WORLD OLIVE OIL STATISTICS

Sensory Course

September 2009

World Production = 2,500 million liters

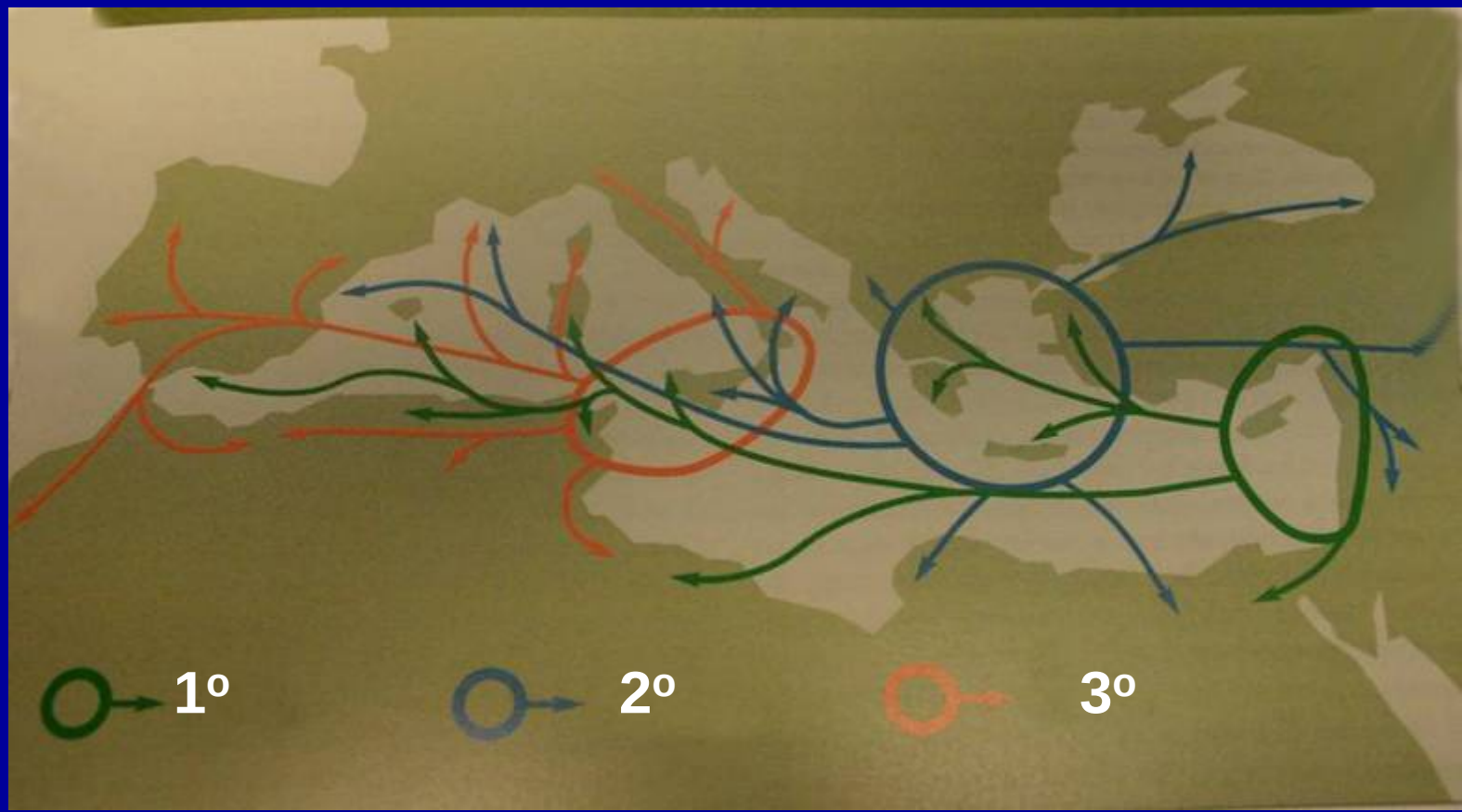
USA Production = 1.5 million liters

0.06%

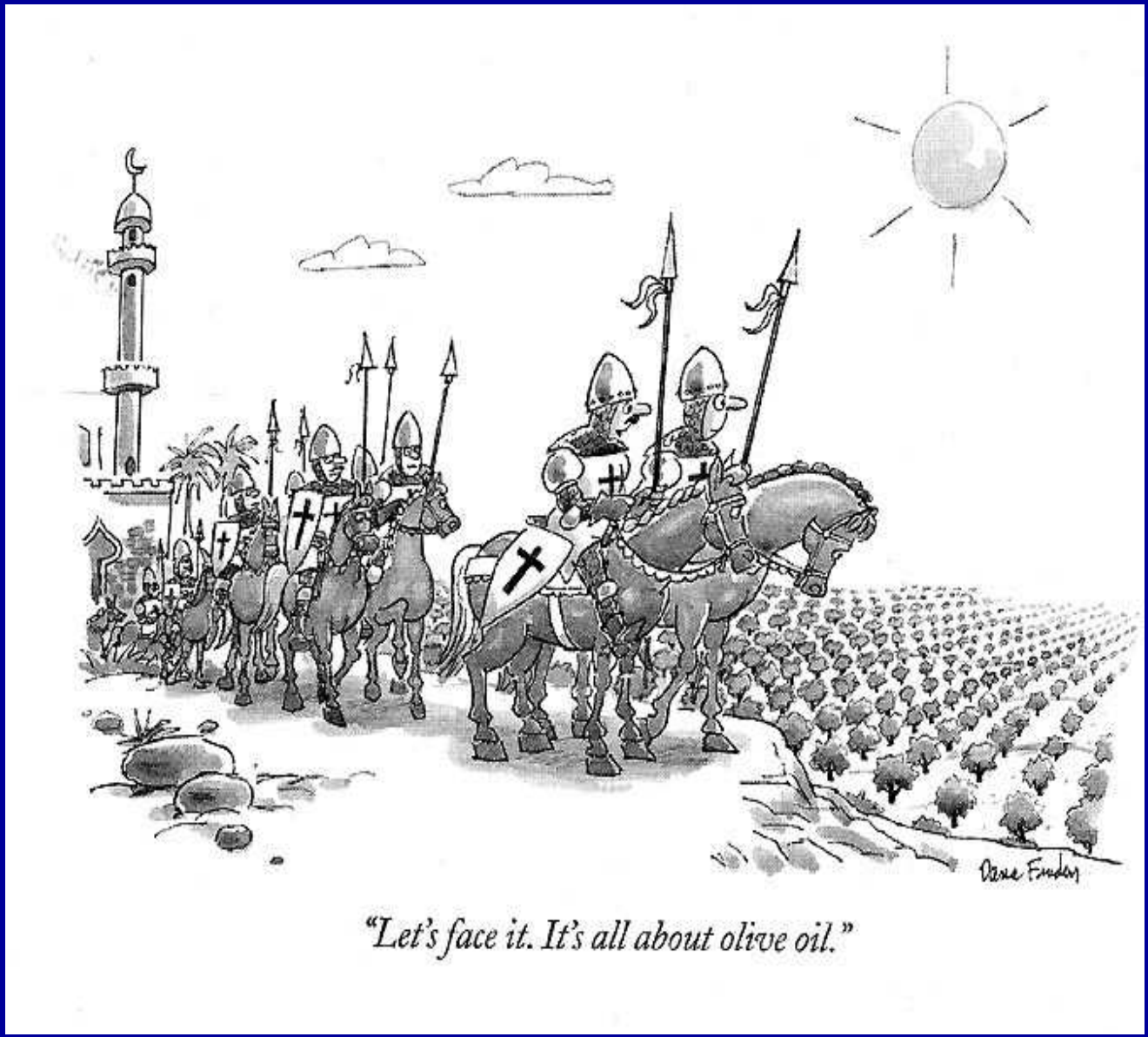
USA consumption* = 230 million liters = *0.6%

Origin of the Olive *(Olea europaea)*

Mediterranean Development
5,500 to 6,000 years



How important is Olive Oil?



