Big Growers vs. Small Growers *OLIVE OIL IN CALIFORNIA*

Paul Vossen

University of California

133 Aviation Blvd.

Santa Rosa, CA 95472

pmvossen@ucdavis.edu

CHANGES IN OLIVE OIL CONSUMPTION FROM 1990 TO 2005

Country	*Whole Country*	*Per Capita*
Argentina	+ 50%	+131%
Australia	+ 107%	+ 338%
Brasil	+ 85%	+ 145%
Canada	+ 145%	+ 513%
United States	+ 121%	+ 428%
Japan	+ 625%	+ 2,260%
Mexico	+ 62%	+ 229%
Russia	- 20%	- 54%
European Union	+ 53%	+ 23%

Parras Rosa, Torres Ruiz, Senise Barrio, and López Ortiz 2006

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Olive Oil Sales in US Markets

1994 to 1995	+ 12%
1995 to 1996	+ 27%
1996 to 1997	+ 31%
1997 to 1998	+ 18%
1999 to 2000	+ 10%
2000 to 2001	+ 1%
2001 to 2002	+ 8%
2002 to 2003	+ 10%
2003 to 2004	+ 12%
2004 to 2005	+ 15%
2005 to 2006	+ 14%

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USA Olive Oil Production, Consumption, & Imports 04-05

Production – 1.5 million L ***(0.06% world)***

Consumption – 210.5 million L ***(0.7% USA)***

Exports = 17 million L ***(7.7% USA)***

Imports – 221.0 million L ***(99.3% USA)***

- **From Italy – 71%**
- **From Spain – 15%**
- **From Turkey – 5%**
- **From Greece – 2%**
- **From Australia, Chile, Argentina – 7%**

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CA Olive Oil Production Outlook

- 2007-08 ~ 500,000 gallons
- 2008-09 ~ 660,000 gallons
- 2009-10 ~ 860,000 gallons
- 2010-11 ~ 1,160,000 gallons

CONSERVATIVE

France produces ~ 1,000,000 gallons

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TO MEET CURRENT USA DEMAND for OLIVE OIL

70 million gallons = 265 million liters

We would have to plant 300,000 acres of oil olives

@ 5 t/acre & 42 gallons/ton

How much might demand increase?

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2004 - 07 California oil olive GROWERS & ACREAGE

• North Coast	268 growers	1,535 acres
• Central Coast	59 growers	376 acres
• S. Coast & S. Cal.	17 growers	70 acres
• Sacramento Valley	94 growers	3,216 acres*
• San Joaquin Valley	39 growers	707 acres*
• Sierra Foothills	51 growers	264 acres
TOTAL	528 growers	6,168 acres

(2005 to 2007) planted ~ 7,100 acres

(660 growers ~ 13,300 acres

2007 = 3,300 SHD – 300 HD

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USA Production:

< 1% Texas & Arizona

> 99% California

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Central Valley

- Lower land cost
- Abundant cheap water
- Low cost labor & housing
- Hotter – drier
- Higher yield
- Flat or more flat

Coastal California

- High cost land
- Limited expensive water
- High cost labor & housing
- Cooler – more moist
- Lower yields
- High quality “perception”

Value of California Olive Oil

- 2007 price up from $23 to $30/gallon
- 2007 price for “similar” imported oil $15/gallon
- Specialty varieties/styles - $45 to $70/gallon

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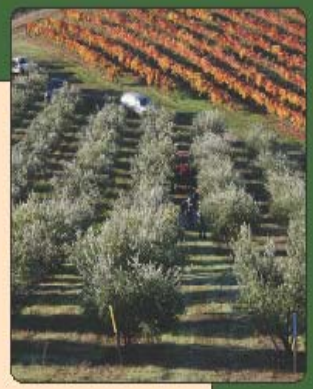
Organic Olive Production Manual



This manual provides detailed information for growers on production issues, economics, pest control, the conversion process, and organic certification and registration.

