State of California's Table and Olive Oil Industries, and Their Futures

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Currently California's table olive industry is facing three major challenges; the impact of manual labor, particularly pruning and harvesting, on fruit production costs, the rapid spread of the olive fruit fly, (OLF) and import competition. These may, or may not, pose problems for the developing California olive oil industry.

Mechanical Pruning and Harvesting:

The two major factors that drive up table olive production costs are the practices currently requiring manual labor, pruning and harvesting. The most recent table olive cost study by Glenn County Farm Advisor William H. Krueger and colleagues for flood irrigated olives projected a 5 ton per acre yield with annual cash costs of $2,403.00. Of this fertilization and manual weed control were 2% each, disease and pest control were 3% each, irrigation was 5%, hand pruning every other year was 8%, and hand harvest, at $275.00 per ton, was a stunning 57% of annual cash costs. The last dwarfs all other production costs and may in time render table olive production unprofitable. If manual pruning and harvesting are also used for oil olives these will be similarly high cost items in oil olive production.

The oil industry may have some advantage in that the orchards can be planted as high density hedgerows that, theoretically, are more amenable to combined mechanical topping and manual pruning and mechanical harvesting. A new cost UCCE cost study by Farm Advisors Paul Vossen and Joseph H. Connell, and Karen Klonsky, Extension Economist and Peter Livingston, Extension Staff Research Associate, of Department of Agricultural and Resource Economics at University of California at Davis details the cost of establishing a super high density olive oil orchard and producing olive oil.

My colleagues and I have investigated mechanical pruning with mature table olive cultivars. Our objective was to produce a tree that could be mechanically harvested; a tree with a 1m skirt, a 3.5m canopy and 4m tall. These were trees that needed to be reshaped, with mechanical pruning, into hedgerows. Thus the pruning was rehabilitation pruning. Generally the research demonstrated severe mechanical pruning, and particularly mechanical topping, into two year and older growth, sharply decreased crop the year of pruning. The general conclusion was that reshaping the trees would require at least two years of yield loss and strong vegetative regrowth that would require more mechanical pruning. It has not been demonstrated that mature trees, those over 10 years old, can be successfully reshaped for mechanical harvesting without unacceptable yield losses. Nor has it been demonstrated maintenance mechanical hedging can produce economic annual production. The current recommendation is biennial, light hedging, every other row, every other year, into 1 year old wood and annual light topping, to the height desired after regrowth, and on angle that produces a flat wall to the row through regrowth.

We have not had the opportunity to investigate the effect of mechanical pruning on young hedgerow table olives. A three year old trial at the Nickles Estate in Colusa County should be ready for some mechanical pruning and harvesting in three more years.

The developing olive oil industry may have an advantage in that many of the new olive oil plantings are hedgerows. Butte County Farm Advisor Joe Connell and Glenn Coounty Farm Advisor are currently cooperating in an irrigation experiment in a hedgerow planting of young oil olives. Their preliminary observation is that a mechanically harvestable shape can be maintained with mechanical topping and the manual pruning that also included removing the larger wood that would broken by the mechanical harvester. If mechanical topping is incorporated into olive oil production it can be started in young olives as a routine production practice, rather than a rehabilitation practice. It remains to be seen if the mechanically topped and manually pruned hedgerow olives can be maintained at the desired height, and in the desired shape, for mechanical harvesting and still produce economic oil yields. Whether these new

Hannah Nadel and Marshall Johnson of UC Riverside Department of Entomology indicates the fly larvae does not like to remain in late season fruit with a high oil content. If this is true, perhaps delaying the harvest of infested fruit until the larvae have exited, will produce usable oil. However, oil quality and longevity may be dependent upon the level of damage the fruit sustained before the larvae exited. Third, very preliminary work by Sonoma County Farm Advisor, Paul Vossen, University of California's primary olive oil expert, indicates heavy fly infestation may not decrease olive oil quality within the first few weeks of bottled oil shelf life. All these results are very preliminary. However, this is in stark contrast to the zero tolerance of table olive consumers for fly infestation or fruit damage in canned product.

The table olive industry may have two advantages over the developing olive oil industry. First, the fruit is harvested immature and thus is exposed to fly infestation for a shorter period of time. Second, preliminary results of Marshall Johnson suggest the hotter summer temperatures of the Central Valley are deleterious to olive fly activity, and larval development and survival in fruit. The cooler locations where oil olives are currently being planted may not have this annual climatic control. However, if the developing olive oil industry, in pursuit of higher yields and lower costs, begins planting in the Central Valley, they may benefit from the advantages of high heat decreasing fly activity and mortality, smaller cultivars that are less attractive to the fly, and a higher infestation tolerance in the processed oil. The net result might make it more profitable to grow oil than table olives in the Central San Joaquin Valley. If established orchards could be converted to oil production, even though they are the larger fruited cultivars, this would also be an advantage.

In summary, the table and olive oil industries are both threatened by the olive fly. And it appears they will need to work together to control this pest that is here to stay.