"Let's face it. It's all about olive oil."

PALACE OF KNOSOS

Oil lamps

WORLD OLIVE ACREAGE

- Spain ~ 6 million *25%*
- Tunisia ~ 3.8 million *16%*
- Italy ~ 3.5 million *15%*
- Greece 2.5 million *11%*
- Portugal 1.3 million *6%*
- Turkey 1.2 million *5%*
- Morocco 1.1 million *5%*
- Syria 1.0 million *5%*

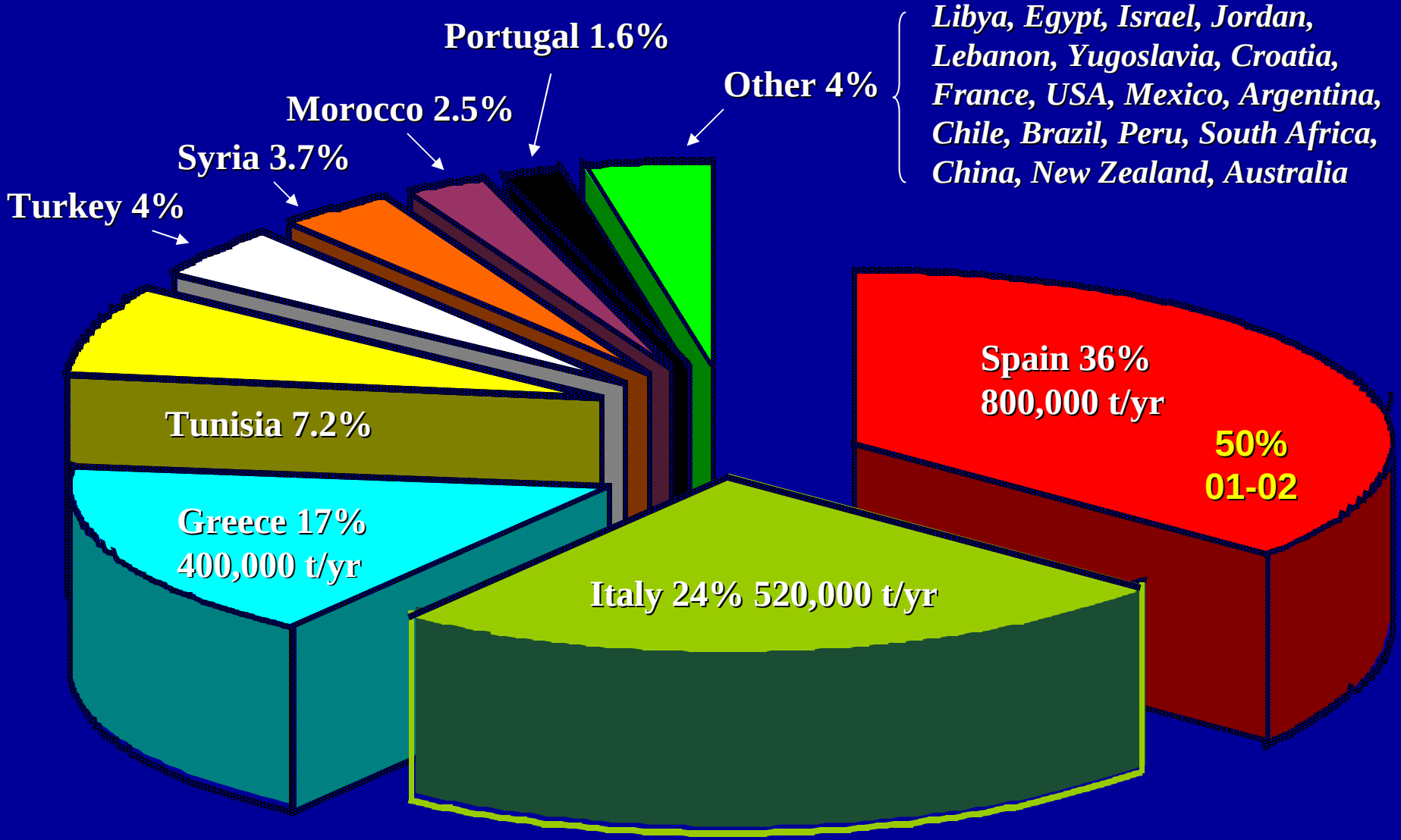
- Argentina 245,000 *1%*
- Australia ~ 100,000 *0.4%*
- USA ~ 27,000 table *0.10%*
  ~ 20,000 oil *0.08%*

- World ~ 24 million

Plantings increasing in Europe, North Africa, and new world
SHD in 1994 = 15 acres - 2007 = 135,000 acres