Using this manual you'll learn about orchard site selection considerations, irrigation needs, terrain, temperature, soil, damage from the olive fruit fly, and how these may vary for table fruit versus fruit for oil production. You'll also learn how to evaluate harvest methods—an important consideration as harvest costs typically amount to half the total production cost for olives.

This manual has been developed as a supplement to the *Olive Production Manual, 2nd Edition*, (3353). Organic growers are advised to consult both publications as they develop and refine their production systems.

Also from the University of California, two companion publications for olive growers:

Olive Production Manual IPM for Olive

ISBN 978-1-60107-440-9
90000
9 781601 074409
Printed in Canada

ORGANIC OLIVE PRODUCTION MANUAL

UNIVERSITY OF CALIFORNIA

66% Growers are Ecological

Organic Olive

PRODUCTION MANUAL

Technical Editor
Paul M. Vossen

UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources
PUBLICATION 3505

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California Olive Production Making Money

- **Must have basic resource**
  - **Land, water, climate, labor**
- **Must have competitive costs**
  - **Lower labor rates**
  - **Mechanization**
- **Must have competitive yield**
  - **Reduce alternate bearing**
- **Must produce excellent quality and sell it**
  - **Value to the consumer**

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Olive Oil - Keys to Success

- Mechanical Harvest (low labor cost)
- Continuous Flow Processing
- Big Growing Market

Parcel size, water use, soil, oil quality

Mediterranean

- Infrastructure
- Lower Costs “Sometimes”
- Subsidy – 2013?
- Huge market

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Labor cost – availability - management

Harvest Challenge

Shakers

- Expensive
- Slow
- Efficiency 50-80%
- Damage
- Longer investment return

Over-the row

- Expensive
- Small tree size
- Maintain production
- Flat land
- Damage

Bigger Producers in CA

Corto Olive
CALIFORNIA
OLIVE OIL

Bulk Industry

- Central Valley and & Foothill areas
- Large acreage (100 acres +)
- Three varieties
- Low cost production
- Mechanized
- High Yields
- Volume sales
- Competitive prices with the Mediterranean
- Creates a good market for everyone

Acres planted in CA in the last 3 years ~ 7,500

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Big SHD Production - CA

Cultural Operations	~ $900
Harvest & Transport ($80/ton)	~ $400

Overhead, Capital Recovery Equipment & Land

Yield of 5.0 tons per acre @ 42 gallons per ton

Cost ~ $13 per gallon or $3.44 per liter

Bulk $ 30 per gallon

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Super-High density spacing 12-13’ x 4-5’
670 – 907 trees/acre

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California New Plantings

September to September

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Arbequina

Arbosana

Koroneiki


3rd Year Orchard
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$ 210 per acre
$ 42 per ton
@ 5 tons/acre


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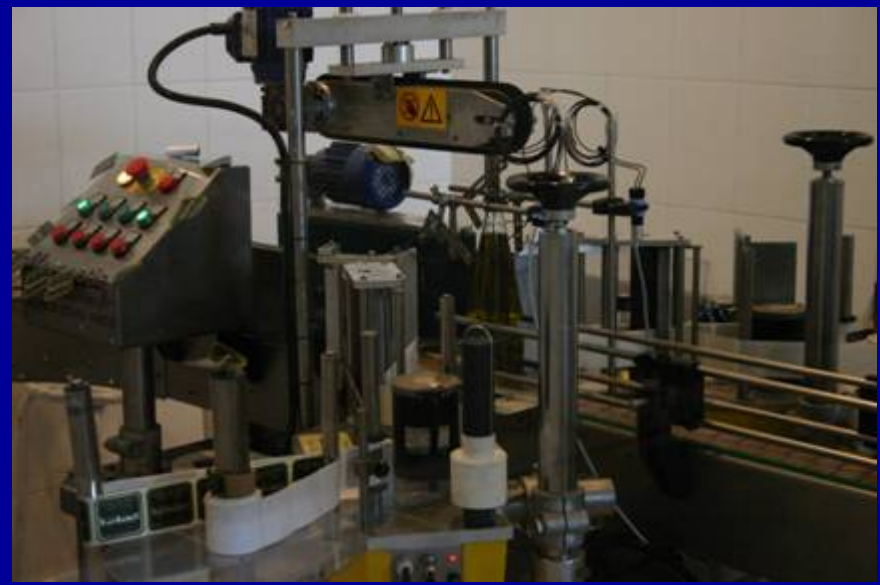
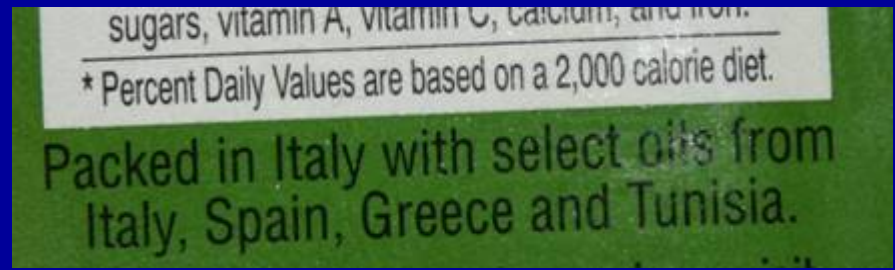
Large Pieralisi

