Paul Vossen

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http://cesonoma.ucdavis.edu



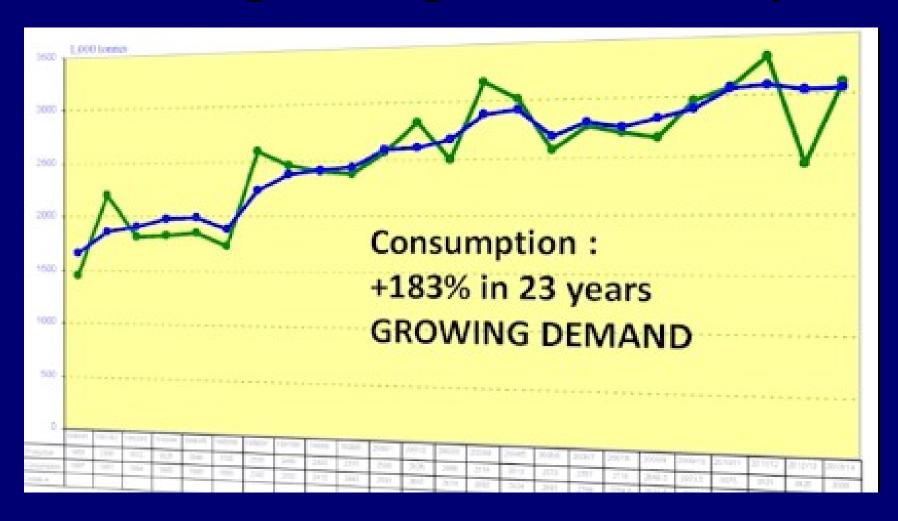
Olive Oil Market & Future April 29, 2014