Paul Vossen

WORLD OLIVE OIL PRODUCTION



Total World Production: ~ 2.2 million metric t/yr

IOOC Data 1997-2002

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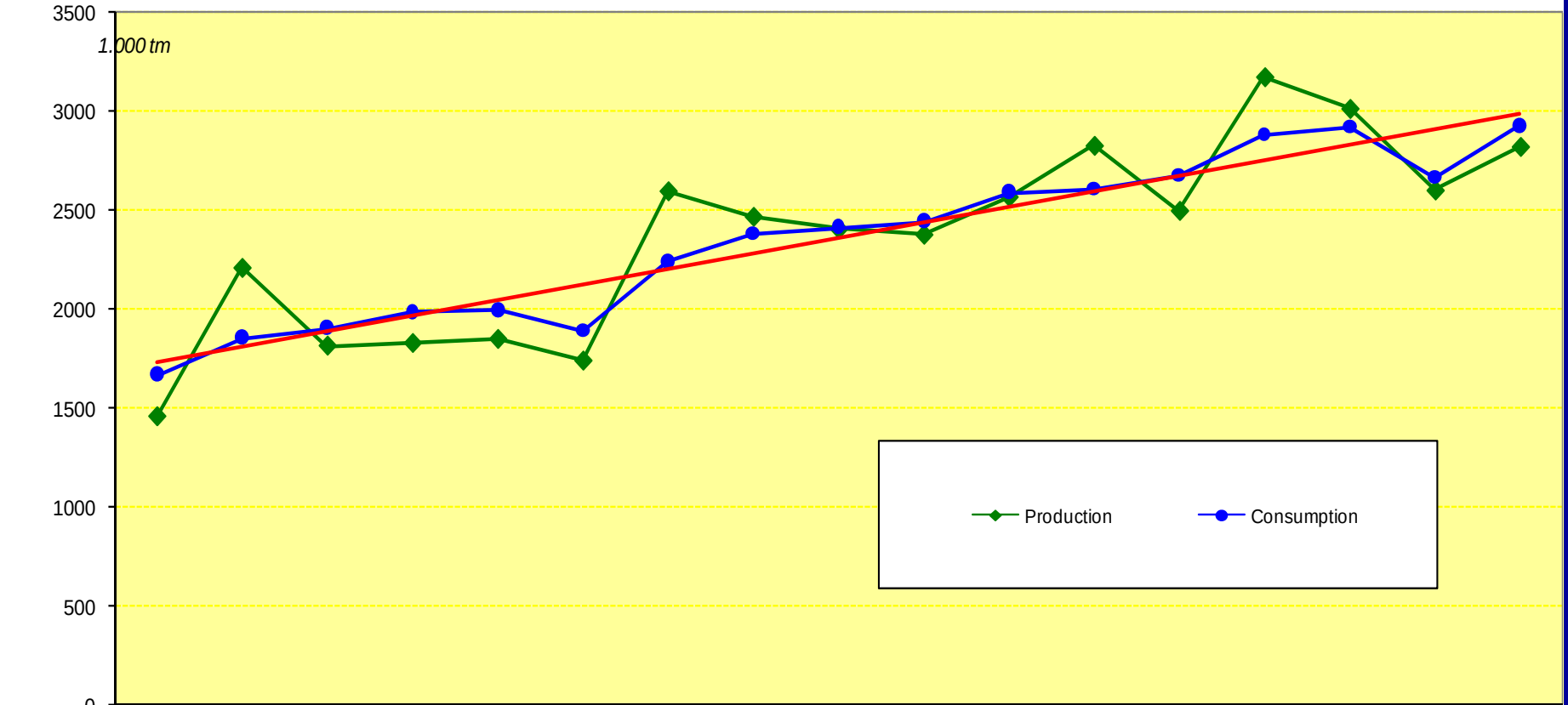
Evolution of World Olive Oil Production and Consumption + USA Consumption

(1,000 metric tons)

PRODUCTION	CONSUMPTION	
WORLD	WORLD	USA
• 1990/91 – 1,450	• 1990/91 – 1,670	88.8
• 1995/96 – 1,740	• 1995/96 – 1,890	101.0
• 1996/97 – 2,600	• 1996/97 – 2,240	130.5
• 2003/04 – 3,170	• 2003/04 – 2,890	216.5
• 2004/05 – 3,000	• 2004/05 – 2,890	217.0
• 2005/06 – 2,580	• 2005/06 – 2,770	219.0
+ 90%	*+ 65%*	*+146%*

Mercacei # 50 Feb-April 2007

PRODUCTION Y CONSUMPTION 1990/91 – 2006/07



	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/9	1999/0	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6	2006/7
Production	1453	2206	1811.5	1825	1845.5	1735.5	2595	2465.5	2402.5	2374.5	2565.5	2825.5	2495.5	3174	3013	2599	2820
Consumption	1666.5	1857	1904	1985	1994.5	1888.5	2241.5	2381.5	2413	2442.5	2590.5	2606.5	2677.5	2882.5	2923.5	2665.5	2929

Olive Oil Consumption 2006

World PER CAPITA (liters)

1. Greece 23.9
2. Italy 14.4
3. Spain 13.9
4. Cyprus 10.3
5. Portugal 6.0
6. Syria 5.1
7. Tunisia 5.0
8. Palestine 3.5
9. Jordan 3.1
10. Israel 2.6
11. Morocco 1.8
12. Luxemborg 1.7
13. France 1.6
14. Libya 1.6
15. Australia 1.6
16. Algeria 1.4
17. Lebanon 1.3
18. Belgium 1.2
19. Croatia 1.1
20. UK 1.1
21. Netherlands 0.8
22. Canada 0.8
23. Turkey 0.7
24. USA 0.7

By Country

- Italy 30%
- Spain 20%
- Greece 9%
- USA 8%
- France 4%
- Syria 3%
- Other 26%

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

Olive Oil Sales in US Markets

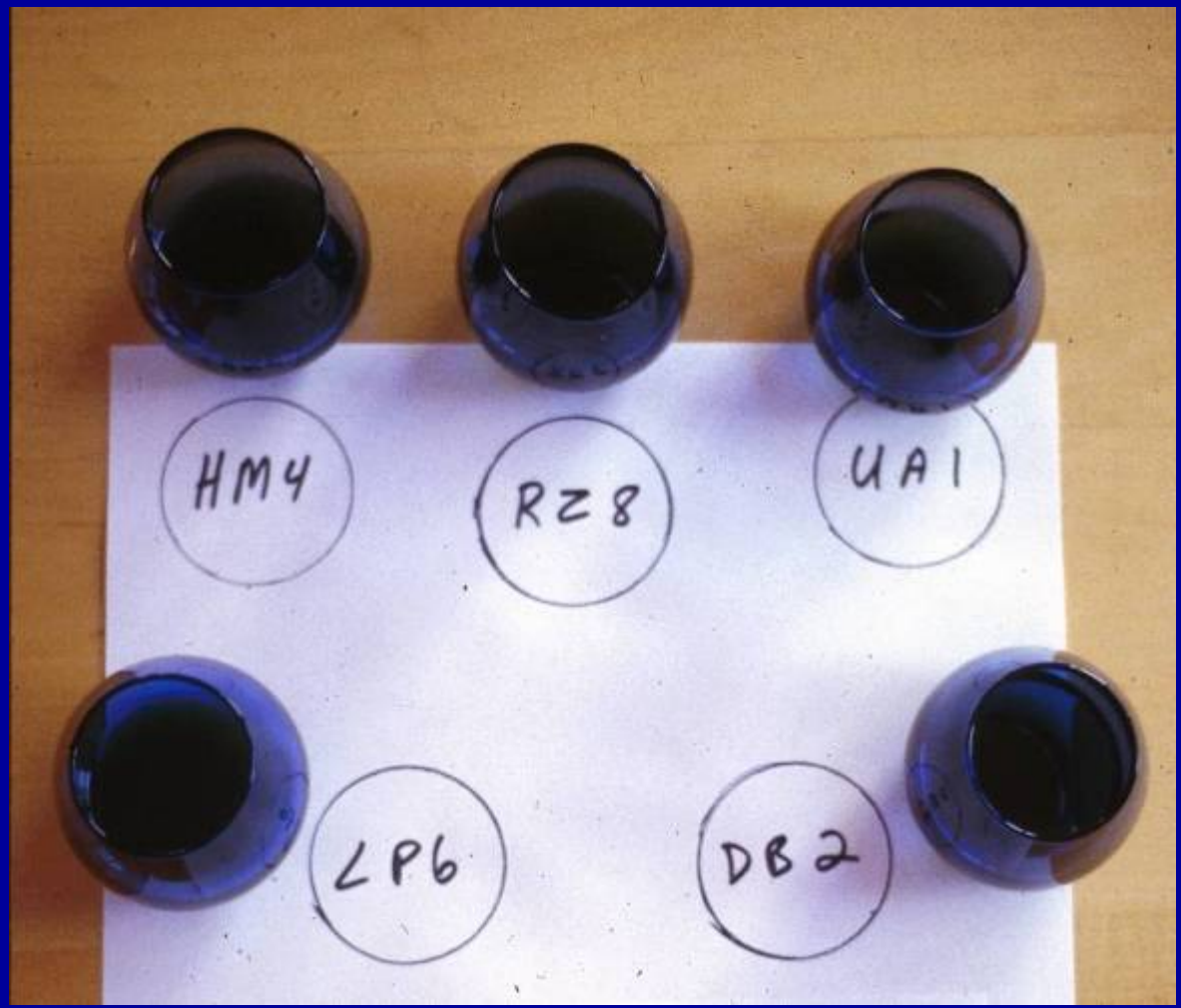
1994 to 1995	+ 12%
1995 to 1996	+ 27%
1996 to 1997	+ 31%
1997 to 1998	+ 18%
1999 to 2000	+ 10%
2000 to 2001	+ 1%
2001 to 2002	+ 8%
2002 to 2003	+ 10%
2003 to 2004	+ 12%
2004 to 2005	+ 15%
2005 to 2006	+ 14%