Large Producers

- Low cost bulk oil
- Mostly one variety
- Mostly one style
- Good introductory product
- Unsophisticated consumer



SUPERMARKET OILS



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Large Italian Companies

Small-Scale Producers in CA

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Boutique Industry

- Coastal & Foothill areas
- Small acreage
- Specialty varieties
- Vertical integration (fruit-oil-marketing)
- Attractive bottles
- Specialty marketing
- Prestige
- High prices – low volume – high costs
- Creates a good market for everyone

Acres planted in CA in the last 15 years ~ 3,000

In 2007 = 300

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Boutique Production - CA

Cultural Operations	~ $1,000
Harvest & Transport ($350/ton)	~ $1,000

Processing, Storage, Marketing, Overhead, Capital Recovery

Yield of 2.5 tons per acre @ 45 gallons per ton

Cost $ 80 per gallon and 500-ml bottle is $11.15

Retail $ 175-300/gallon

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High density spacing 16-20’ x 8-10’
200 – 350 trees/acre

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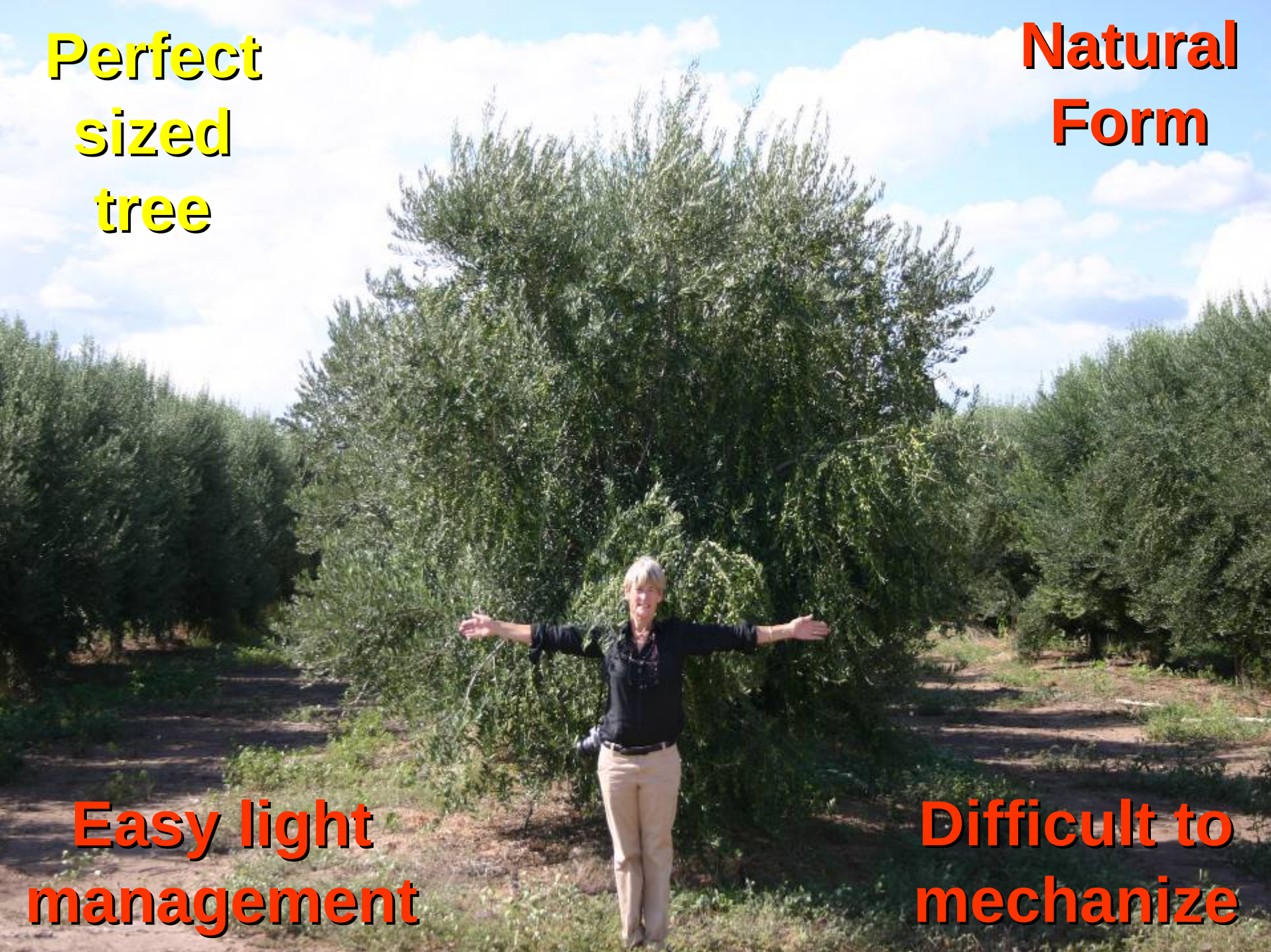
Perfect sized tree
Natural Form
Easy light management
Difficult to mechanize


Hand Harvest
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Assisted
Combs
Shakers
Poles
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COMPARISON OF HAND HARVEST METHODS IN ONE ORCHARD ON THE LECCINO VARIETY ON THE SAME DAY WITH THE SAME LABORERS – YIELD 3.5 TONS/ACRE