- World Situation
- California Situation
- Problems
- Opportunities

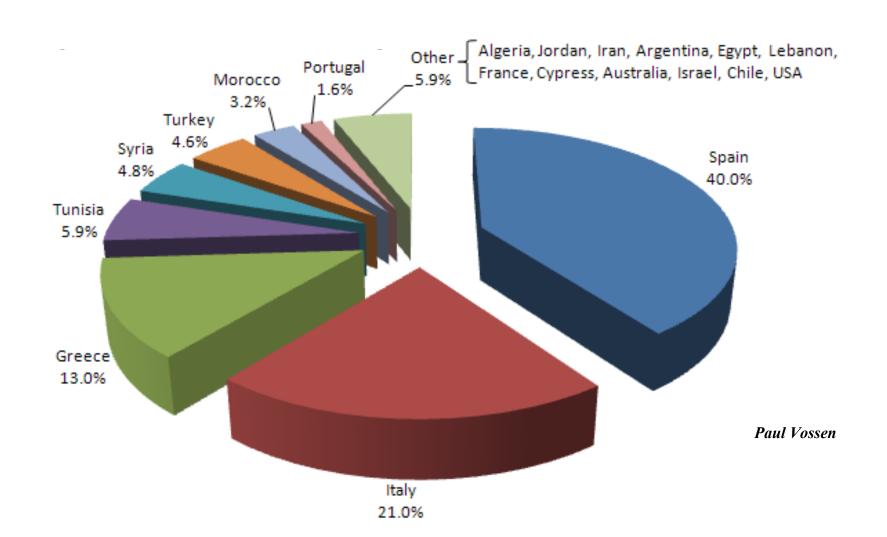




World Production and Consumption up 183% in 23 years



World Production 3 million tons (EU=75%) USA=1%



Spain, Andalucia



Italy, Calabria



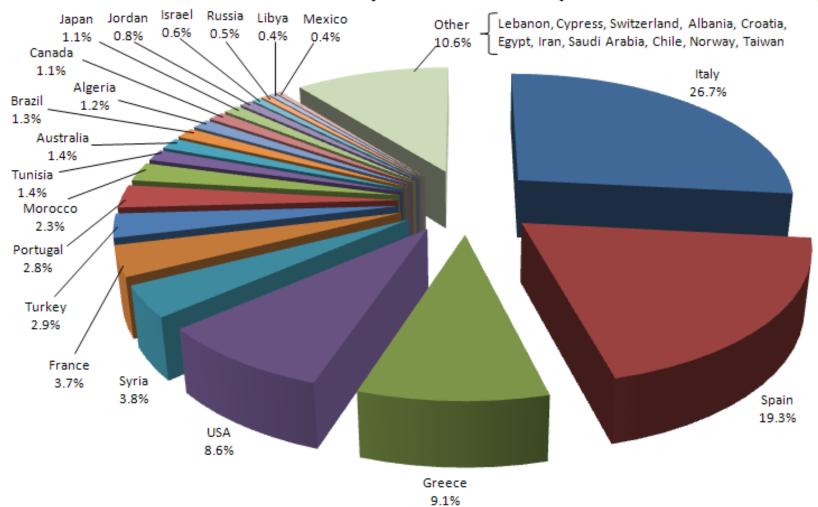
Greece, Peloponisos





World Consumption 2013-14 (EU= 57%) USA = 9.6%

World Olive Oil Consumption 2004-2010 (ave. 2.812 million tons)



International Olive Oil Council



- US imports down 10%
 - Australia imports down 25%

Developed world grades and standards
Supports voluntary compliance & self certification
Promotes olive oil at trade fairs, in-store promotions, celebrity
chefs

NY Times Article

₹ | The Opinion Pages FOOD CHAINS



EXTRA VIRGIN SUICIDE

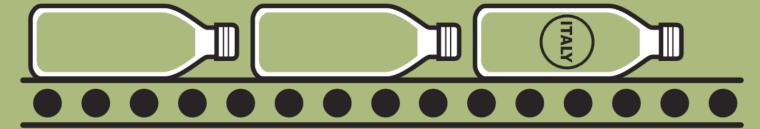
THE ADULTERATION OF ITALIAN OLIVE OIL

By Nicholas Blechman

.

Other refineries are even worse. They mix vegetable oils with beta-carotene, to disguise the flavor, and chlorophyll for coloring, to produce fake olive oil.





Bottles are labeled "Extra Virgin" and branded with "Packed in Italy" or "Imported from Italy." (Oddly, this is legal, even if the oil does not come from Italy — although the source countries are supposed to be listed on the label.)

.

The "olive oil" is shipped around the world, to countries like the U.S., where one study found that 69 percent of imported olive oil labeled "extra virgin" did not meet, in an expert taste and smell test, the standard for that label.

.

But producers — many of whom have connections to powerful politicians — are rarely prosecuted.

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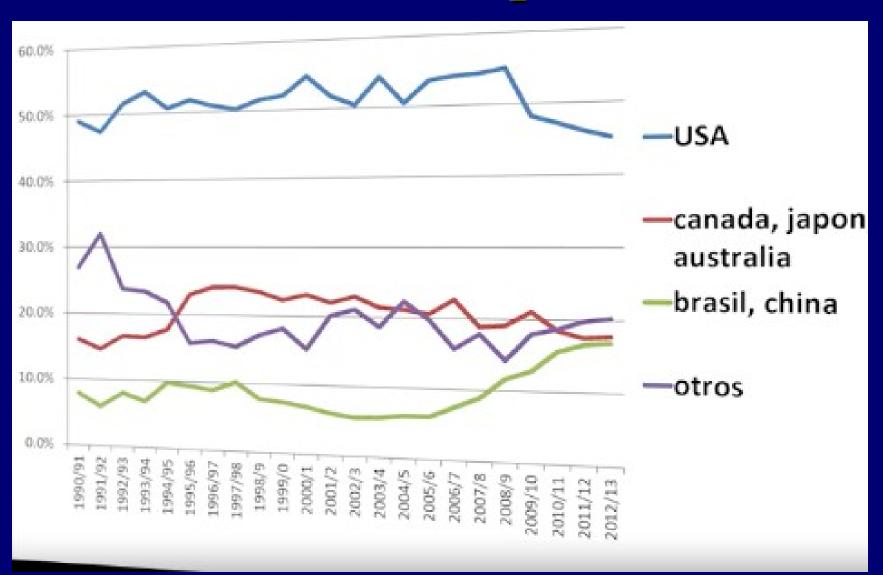




All this fraud, however, has created a drop in olive oil prices. Corrupt producers have undermined themselves, effectively committing economic suicide.

.

