

Project Report
Viticultural Consortium
April 1, 2001–February 1, 2002

I. Project Title: *Evaluation of Selected Mediterranean Wine Grape Cultivars and Clones in Lake and Mendocino Counties*

II. Principle Investigator: Glenn T. McGourty, Viticulture and Plant Science Advisor,
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III. Summary:

In the 2001 growing season, we successfully harvested 20 Mediterranean wine grape cultivars planted in an experimental vineyard at the UC Hopland Research and Extension Center (UCHREC). Small lots of experimental wine have also been made, and are in process. Phenological data (budbreak, bloom, veraison and harvest) were taken. Harvest data included yield per vine, number of clusters per vine, and average cluster weight. Fruit measurements included average berry weight, total acidity, pH, and sugar expressed in percent brix. Most cultivars ripened adequately, but it is still difficult to fully ripen Montepulciano and Aglianico under our conditions.

Comprehensive final reports were written for the Lake County Mediterranean Wine Grape Cultivar plots (see attached). In general, the cultivars being evaluated in Lake County did well in the trial at Red Hills, where the soils limited the vines to more modest yields, and there was sufficient heat to ripen everything. In the Highland Springs plot, few of the cultivars were able to adequately ripen due to large crops and cooler weather conditions. Data were presented at the Lake County Annual Wine Grape Day on December 7th, 200. Sample wines made from the plots were also tasted, and it is clear that there is potential for high quality wine to be made from these selections, especially Syrah, Sangiovese, Barbera and Dolcetto.

We successfully planted a Syrah clonal trial at McDowell Valley Vineyards. Clones planted include CPTS#'s 100, 174, 304, 383, 474 and 877.

Information from our trial and evaluations was presented to growers in Mendocino and Lake Counties at two different meetings; the ASEV Syrah Symposium and a grower meeting in King Valley, Australia.

IV. Objectives and Experiments Conducted to Meet Stated Objectives:

1. *Evaluate the phenology of selected Mediterranean wine grape cultivars, including budbreak, harvest date, and disease and pest susceptibility.*
2. *Evaluating yield potential and cluster characteristics.*
3. *Evaluate wine quality factors of these cultivars, including juice and wine chemistry (pH, sugars, titratable acidity, total acidity profile, phenolic compound content) and*

oenological characteristics.

4. *Develop a publication with accurate taxonomic and phenological data*

Experiments conducted: Cultivar trials have been established at Red Hills and Highland Springs Ranches, Roumiguire Vineyards, in Lake County, and at the UC Hopland Research and Extension Center (UC HREC) in Hopland, Mendocino County. The Lake County trials are completed and summary reports have been written (see attachments). The trial at the UC Hopland Research and Extension Center had a successful year due to favorable growing weather and bird netting that for the first time protected fruit from avian predation.

5. *Establish a Syrah Clonal Trial:*

Experiment conducted: A Syrah clonal trial was planted in July, 2001, at McDowell Valley Vineyards in Hopland. The experiment uses an ANOVA design, with 8 replications of Five vines in each rep, 40 vines total for each clone. All vines are planted on 101-14 rootstock, and trained on a 5 wire VSP trellis system. The following clones are included in the trial:

- ENTAV 174
- ENTAV 383
- ENTAV 470
- ENTAV 100
- ENTAV 308
- ENTAV 877

V. Summary of Major Research Accomplishments and Results by Objectives:

1. *Evaluate the phenology of selected Mediterranean wine grape cultivars:*

Following is a summary of the phenology of the different cultivars:

Table One: Phenology of Mediterranean Winegrape Cultivars at UC Hopland Research and Extension Center, 2002 Growing Season (E= early, M= midseason, L= late)

Cultivar	Budbreak	Bloom	Veraison	Harvest
Arneis	E	E	E	E
Fiano	M	M	M	L
Pinot gris	Very E	E	Very E	Very E
Viognier	E	E	E	E
Cultivar	Budbreak	Bloom	Veraison	Harvest
Roussanne	†			
Marsanne	M	M	L	VL
Aglianico	L	L	L	VL

Canaiolo nero	M	M	M	L
Cinsault	L	L	M	M
Corvina	M	M	M	L
Dolcetto	M	M	M	L
Cultivar	Budbreak	Bloom	Veraison	Harvest
Freisa	M	M	M	M
Montepulciano	VL	VL	VL	VL
Nebbiolo	VE	E	M	L
Sangiovese	M	M	M	M
Tempranillo	M	M	M	M
Grenache	M	M	M	L
Mourvedre	L	L	L	L
Syrah	L	L	L	L

†Roussanne is actually another clone of Viognier

Budbreak: March 15- April 20

Harvest: Sept. 7--November 2, 2001

Bloom: May 20-June 5

Veraison: July 25-August 20

2. Evaluating yield potential and cluster characteristics:

Data were taken on all of the cultivars during the 2001 harvest. The entire vineyard was bird netted, which prevented extensive damage that previously plagued the experiment. The following data were obtained:

Table 2: Harvest data of white cultivars, UC HREC Mediterranean trial, 2001

Cultivar	Harvest Date	Average Yield Per Vine in kilograms	Average Number of Clusters/ vine	Average Cluster Weight in grams
Arneis	October 11	6.44	42	150
Cortese	October 19	1.89	23	70
Fiano	September 14	8.73	57	150
Pinot Gris	September 7	4.16	52	80
Marsanne	October 5	7.60	37	210
Viognier, Bonny Doon Clone	September 7	6.15	56	110