Tree canopy's were 11-12 ft. (3.4-3.7 m) high and 7-8 ft (2-2.5 m) in diameter	*Hand Pick Buckets*	*Hand Pick Onto Nets*	*Pneumatic Combs*	*Mini Shaker + Poles*	*Poles Alone*
No. limbs broken/tree	**4.16**	**3.75**	**18.7**	**22.3**	**28.0**
No. fruit damaged/lb.	**0.1**	**4.0**	**4.2**	**3.5**	**5.3**
Minutes/tree/man	**20:15**	**16:30**	**11:20**	**7:45**	**7:10**
Pounds of fruit/man/hr.	**39.8**	**47.8**	**71.6**	**103.5**	**111.4**
Efficiency compared to hand pick into buckets	**1.0 a**	**1.2 a**	**1.8 b**	**2.6 c**	**2.8 c**

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Trunk shaker and inverted umbrella WRAP AROUND

Spanish Olive Harvester – Wrap Around

California Prune Harvester

California Pistachio Harvester


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Key Differences of SHD system

- Over-the-row harvesters – faster
- Site – not too steep
- Varieties – limited – precocious – low vigor
- Tree spacing – higher investment cost
- Training trees – mini central leader – trellis
- Prune trees – must keep trees small
- Fertility – adjustable for vigor control
- Irrigation – deficit for vigor control
- Life Span – shorter

MUCH MORE INTENSIVE

Comparison of SHD and HD

Super-High Density (670-900 trees/acre)

- Few varieties
- High early production
- Light competition
- OK later production
- Big investment
- Cost $15-20/gallon
- Unknown life span
- Good for large farms