USA Imports



USA imports ~ 97.0% of consumption





Most of it is this stuff selling for \$2.81 to \$6.87 per ½ liter bottle



Much of it is defective (old, fermented, rancid)

Cheap imports typically have defects



- **#1 Defect** = Rancid old oils (not fresh)
- **#2 Defect** = Fusty cheap oils low cost producers from ground harvested or poorly handled fruit
- #3 Defect = Heated Flavor Mix of refined & pomace oil up to IOC standard (non-detectable levels)

AND. are labeled as "extra virgin"

Quality Study UC Davis

Report

Tests indicate that imported "extra virgin"olive oil often fails international and USDA standards

Frankel, E. N.; Mailer, R. J.; Shoemaker, C. F.; Wang, S. C.; Flynn, J. D.

- 69% of imported oils labeled EV did not meet IOC standards for EV
- 31% failed laboratory tests
- 83% failed sensory tests
- 10% of domestic oils labeled EV did not meet IOC standards for EV
- Many failed new German/ Australian tests

Find Ratings



A-Z Index

Cars → Appliances → Electronics → Home & Garden → Babies & Kids → Money Shopping → Health →

Home > Consumer Reports Magazine > 2012 > September > How to find the best extra-virgin olive oil













How to find the best extra-virgin olive oil Our taste tests show that some oils don't make the grade

Consumer Reports magazine: September 2012

Look to the West | What is extra virgin, anyway? | A healthy fat | How to choose, how to use | Decoding labels

Many "extra virgin" olive oils—including big names such as Bertolli, Crisco, Filippo Berio, and Mazola—don't taste good enough to merit that description. By definition, extra-virgin olive oil is supposed to be flawless, but only the top nine of the 23 products our experts tried were free of flaws. More than half tasted fermented or stale. Two even tasted a bit like . . . let's just say a barnyard. That problem can occur if oil is stored in vats containing sediment that has begun to ferment. The good news is that two products were excellent; one of those is a CR Best Buy.

You may not be able to easily spot a dud. Most people don't sip olive oil straight from a glass, as our experts did, and foods can mask imperfections. In addition, many consumers assume that olive oil should be a liquid version of the fruit they put in a salad



To gauge color differences, our experts looked at oils poured into white porcelain spoons.

or martini. Wrong. Superior oils are fresh and fragrant, with complex flavors of ripe and unripe fruit, grass, herbs, nuts, or butter, for starters. If you're used to a particular product, you might not realize what you're missing until you do your own side-by-side comparison. It's like learning to appreciate and enjoy fine wine.

Look to the West

Our Ratings show that you don't need to buy oil with an Italian heritage to experience the best. California, which produces about 3 percent of the olive oil consumed in the U.S., is the source of the only two products judged Excellent: McEvoy Ranch (grown on a 550-acre property in Petaluma) and Trader Joe's California Estate oil ("crafted to our specifications from the first press of Arbequina olives grown on estate ranches in the Sierra foothills"), which costs far less than McEvoy: 35 cents per ounce compared with \$1.73.

Three of the six Very Good oils also have a California pedigree: B.R. Cohn, 365 Everyday Value (Whole Foods), and California Olive Ranch. O-Live & Co. is pressed from Chilean olives. Only Lucini Premium Select and Kirkland Signature (Costco) Select Toscano are from olives grown in Italy. The other rated products contain olives from a mix of nations, such as Argentina, Greece, Italy, Morocco, Spain, Tunisia, and Turkey. Goya, a winner in our tests years ago, scored only a Fair this time around.



ShopSmart Magazine



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Consumer News



REFRIGERATOR REVIEWS

Find the best compact refrigerator for a

Ratings Olive oil

All tested products In order of taste.