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

- Production – 1.5 million Liters
- Consumption – 210.5 million Liters
- Exports = 17 million Liters
- Imports – 221.0 million Liters
  - From Italy – 71%
  - From Spain – 15%
  - From Turkey – 5%
  - From Greece – 2%
  - From Australia, Chile, Argentina – 7%

USA imports 99.3% of consumption

Tasting the 1st Oil (NN9)



MELGAREJO
Aceite de Oliva Virgen Extra
SELECCIÓN
gourmet
500ml
MELGAREJO
Aceite de Oliva Virgen Extra
SELECCIÓN
gourmet
COMPOSICIÓN
delicatessen
MELGAREJO
COMPOSICIÓN
delicatessen
500ml

SPANISH OLIVE OIL PRODUCTION

- **Production in 2000-01 – 4,612,200 tons**
- **973,700 tons of oil = 51% of EU**
  = 40% of World

- **Production in 2001-02 – 6,269,000 tons**
- **1,370,000 tons of oil = 58% of EU**
  = 45.5% of World

Range 337,600 to 1,412,000

SPANISH OLIVE OIL TRENDS

- 6 million acres of olives
- 80 % non irrigated – 1 ton/acre
- 1 million new acres in last 10 years
- Irrigated – 4 tons/acre annually
- Super-high-density System (80,000 acres)
- New plantings have no EU subsidy *
- EU subsidy ~ $0.70/liter & $100-200/acre ECOLOGICAL

1 ton/acre = $106/acre

4 tons/acre = $423/acre

AWARD WINNING OILS

PATRIMONIO
COMUNAL
OLIVARERO

PIERALISI

Spanish Production by Region

- Andalucia ~ 80%
- Castilla La Mancha ~ 7%
- Extremadura ~ 5%
- Catalonia ~ 4%
- Comunidad Valenciana ~ 3%

Traditional – Medium – High Density

MAR CANTABRICO
Golfo de Vizcaya
COSTA VERDE
FRANCIA
ASTURIAS
CANTABRIA
PAIS VASCO
NAVARRA
GALICIA
LA RIOJA
CASTILLA Y LEON
CATALUÑA
ARAGON
MADRID
EXTREMADURA
PORTUGAL
CASTILLA LA MANCHA
COMUNIDAD VALENCIANA
ANDALUCIA
MURCIA
MAR MEDITERRANEO
Cordoba

Olive Trees as far as you can see
6,000,000 acres

Andalusia mountains

Old System
3 trees/hole

Southern Spain – Andalusia modern

Trunk shaker and inverted umbrella WRAP AROUND

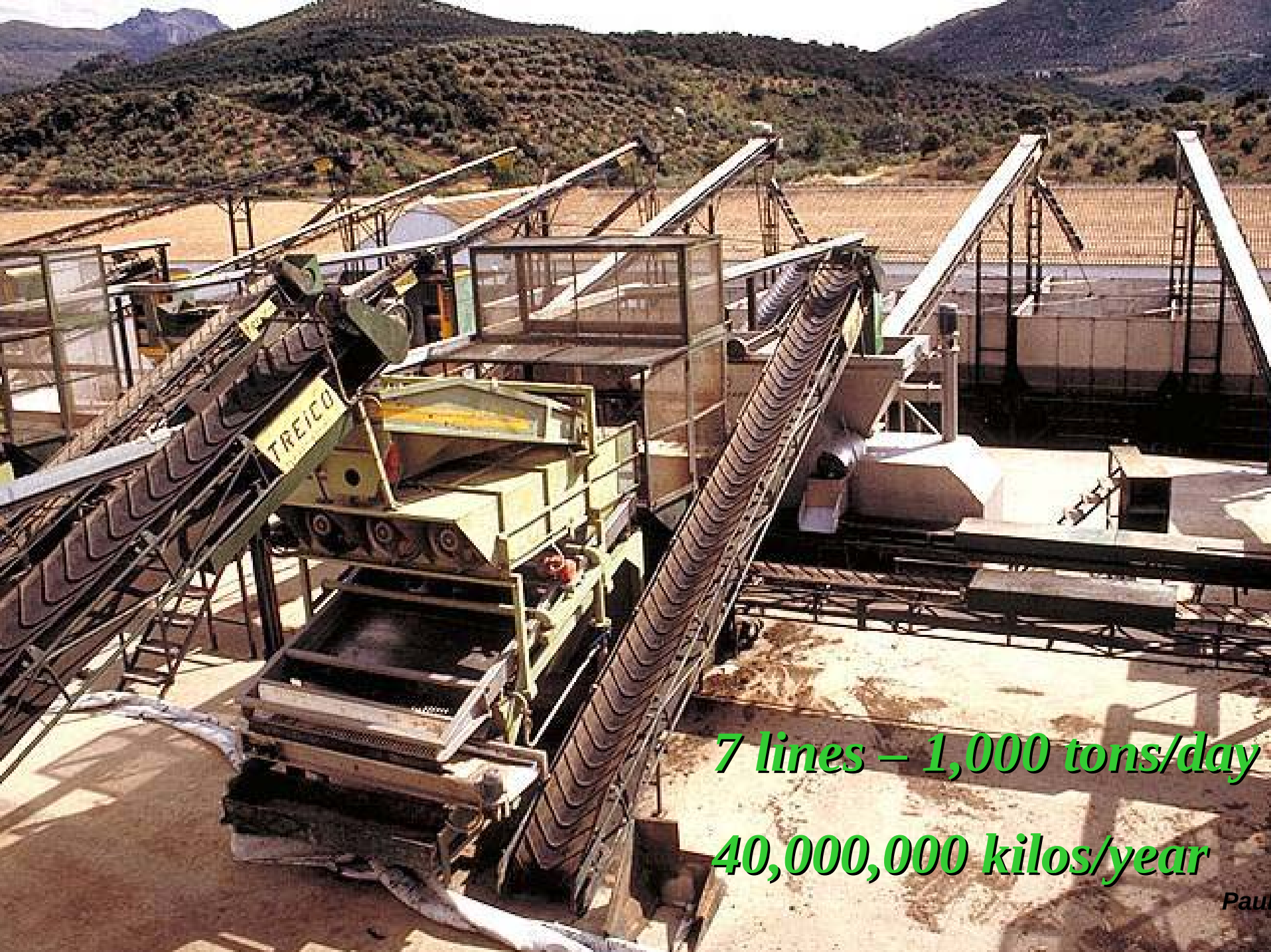
Paul Vossen

Super-High-Density System

2,000 Large Mills

Spanish Mills

- Many large mills are cooperatives
- Numerous small artisan mills
- ~ 2,000 total
- 90% + 2 phase decanters
- 700 to 1500 brands in last 3 years