Intensive planting (100-200 trees/acre)

- All varieties work
- OK early production
- No special mgmt.
- Good later production
- Med investment
- Cost $40-45/gallon
- Long life span
- OK for small farms

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Perception of Quality

Olive Oil Positive Characteristics

Three Olive Oil Products

Bulk & Low cost – Refined

- $5.99 to $9.99/bottle
- $23-30 per gallon

Medium Priced Imports – Low Quality

- $5 to $13.99/bottle
- $30-50 per gallon

Specialty – Premium

- $10 – 30 per bottle
- $ 75-300 per gallon

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200 CA Artisan Olive Oils
148 Entered into LA Fair (2007)

Tasting Rooms


MARGARET RIVER AUSTRALIA
OLIO BELLO
EXTRA VIRGIN OLIVE OIL
BONANZA
KALAMATA
MARGARET RIVER PREMIUM BLEND
SPECIAL RELEASE
/s tasting
hemselves

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Small scale production – fantastic quality

Small Alfa Laval

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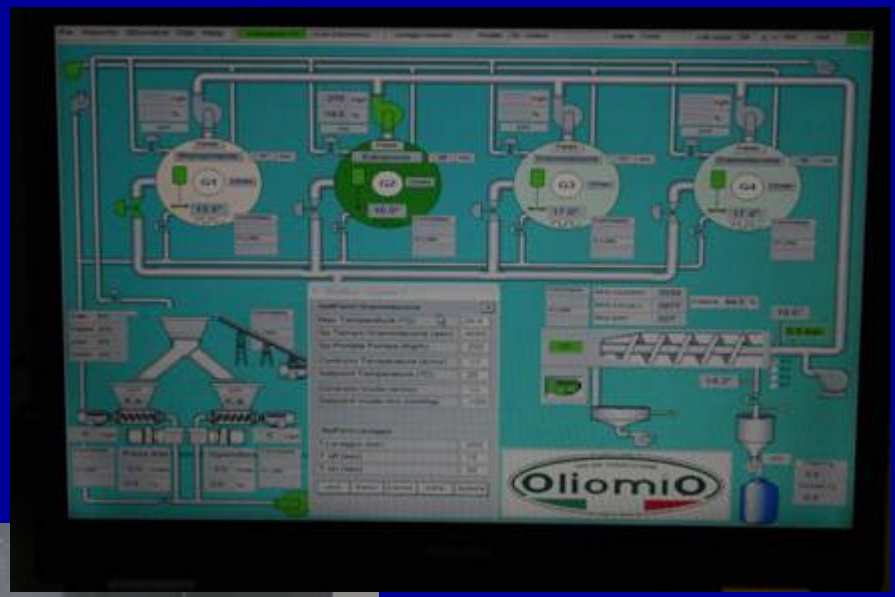
Automation



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Small-Scale Producer

- High cost retail oil
- Many varieties
- Many styles
- Gourmet product
- Sophisticated consumer
- Interesting story

Robert Mondavi Institute
Olive Center - UCD

Sensory and Production Courses

UC Research Taste Panel

- 15 point profile sheet
- Cooperation with international panels
- Intensity of aroma, bitterness, pungency, fruit intensity, sweetness, total flavor, astringency, defects, complexity, balance, finish, overall quality, and positive flavor descriptors:

Grass, herb, mint, artichoke, buttery, floral, apple, citrus, tropical, green tea, tomato, banana, berry, etc .