Viognier, UC Clone	September 7	3.89	55	70
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Table 3: Harvest data of red cultivars, UC HREC Mediterranean Cultivar Trial, 2001

Cultivar	Harvest Date	Average Yield Per Vine in kilograms	Average Number of Clusters/ vine	Average Cluster Weight in grams
Aglianico	November 2	7.21	51	140
Canaiolo	October 12	4.36	43	130
Cinsault	October 19	5.43	37	150
Corvina	October 19	10.27	45	230
Dolcetto	October 11	5.63	42	140
Freisa	September 14	6.83	48	140
Grenache	October 11	7.20	37	190
Montepulciano	October 26	7.91	47	170
Mourvedre	October 19	8.45	59	140
Nebbiolo	October 5	3.72	18	200
Sangiovese	October 12	8.4	61	140
Syrah	September 28	7.44	61	120
Tempranillo	October 5	5.0	43	120

2. *Evaluate wine quality factors of these cultivars, including juice and wine chemistry (pH, sugars, titratable acidity, total acidity profile, phenolic compound content) and oenological characteristics.*

Following are summaries of the juice chemistry:

Two cooperators are assisting us in small lot wine making. Hubert Germain -Robin and his staff are making samples of Grenache, Marsanne, and Mourvedre. For the remainder of the selections, small lots of wine are being made by Dr. Oenes Huisman, an amateur enologist from UC Berkeley.

4. *Develop a publication with accurate taxonomic and phenological data:*

We have discovered in the UC HREC trial that our selection of Arneis is mixed with Melon. We have also discovered that our selection of Roussanne is actually the “Bonny Doon” clone of

Viognier. We will most likely graft over those selections to properly identified material.

During the past season, we enjoyed the assistance of Ms. Ivana Picciau, a young viticulture graduate student and intern from the University of Torino, Piedmonte. Ivana translated ampelographic descriptions on most of the Italian cultivars in our trial from two reference texts. We now have very good information on Dolcetto, Fiano, Aglianico, Cortese, Freisa, Corvina, Nebbiolo and Sangiovese.

We now have all of the shoot tips and leaves photographed by UC photographer Jack Kelley Clark. About half of the fruit has been photographed, but unfortunately, Jack was unable to finish fruit photography due to conflicts in his production schedule. We hope to finish this in the coming year.

We have begun discussions with Anne Senuta, editor of ANR Publications to discuss a book specifically on Mediterranean varieties.

6. *Syrah Clonal Trial:*

As stated earlier, we have successfully planted a trial at McDowell Valley Vineyards. We are easily 4 years away from gathering any data. In the interim, we monitored the production of 10 vines from different blocks representing the clones already planted at McDowell Vineyards.

Following are the data:

Syrah Clone	Average# of clusters /vine	Average cluster weight (grams)	Average yield per vine (kilograms)
CTPS # 877	32	146	4.7
CTPS # 174	57	106	6.1
Shiraz (FPMS 1)	61	153	9.3
Syrah noir (Estrella Clone)	70	97	7.6
McDowell Clone (old vines)	60	161	9.6

The clones surveyed are grown in different blocks of varying age, and are not trained similarly. Separate lots of wine were made this season from the blocks, and are being analyzed both for their chemistry and organoleptic qualities.

VI: Outside Presentations of Research:

A Research Progress Report was written for California Agriculture Magazine for their October/November 2001 issue, which featured current research at the UC Hopland Research and Extension Center, celebrating 50 years of operations.

A presentation was made at the American Society of Enology and Viticulture Annual Meeting

in San Diego during the Syrah Symposium on the survey made of the Syrah Clones at McDowell Valley Vineyards. Bill Crawford, wine grower from McDowell, made the presentation, and a copy of our data was included in the proceedings.

Presentations on the experiments were made at Kendall-Jackson's annual grower meeting in Ukiah in February, 2001. Summary reports were presented at the Annual Grape Day in Lake County in December, 2001. Electronic versions of the reports are available. I also presented information about the trial to growers in the King Valley in Australia during my trip as a Visiting Scientist with Agriculture Victoria in October, 2001. I also gave a presentation to the Sierra Grape Growers in Grass Valley in November. I am scheduled to present information on these trials to the Sonoma County Viticulture Technical Group in February, 2002. I will also give a presentation on these experiments to the Friends of the Mendocino Coast Botanical Gardens in Little River in March, 2002.

VII: Research Success Statement:

This research effort is working towards the goal of offering a wider array of plant materials for wine industry in California so that the wine styles and flavors have many possibilities, and that producers have many niches. The ultimate goal is to express the terroir of the different wine regions with the best possible wines. Since so much of California is warm and sunny, it makes sense to match plant materials from other regions of the world where high quality wine is being made. For us to be successful, we need to evaluate these materials in a systematic way that allows us to know the basic features of the cultivars, and what we can expect in terms of their performance under our conditions. I think that in the last three years, we have made significant progress towards accomplishing these goals.

VII: Funds Status:

In addition to last year's AVF funding, the UC Hopland Research and Extension Center awarded the project 250 labor hours to assist our efforts. UCCE Mendocino Office also provided nearly 500 hours in technician time to assist in all aspects of data gathering and analysis.