Import Pressures:

This is the third factor facing both the table and oil olive industries. I will not go into the topic in detail as other speakers at this meeting will be discussing global competition. Also, Olivae, the magazine published quarterly by the International Olive Oil Council in Madrid, Spain produces an excellent annual analysis of the world's table and oil olive industries.

The United States is among, and often is, the world's largest, importer of table olives and oil. We also are among the lowest, often the lowest, per capita consumers of table olives and oil. To the rest of the world's developed, Spain, Italy, Turkey, Morocco, and Tunisia, and developing, South America, Australia and South Africa, table olive and oil industries we appear to be a market of virtually unlimited potential. It is a market, as the local producers, we could have, if we cooperate in developing our two industries.

Table 3.

UC COOPERATIVE EXTENSION
COSTS and RETURNS to PRODUCE SUPER-HIGH DENSITY OLIVES for OIL
SACRAMENTO VALLEY – 2004
ARBEQUINA VARIETY

	Quantity/Acre	Unit	Price or Cost/Unit	Value or Cost/Acre	Your Cost
GROSS RETURNS					
Olive for Oil	5.0	Ton	450	2,250	
TOTAL GROSS RETURNS FOR OLIVE OIL				2,250	
OPERATING COSTS					
Herbicide:					
Karmex DF	0.25	Lb	5.09	1	
Roundup Ultra	0.40	Pint	6.06	2	
Goal 2 XL	0.50	Pint	13.32	7	
Fungicide:					
Kocide 101	20.00	Lb	1.90	38	
Water:					
Water - Pumped	24.00	AcIn	3.93	94	
Fertilizer:					
UN-32	45.04	Lb N	0.391	18	
Custom:					
Skirt Pruning	1.00	Acre	3.00	3	
Top Pruning	1.00	Acre	6.50	7	
Hauling	5.00	Ton	15.00	75	
Insecticide:					
GF-120	140.00	FlOz	0.57	80	
Contract:					
Harvest-Mechanical	1.00	Acre	135.00	135	
Labor (machine)	12.50	hrs	10.85	136	
Labor (non-machine)	21.60	hrs	9.78	211	
Fuel - Gas	12.47	gal	1.88	23	
Fuel - Diesel	14.87	gal	1.45	22	
Lube				7	
Machinery repair				35	
Interest on operating capital @ 6.89%				19	
TOTAL OPERATING COSTS/ACRE				911	
NET RETURNS ABOVE OPERATING COSTS				1,339	
CASH OVERHEAD COSTS:					
Office Expense				167	
Liability Insurance				13	
Sanitation Fees				7	
Property Taxes				92	
Property Insurance				62	
Investment Repairs				41	
TOTAL CASH OVERHEAD COSTS/ACRE				382	
TOTAL CASH COSTS/ACRE				1,294	
NON-CASH OVERHEAD COSTS (CAPITAL RECOVERY):					
Buildings: 1,200 SqFt				67	
Fuel Tank: 1-100 Gallon				4	
Shop Tools				28	
Land				187	
Drip Irrigigation System				258	
Olive Orchard Establishment Cost				430	
Equipment				81	
TOTAL NON-CASH OVERHEAD COST/ACRE				1,056	
TOTAL COSTS/ACRE				2,349	
NET RETURNS ABOVE TOTAL COSTS				-99	

Table 8.

UC COOPERATIVE EXTENSION
COSTS and RETURNS/BREAKEVEN ANALYSIS
SACRAMENTO VALLEY – 2004
ARBEQUINA VARIETY

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
Olives for Oil	2,250	911	1,339	1,294	956	2,349	-99

COSTS AND RETURNS - TOTAL ACREAGE

Crop	1. Gross Returns	2. Operating Costs	3. Net Returns Above Oper. Costs (1-2)	4. Cash Costs	5. Net Returns Above Cash Costs (1-4)	6. Total Costs	7. Net Returns Above Total Costs (1-6)
Olives for Oil	67,500	27,344	40,156	38,810	28,690	70,482	-2,982

BREAKEVEN PRICES PER YIELD UNIT

CROP	Base Yield (Units/Acre)	Yield Units	Breakeven Price to Cover Operating Costs	Cash Costs	Total Costs
			$ per Yield Unit		
Olives for Oil	5.0	Ton	182.29	258.73	469.88

BREAKEVEN YIELD PER ACRE

CROP	Yield Units	Base Price ($/Unit)	Breakeven Yield to Cover Operating Costs	Cash Costs	Total Costs
			Yield Units/Acre		
Olives for Oil	Ton	450	2.0	2.9	5.2

REG. RATION FORM FOR
OLIVE EXPO 2004

Please send, by February 20th, this completed form and check payable to:
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Name/s_____

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How many in your party_____

Amount enclosed $_____

Lunch Selection:

Grilled salmon #_____

Chicken paillard #_____

Vegetarian #_____

Buon Appetito!