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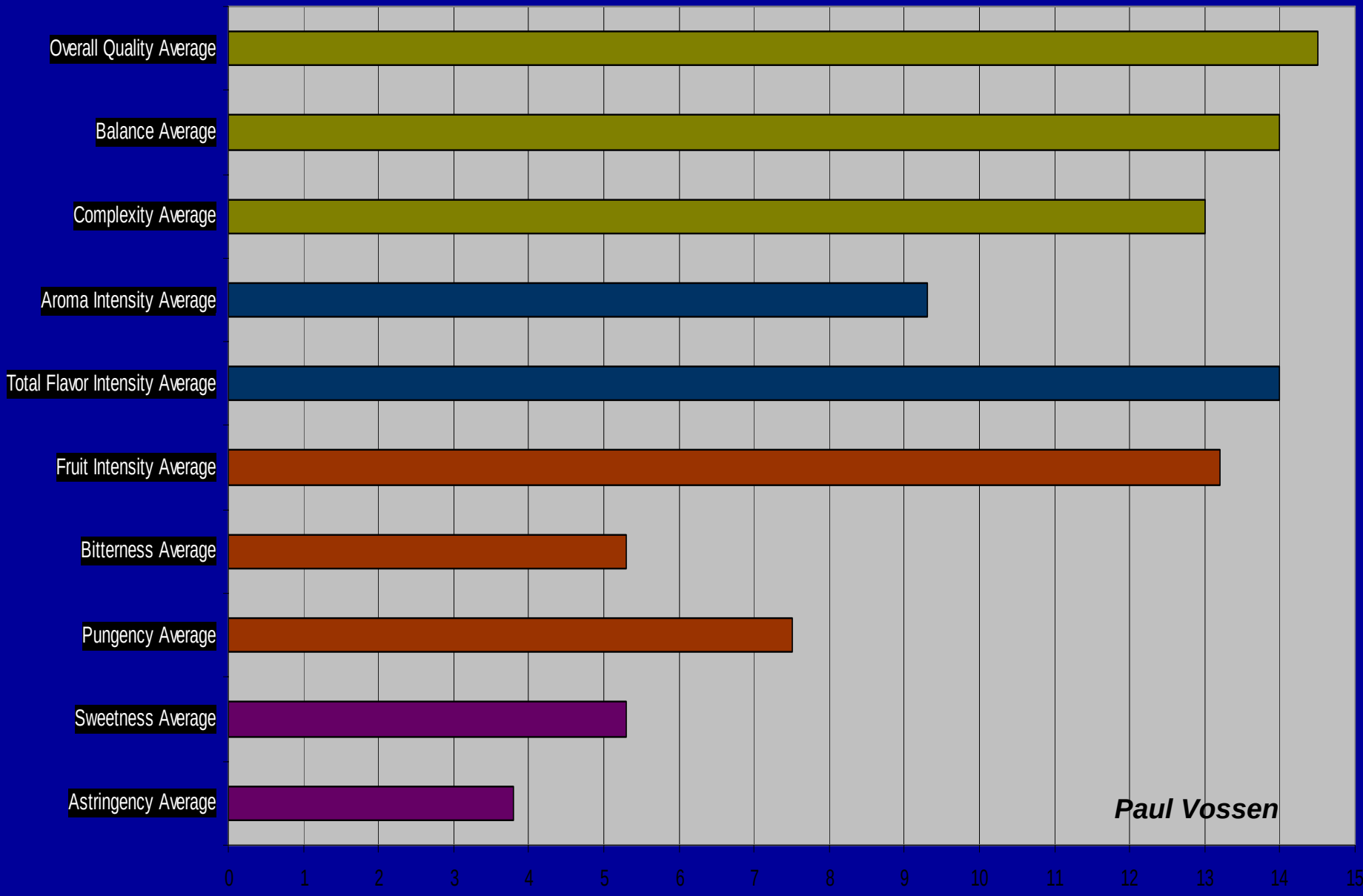