7 lines – 1,000 tons/day
40,000,000 kilos/year

Olive Oil – NOT Petroleum

Tasting 6th oil (D5E)

SEÑORÍO
DE
HINOJALES

Italy Trends

- 20-24% of production with 15% trees
- 6,300 Mills – mostly artisan (5 tons/day)
- Some large in the South – 85% of oil
- Tuscany = 3.2%
- Small properties and high labor costs
- No excess production
- Buys bulk – refines – blends - resells

Italy – 6,500 Mills

Paul Vossen

Small scale production – fantastic quality

Large Italian Companies

Italian Production by Region

- Liguria – 1%
- Toscana – 3.2%
- Umbria – 1.9%
- Lazio – 4.5%
- Abruzzo – 3.7%
- Puglia – 42%
- Calabria – 23%
- Sardinia – 7%
- Scicily – 10%
- Other – 5%

Northern Italy - Liguria

Northern Italy - Liguria

Liguria - Taggiasca

Tasting 4th Oil (3MZ)

Variety: Ogliarola Lecese (Frantoio)

Toscana - monocone

Toscana - trunk shaker harvest

Apulia - Bari

Apulia - Bari

Apulia - Bari

Apulia - Bari

Tasting 5th Oil (YBX)

OLIO
EXTRA
VERGINE
DI OLIVA
Guglielmi
Olio
Elli Guglielmi
Riccardo e Vincenzo

Apulia - Bari

Apulia - Bari

Apulia - Bari

Sicilia – table/oil olives

Sicilia - Marsala

Sicilia - Marsala

Sicilia - Marsala

Sicilia - Marsala

Sicilia - Marsala

PERUZZA
OLIO
EXTRA
VERGINE
DI OLIVA
SELINUS
OLIO
EXTRA
VERGINE
DI OLIVA
PERUZZA
SELINUS
OLIO
EXTRA
VERGINE
DI OLIVA
PERUZZA
VALLE DEL BELICE
NOCELLARA DEL BELICE
PERUZZA

Gocce di Sole
OLIO EXTRA VERGINE DI OLIVA
SOAL
Taccione
Olio Extra Vergine di Oliva
Kratas
Olio
Bicem
DISISA

il Frantoio
Olio

Academia
BIANCOLIVO
Monocultivar
Olio
Extra Vergine
di Oliva
Extra Virgin
Olive Oil
PRODUCT OF ITALY
0,5 l e
NET 17 fl oz
(1pt 1fl oz)
Stupor
Mundi
Olio Extra
Vergine
di Oliva
"Oliv'e olio"
Olio
Extra Vergine di Oliva
Riviera Ligure
Riviera dei Fiori
OLIO
EXTRAVERGINE
DI OLIVA
MASSERIE
diSANT'ERAMO
EXTRA
VIRGIN
OLIVE OIL
FLAVORFUL
FIRST
COLD
PRESSING
25.4 FL. OZ. (750 ML)
PRODUCT OF ITALY

Italian Consumers Survey

- Geographic growing region – 39%
- Delicate flavor – 36.9%
- Brand - 33.4%
- Price - 33.4%
- Intense flavor - 29.1%
- Intense color - 26.1%
- Sale offer - 23.2%
- Clarity - 22.6%
- Organically grown - 16.2%
- Familiarity – 11.1%.

More small on-farm mills

Titone

Tasting the 3rd Oil (ZEE)

Greek Trends

- Modernized out of 3rd World Presses
- Decanters 2 & 3 phase
- 10 % of trees = 17% production
- Many small farms
- Crete 30% - Peloponisos 30%
- Bulk sales to Italy
- Internal consumption – low cost

Greece – Peloponnesus

New Artisan Products

Low Cost Bulk Products

North Africa & Mid-East

Tunisia, Turkey, Syria, Morocco, Algeria, Libya, Egypt, Israel, Palestinian National Authority, Jordan, and Lebanon

- Very dry – low production
- ~ 50% acreage ~ 20% production
- Old equipment
- Poor sanitation
- Low wages and prices
- Heat
- New investment from US and Europe