Organized by:

Umberto Chironi Lubelli

Sponsored by:

Robert Mondavi Winery

Pieralisi Group

Storm Olive Ranch

8:00 Registration & contin l breakfast.

8:30 Umberto Chironi Lubelli: Introduction of the seminar.

8:45 Prof. Giuseppe Fontanazza: Globalization of the olive industry. World olive oil production, marketing and consumption.

9:30 Hartley Lewis: Farming olive trees and producing olive oil in Australia.

10:00 Break. Refreshments

10:15 Gerrie Duvenage: Farming olive trees and producing olive oil in South Africa.

10:45 Federico Capri: Olive farming innovations in Sicily.

11:00 Margrit Biever Mondavi: Olive oil in human culture.

11:30 Annie Roberts: Cooking and eating with olive oil & a live cooking demonstration.

12:15 ~~Lunch.~~

2:00 Louise Ferguson: The state of California's olive and oil industries and their future.

→ Talk 1 H O

2:15 Don Johnson: Producing olive oil in California 2 years after planting.

2:45 Claudio Vignoli: Olive oil processing and extraction.

3:15 Roberto Zecca: Olive oil tasting and evaluation.

3:45 Open Questions **4:30 End**

Umberto Chironi Lubelli owns **Olivi** ery and **Tagliabene,** an olive grove management co.

Prof. Giuseppe Fontanazza is the Director of the I.R.O./C.N.R. of **Perugia.** and is the author of the book **"Olivicultura Intensiva e Meccanizzata".**

Hartley Lewis is the General Manager of Lewis **Olive Technology.** This company is based in Virginia**, South Australia** where it farms 1000 acres of high density olive groves.

Gerrie Duvenage is the Olive Product Manager at Morgenster Estate in Somerset West, **South Africa.** The estate farms grapes and 100 acres of olive trees.

Federico Capri is the General Manager of the Azienda **Tornisia** in the Madonie region of **Sicily.** The azienda farms 80 acres of high-density olive groves and 100 acres of traditional ones.

Margrit Biever Mondavi is V. P. of Culture at **Robert Mondavi Winery**. She created and runs the **Great Chefs Program** at the winery. Margrit and Robert are the founding Patrons of **Copia.**

Annie Roberts is the **Executive Chef** at Robert Mondavi Winery. She specializes in cooking with **fresh and seasonal produce.**

Louise Ferguson has a Ph.D. in **Fruit Science** and is currently the Extension Specialist at **U.C. Davis'** Department of Pomology. She is also the editor of the **"Olive Production Manual."**

Don Johnson owns Gordon Valley Farms. This 500 acre grape farm is located in **Suisun Valley.** He has recently planted **8,000 olive trees.**

Claudio Vignoli is the Manager of Overseas Relations for the **Pieralisi Group,** an Italian olive press & processing plant manufacturer.

Roberto Zecca is the Panel Leader of the **COOC tasting panel** and he is also a COOC board member. He owns **Frantoio** restaurant and press and Frantoio olive oil brand.

Join us for our 4th event

FEATURING:

Prof. Giuseppe Fontanazza
Margrit Biever Mondavi
&
Chef Annie Roberts

On the **28th of February, 2004** in the Cabernet Hall at the **Napa Valley Exposition Center**

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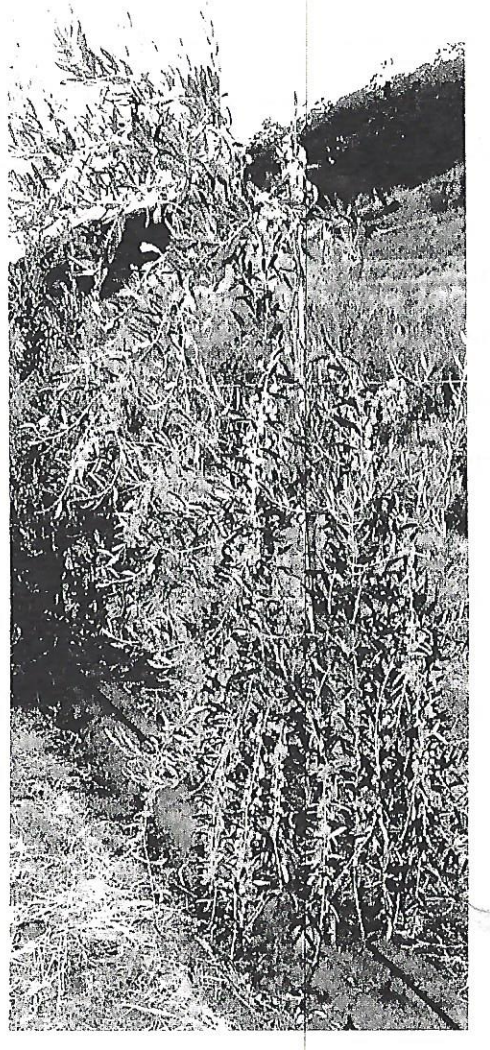

AN OLIVE PRODUCTION EVENT!

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