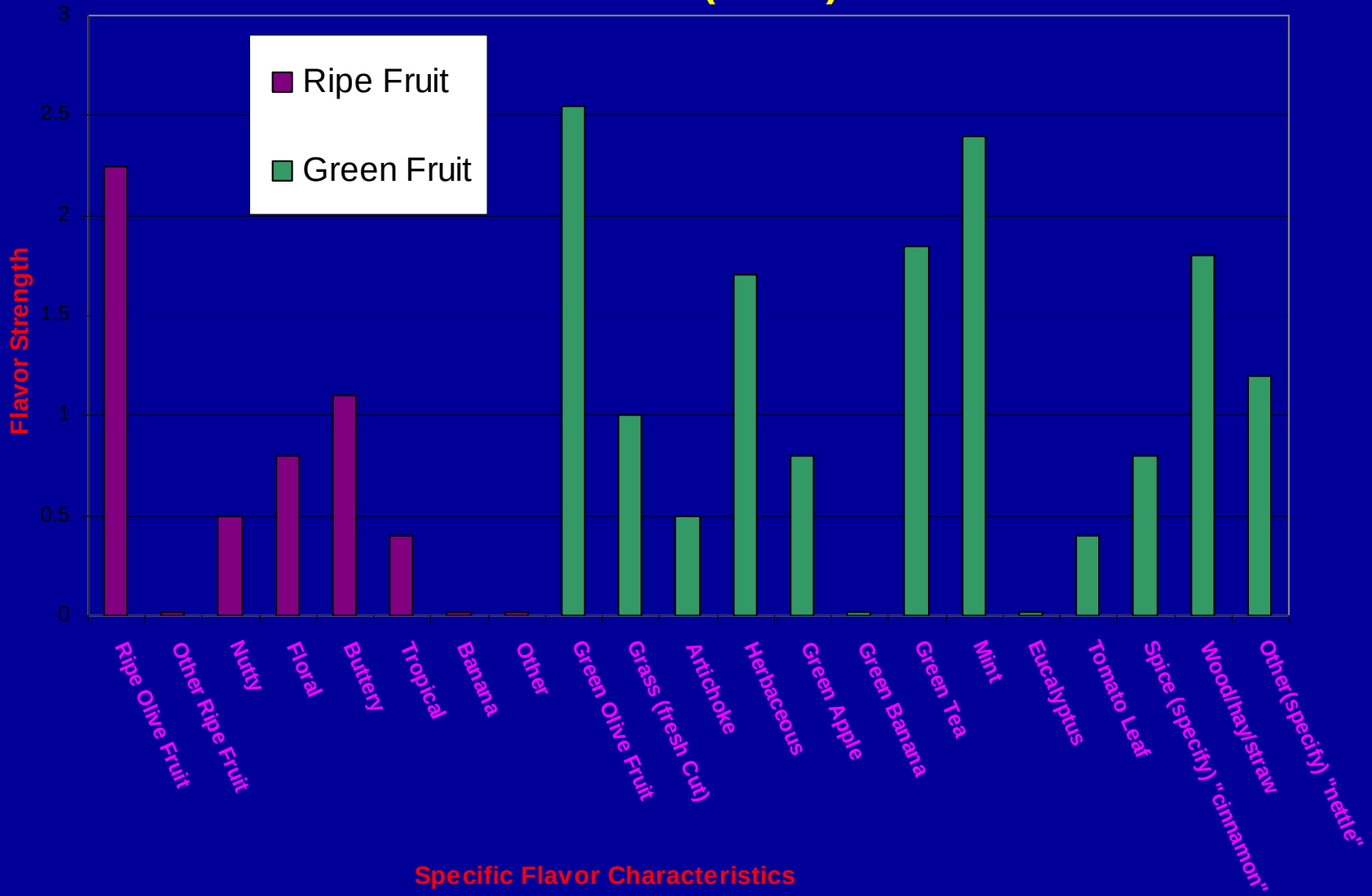
Varietal Trial Coastal Picual MI: 3.9 (11-15-05)