☑ CR Best Buy
☑ Recommended

	Product	Cost per oz.	Comments (See box below.)
	EXCELLENT Strong, comple	x, very	fresh-tasting. Best drizzled over foods to add flavor.
V	McEvoy Ranch	\$1.73	Intense green-grassy flavors; ripe-fruit and floral notes. Very well balanced. Bitterness and pungency add to complexity. Long finish. Great with pasta, bread, bruschetta, red meat, salads, and cheese.
V	Trader Joe's California Estate	0.35	Pronounced green flavors; ripe fruit. Pungent, slightly bitter. Medium finish. Pairs well with bread and salad.
	VERY GOOD Fresh, comple	x oils th	at complement many foods.
V	O-Live & Co.	0.53	Strong aroma and flavors, mostly green with ripe-fruit notes. Pungent, slightly bitter. Pair with pasta, bread, white meat, and salad.
V	B.R. Cohn California	1.79	Lots of ripe-fruit and green flavors, with an unusual anise/fennel note. Slightly pungent, hint of bitterness. Pair with pasta, bread, bruschetta, salad, and pizza
V	Lucini Premium	0.93	Pronounced ripe-fruit and green flavors, including an unusual citrus note. Pungent, slightly bitter. Pair with pasta, bread, fish, and salad.
V	Kirkland Signature Select Toscano (Costco)	0.35	Distinct green flavors with ripe-fruit notes. Hint of hay and woody notes. Long finish. Pair with pasta and white beans.
V	365 Everyday Value 100% Californian Unfiltered (Whole Foods)	0.38	Distinct ripe-fruit and green flavors, hint of banana. Pungent, slightly bitter. Pair with bread, white meat, and salad.
V	California Olive Ranch	0.42	Ripe-fruit and green flavors, hint of banana. Slightly pungent, hint of bitterness. Good on salads and bread, and for baking.

GOOD Except for Newman's Own, the top "Goods" had slight flaws that might not be noticed with food. The rest had more obvious problems, but most would be fine for cooking.					
Newman's Own Organics	0.46	Some ripe-fruit and green flavors. Odd salty taste. Pungent, slightly bitter.			
Colavita	0.56	Mostly ripe-fruit flavors, some green notes. Pungent, slightly bitter. Oxidized note.			
Filippo Berio Organic	0.42	Ripe-fruit and green flavors. Bitter, pungent. Somewhat oxidized and fusty.			
Star	0.34	Strong aroma but little flavor. Somewhat oxidized and fusty. Pungent.			
Archer Farms 100% Italian (Target)	0.53	Some ripe-fruit and green flavors. Bitter, pungent. Some oxidized and woody (olive pit) notes.			
FAIR Few positive attri	outes. All ta	sted at least somewhat stale; most had other flaws.			
Pompeian	0.32	Ripe-fruit and green flavors. Somewhat pungent, hint of bitterness. Fusty and slightly oxidized.			
Crisco	0.30	A little ripe-fruit flavor. Somewhat pungent, slightly bitter. Somewhat oxidized.			
Great Value (Walmart)	0.28	A little ripe-fruit flavor and pungency, hint of bitterness. Oxidized, slightly fusty.			
Goya	0.38	A little ripe-fruit and green flavors. Somewhat pungent, slightly bitter. Slightly fusty, slightly oxidized.			
Filippo Berio	0.34	A little ripe-fruit and hint of green flavors. Somewhat pungent, slightly bitter. Slightly fusty and oxidized.			
Bertolli	0.39	A little ripe-fruit flavor. Slightly bitter and a hint of pungency. Greasy mouth feel. Oxidized and fusty, slight musty aroma.			
Mazola	0.28	Hardly any fruit flavor. Only a hint of bitterness and pungency. Greasy mouth feel. Fusty, notably oxidized.			
POOR Old-tasting, with	one or moi	re strong flaws that aren't likely to be masked by cooking.			
Botticelli	0.28	Old-tasting, oxidized; fusty, musty, barnyardlike. There's a little ripe-fruit flavor but almost no bitterness or pungency.			
Pompeian Organic	0.33	Old-tasting, greasy, rancid. Hint of ripe fruit but little pungency and almost no bitterness.			
Capatriti	0.22	Old-tasting, greasy. Fusty, with strong muddy/barnyardlike flaw. No fruit flavor, little pungency, and only a hint of bitterness.			

Fraud in Spain – 54%



2010 Fraud in Australia – 56%



Australian Government

Rural Industries Research and Development Corporation

Evaluation of New Analytical Methods to Detect Lower Quality Olive Oils

RIRDC Publication No. 12/007

NY International Olive Oil Conf.



"I did not know anything about olive oil"

"Most Chefs and most people do not know anything about olive oil"

Many Consumers Like Bad Oil

Research Brief

UC Davis Olive Center examines consumer olive oil preferences

A majority of Northern California consumers tend to dislike bitter and pungent extra virgin olive oils, with many consumers liking defective attributes such as rancidity. These preferences contrast with those of expert tasters, who prefer defect-free oils that are noticeably bitter and pungent. These are among the key findings of a UC Davis study in the March 2011 edition of Food Quality and Preference.

