.2	1.24	23.6	3.5	7.2	1.32
3309 C	23.8	3.49	7.2	1.23	23.8	3.4	6.2	1.24
110 R	22.8	3.45	7.3	1.15	24.0	3.5	6.3	1.26
1103 Paulsen	23.2	3.58	7.7	1.34	24.0	3.4	6.3	1.37
140 Ruggeri	23.0	3.57	7.7	1.18	23.4	3.4	6.9	1.35
Kober 5BB	24.2	3.50	7.6	1.30	25.6	3.4	6.8	1.16
S04	23.2	3.58	7.4	1.21	25.2	3.5	6.5	1.11