North Africa Improved

Picholine Marocaine - Arbequina

Morocco (5% acreage & 2.5% production

Drought stress

Morocco – Modern Technology

Morocco – Antique Technology

Moroccan Artisan Mill

Grocery store oils in Morocco

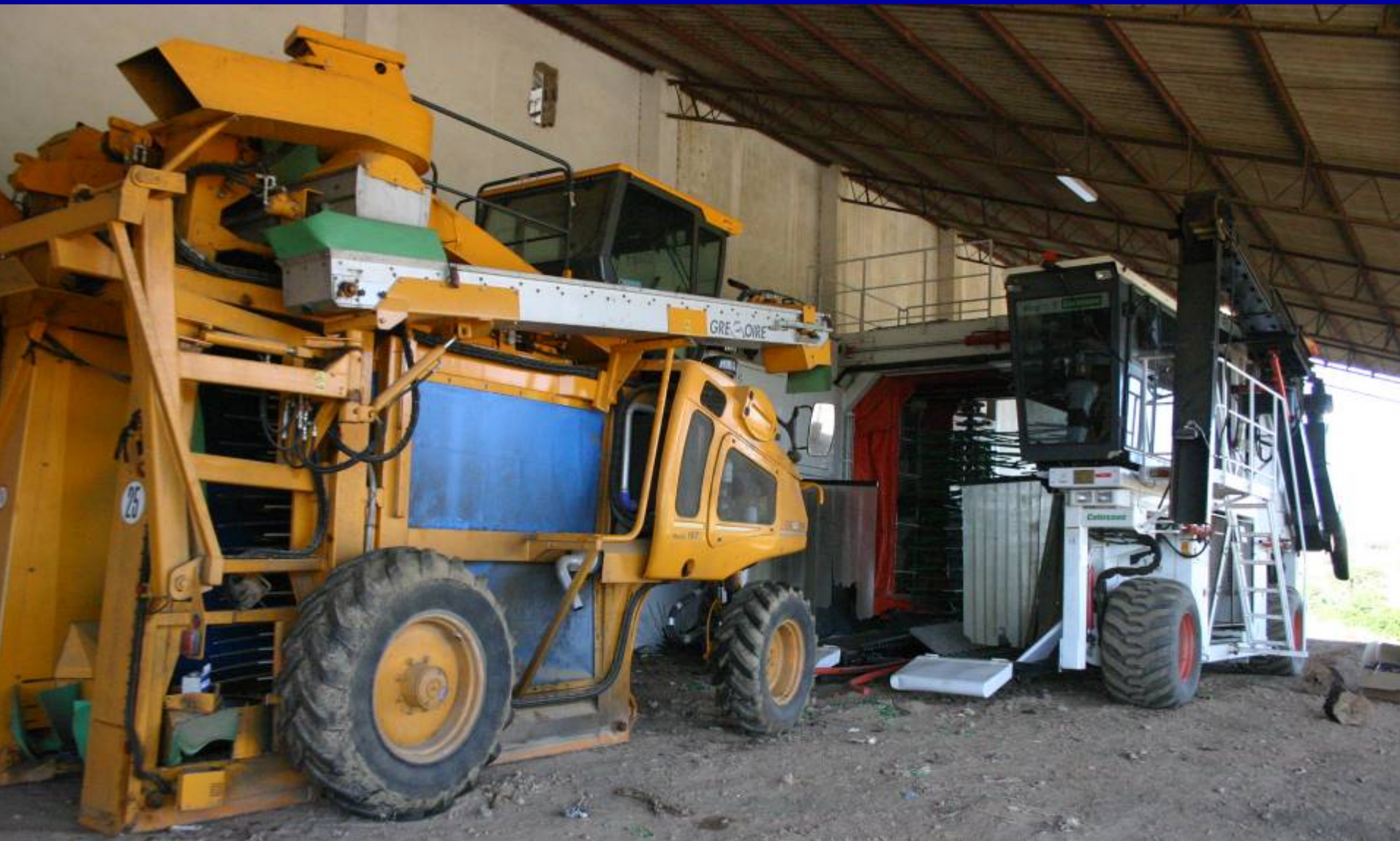
Fusty Olive Oil & Rancid Butter

Old Turkish Orchard

SoftColumn
Deodorising

Portugal 5,000 acre ranch
Colossus harvest

Grape harvester for young trees and Colossus for mature trees



Colossus – 14 ft. x 14 ft

Styles of Olive Oil in the New World and California

New World Keys to Success

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

California New Plantings

TO MEET CURRENT USA DEMAND for OLIVE OIL

70 million gallons = 265 million liters

We would have to plant 300,000 acres of olives

@ (5 t/acre @ 42 gallons/ton)

Meanwhile, how much might demand increase?

New World

- Australia - soon 4-5% of world's EV
- New Zealand - Small artisan
- Argentina – 250,000 acres
- Chile – 100,000 acres
- China - ??????
- Mexico - South Africa – Brazil - Peru

Tasting the 2nd Oil (BF3)

Colossus Machine Australia & Argentina

Australia

THE NEW NAME THAT'S ON THE TIP,
SIDES AND BACK OF EVERYONE'S TONGUE.
ollo
COLD PRESSED
EXTRA VIRGIN
OLIVE OIL
ollo
COLD PRESSED
EXTRA VIRGIN
OLIVE OIL
MILD & MELLOW
warded for superior taste by leading chefs from France, Italy, Belgium, Britain and Germany, Australia's ollo extra virgin olive
il now faces its most challenging audience: American foodies. So judge for yourself. Try ollo in your favorite salads, stir fry,
grilled veggies, meats and more. Get a taste of upscale dining down under. ollo. We're all about taste.
Enter our "Just Say ollo" sweepstakes at ollo.us and you could win a trip for two to Australia, mate.

OPAL
OLIVE OIL
EXTRA VIRGIN
viva
JOSEPH
MIDDLEWOOD
Extra Virgin
OLIVE OIL

MAROUDAS
OLIVE OIL
Russo
Grove
IVORY

Argentina 2008

ARGENTINA SOIL & IRRIGATION

Frantoio does poorly in northern Argentina

Poman – Amiogasta – La Rioja Argentina

Argentina 4 x 2 meters

Argentina 4 x 2 meters

Argentina 3 x 2 meters

Argentina 5 x 2 meters

Argentina 6 x 2 meters

Argentina 8 x 4 meters

Argentina 8 x 4 meters

Colossus Machine 14’ x 14’

Chile 2008

Chile 2008

Chile 2008

Chile 2008

Chile 2008

Chile 2008

USA Production:

< 1% Texas & Arizona

> 99% California

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”