The study "riow do consumer hedonic ratings for extra virgin olive oil relate to the quality ratings by experts and descriptive analysis ratings?" is the first to provide a comprehensive method of examining the "drivers of liking" for consumers when compared to the quality of extra virgin olive oil. UC Davis sensory scientists Claudia Delgado and Jean-Xavier Guinard conducted the study of 110 Northern California consumers regarding their preferences and drivers-of-liking for 22 commercial olive oils labeled as extra virgin.

Half of the oils in the study were imported and half were from California. The consumers were more highly educated than the general population, with 83 percent having some college experience. Seventy-four percent of the consumers were female, and 75 percent identified themselves as White/Caucasian. Incomes level were evenly distributed among the group. The study has a 95 percent confidence level (reliability of the test or results) and a power of 90 percent (test sensitivity: how good is the test to detect differences among samples).

Fruitiness, bitterness, pungency are the positive sensory attributes of olive oil as identified by International Olive Council (IOC) standards. Extra virgin olive oils must be free of defects and have some fruitiness under IOC grade standards.

Fermented Table Olives



Oil Olives are FRESH



Table Olives are PROCESSED



Learning by Tasting



California's Major Crops (acres)

- <u>Citrus 270,600</u>
 - Navel Oranges 141,000
 - Valencia 43,000
 - Lemons 47,000
 - **Tangerines 30,000**
 - Grapefruit 9,600
- Nut Crops 1,054,200
 - Almonds 710,000
 - Walnuts 223,000
 - **Pistachios 118,000**
 - **Pecans 3,200**
- <u>Vegetables 813,000</u>

- All Grapes 786,000
 - Wine 482,000
 - Raisin 221,000
 - Table 83,000
- <u>Tree Crops 242,300</u>
 - Prunes 64,000
 - **Peaches 52,600**
 - Cherries 27,000
 - Apples 19,000
 - Pears 14,000
 - Apricots 10,700
 - **Table Olives 22,000**
 - Oil Olives 30,000
- Strawberries 35,500

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?

Can Money Be Made?

http://coststudies.ucdavis.edu

- 1. 2011 Bottled Oil from coastal medium density
- 2. 2007 bulk oil from central valley super high density

UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION

2011

SAMPLE COSTS TO ESTABLISH A MEDIUM-DENSITY OLIVE ORCHARD AND PRODUCE BOTTLED

OLIVE OIL



NORTH AND CENTRAL COASTS

California New Plantings



September to September



Summer 2^{nd} year (0.5 t/a)



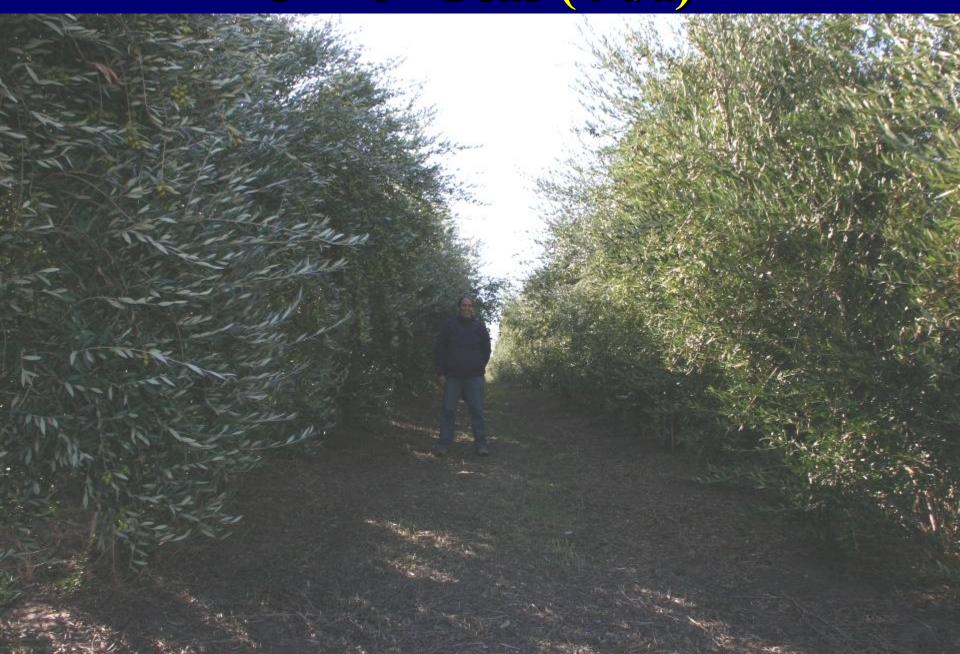
3rd Year Orchard (1-4 t/a)