Olive Oil Flavor Characteristics Mission Cultivar
Harvestd 11-18-07 (MI 3.8) - Sonoma



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Olive Oil Profitability Potential in California

Positives

- Basic Resources
- Big USA Market
- Competitive cost with mechanical harvest
- Low water use crop
- Excellent CA Quality
- High CA Demand
- Low Import Quality
- Early Productivity
- Good Prices
- EU Subsidy decline

Negatives

- Cheap imports
- Must market Quality to US Consumers
- Unknowns of SHD System tree mgmt.
- Unknowns of HD System Efficiency

Paul Vossen

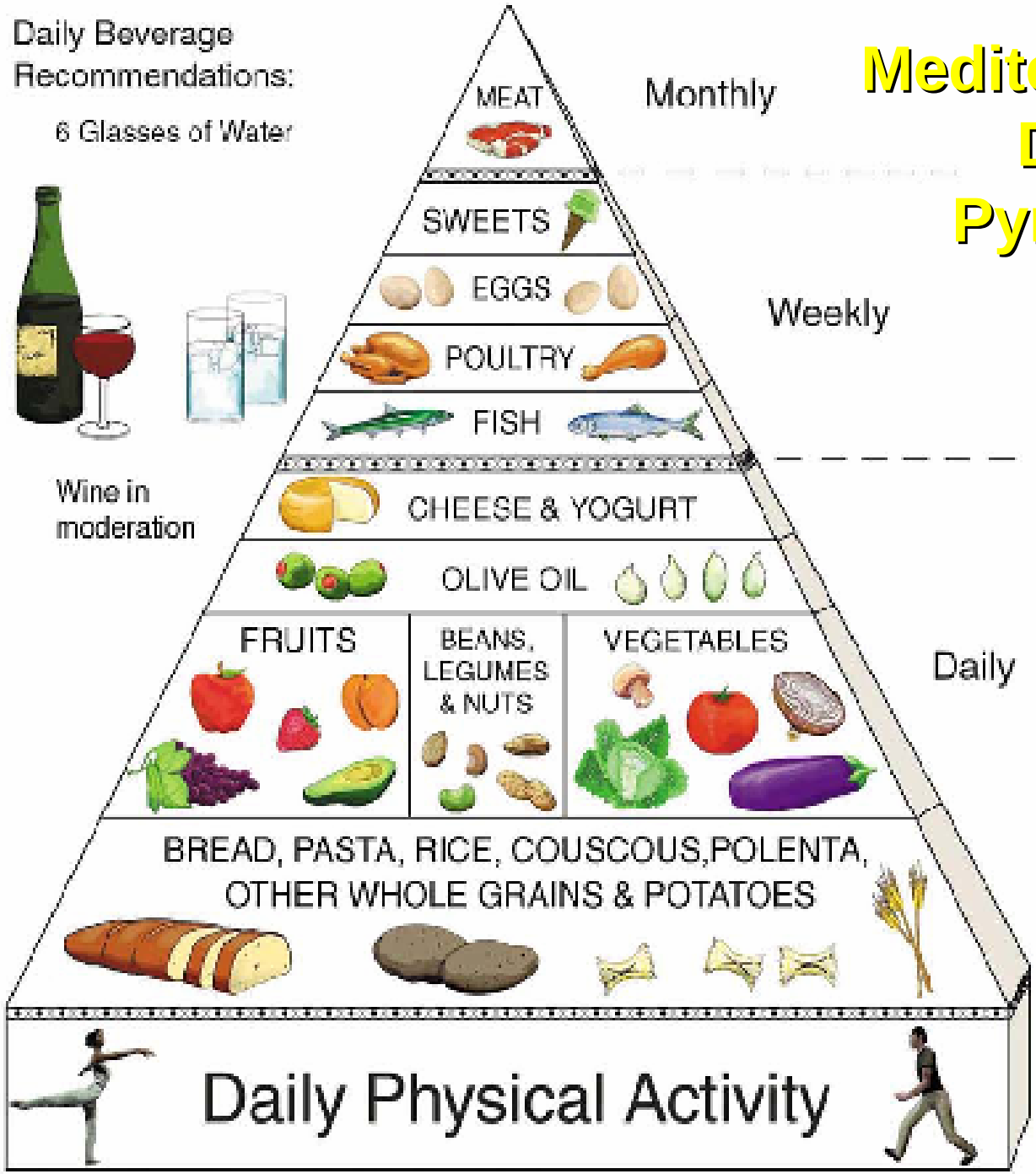
Paul Vossen

University of California
Cooperative Extension
133 Aviation Blvd.
Santa Rosa, CA 95403
(707) 565-2621
pmvossen@ucdavis.edu

http://cesonoma.ucdavis.edu

Paul Vossen

Mediterranean Diet Pyramid



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