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

France produces ~ 1,000,000 gallons

200 CA Artisan Olive Oils

Boutique Industry

- Coastal 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

Hand Harvest

Hand held harvesting devices

Harvesting olives with air powered combs

LION

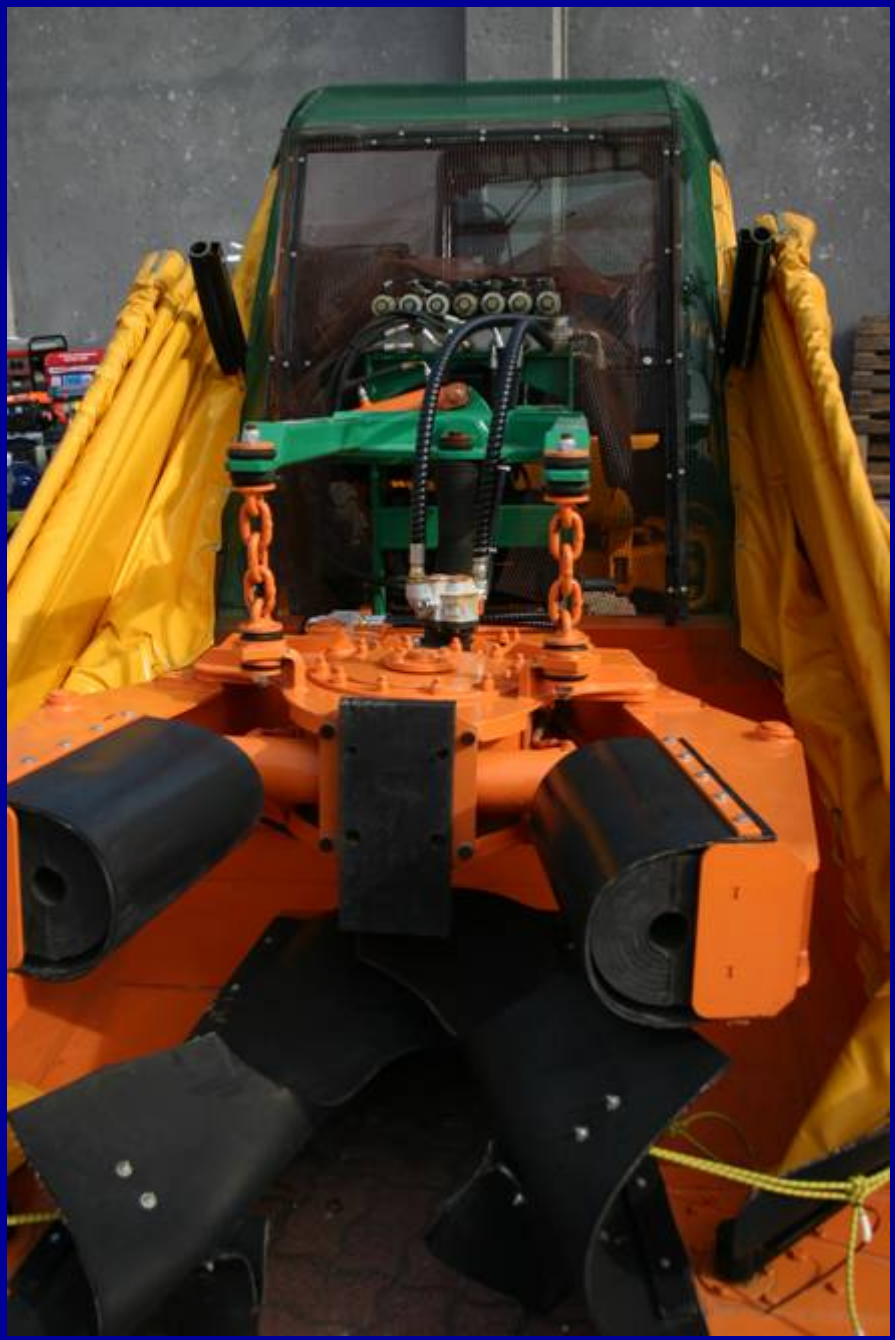
STIHL

Medium Density – Shaker Harvest

California Prune Harvester

California Pistachio Harvester

Trunk shaker and inverted umbrella WRAP AROUND

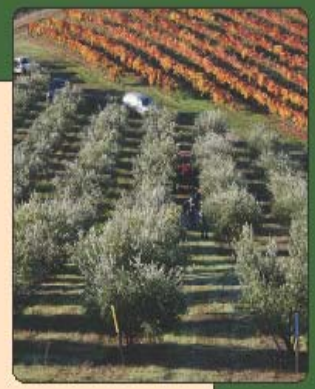


V.le TIRRENO

Organic Olive Oil Growers

- **528 growers in California**
- **34% conventional**
- **66% organic**
  - *16% certified*
  - *9% transition to certified*
  - *41% organic methods without certification*

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
9 781601 074409
90000

Printed in Canada

ORGANIC OLIVE PRODUCTION MANUAL

UNIVERSITY OF CALIFORNIA

Organic Olive

PRODUCTION MANUAL

Technical Editor
Paul M. Vossen

UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources
PUBLICATION 3505

Lowering Costs

- Cheaper land
- Larger land parcels
- Flat land
- Cheaper water
- Mechanize harvest & pruning
- Horticultural frugality
- Come into production early (3rd yr.)
- Volume – high annual yields
- Tasting Room sales = no marketing

Super-High-Density in California

High Density – wine grape harvester

High Density – wine grape harvester

Wine grape Harvesters 6x10 ft.

Bigger Producers in CA

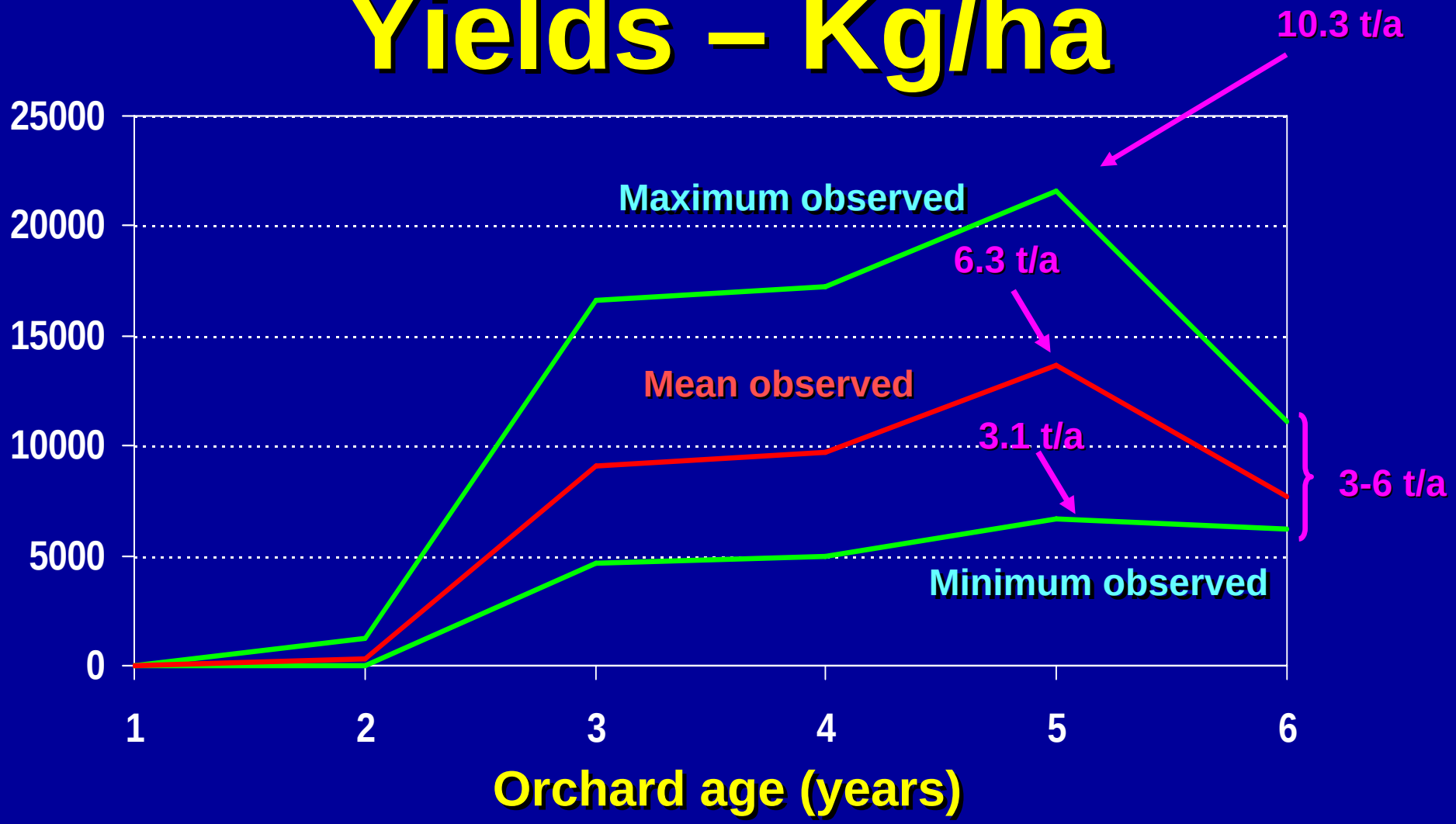
Corto Olive
CALIFORNIA
OLIVE OIL

Arbequina

Arbosana

Koroneiki

Super-High-Density Yields – Kg/ha



Joan Tous 2006

$ Summary HD vs. MD (*per acre)*

MD = ½ investment cost = + $3,000 (1st yr.)

MD = 5 more years to full production

- **10th yr. (MD) $24,042 – (HD) $45,990 (-$22,000)**
- **21 years for MD to break even with HD**

MD = 1 ton + (20%) per acre = +$1,250

MD = 3x harvest cost with shaker (-$84)

MD= ½ pruning cost of HD = +$200

MD = ? Harvest cost with colossus

MD = ? Higher value oil cultivars ? $/gallon

Value of California Olive Oil

- 2007 price up from $23 to $30/gallon
- 2007 price for “similar” imported oil $15

Olive Oil Profitability Potential in California

Positives

- Big USA Market
- Competitive cost with mechanical harvest
- 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

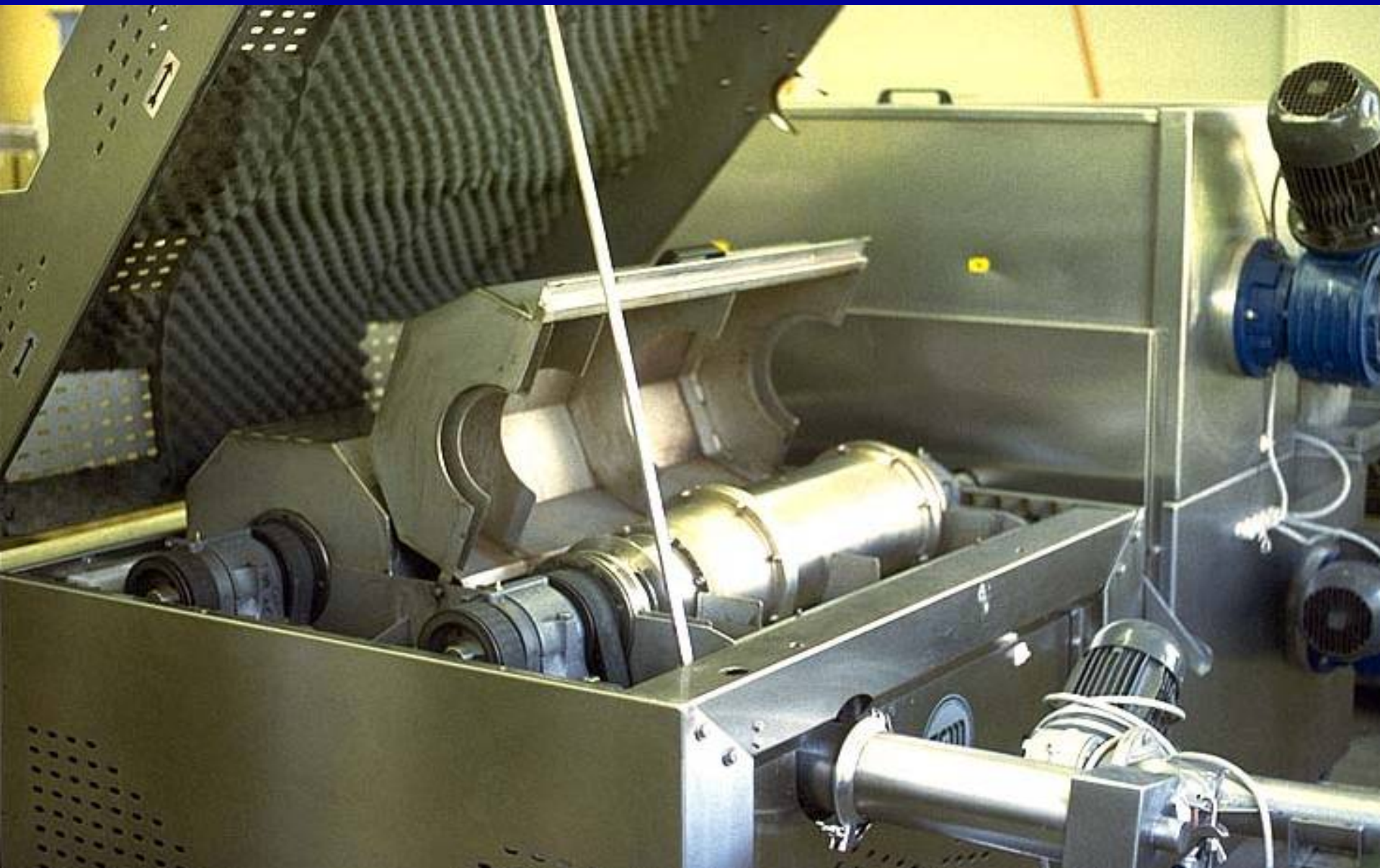
36 OLIVE OIL MILLS IN CALIFORNIA

Size range of 500 - 200,000 gallons

Toy Press

Tiny Olio Mio

Small Olio Mio Decanter

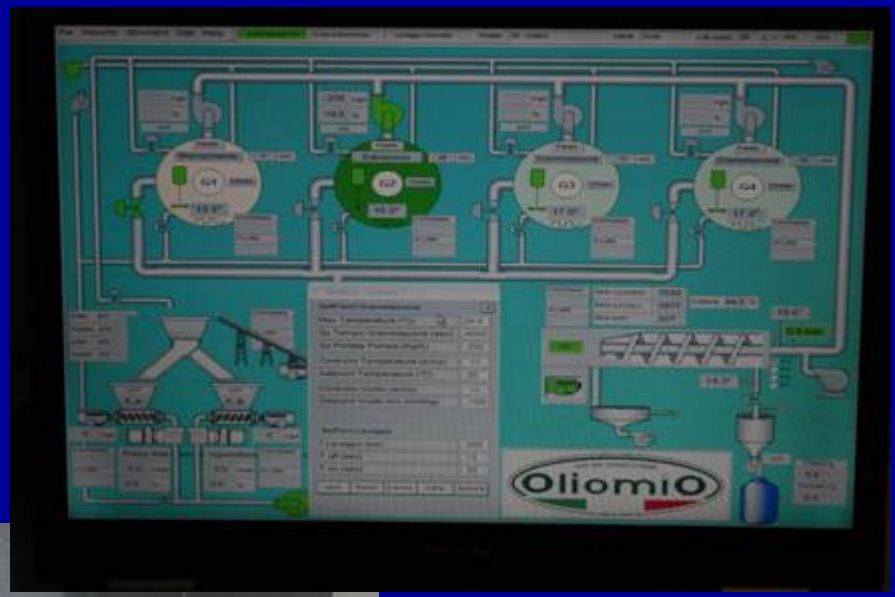


Large Pieralisi

Large Rapanelli

Fruit handling systems

Automation



Waste Management Systems

UC DAVIS
OLIVE OIL
UCDAVIS
OLIVE OIL
THE QUAD
Unfiltered, 0.22 acidity
EXTRA VIRGIN
OLIVE OIL
2006
A FOUR-OLIVE BLEND OF SYMMETRY AND BALANCE
UCDAVIS
OLIVE OIL
gunrock
2007
extra olive oil virgin
UCDAVIS
OLIVE OIL
WOLFSKILL
Unfiltered, 0.23 acidity
EXTRA VIRGIN
OLIVE OIL
2006
EXPERIENCE CALIFORNIA HISTORY IN THIS RARE OIL
UCDAVIS
OLIVE OIL
wolfskill
2007
extra olive oil virgin
UCDAVIS
OLIVE OIL
GUNROCK
Unfiltered, 0.19 acidity
EXTRA VIRGIN
OLIVE OIL
2006
THE STRENGTH AND SPIRIT OF UC DAVIS' MASCOT