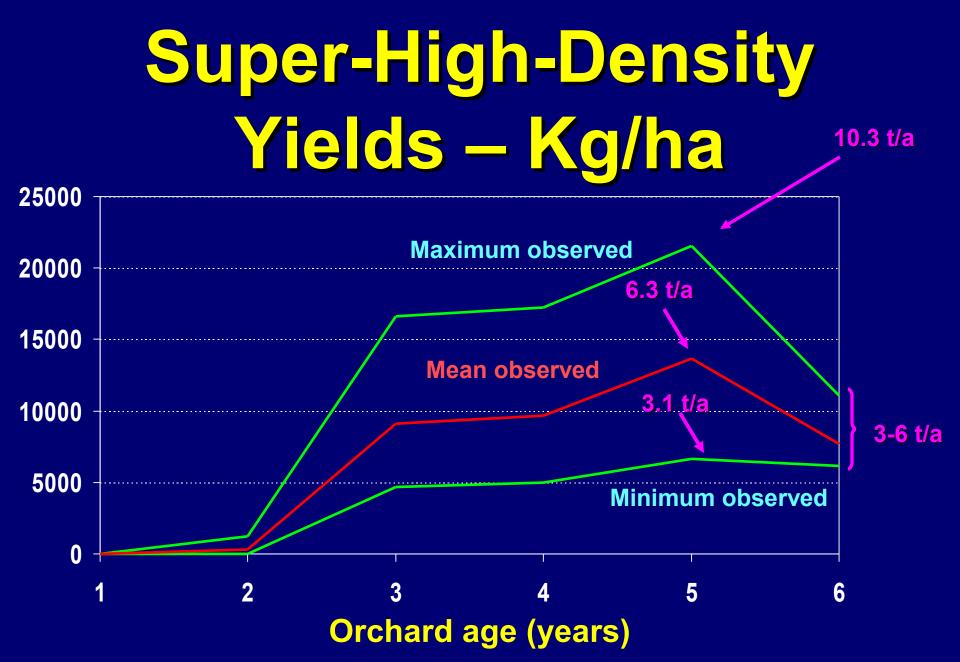




4th Year (4-10 t/a)

5th - 6th Year (4 t/a)





Pruning High Density Arbequina



Pruning High Density Arbequina



Pruning High Density Arbequina



SHD – Central Valley Expected yields and prices

- Marketable production in the 3rd year
 - 3rd Year 84 gallons per acre
 - 4th Year 189 gallons per acre
 - 5th Year 210 gallons per acre
- Expected yield range: 147 273 gallons/acre
- Expected price range: \$9 \$15 per gallon
- Arbequina prices \$16-\$26/gallon (5 yrs.)

Super-High-Density in California



Bigger Producers in CA







Break Even Yield & Cost/bulk gallon

Table 8.

UC COOPERATIVE EXTENSION RANGING ANALYSIS – GALLONS SACRAMENTO VALLEY - 2007 ARBEQUINA VARIETY

	YIELD(GALLONS/ACRE)						
	147.9	168.0	189.0	210.0	231.0	252.0	273.0
OPERATING COSTS/ACRE:							
Cultural Cost	777	777	777	777	777	777	777
Harvest Cost	368	378	388	397	407	417	427
Postharvest Cost	119	119	119	119	119	119	119
Interest on Operating Capital	47	47	47	47	47	47	47
TOTAL OPERATING COSTS/ACRE	1,311	1,321	1,330	1,340	1,350	1,360	1,370
TOTAL OPERATING COSTS/GALLON	8.92	7.86	7.04	6.38	5.85	5.40	5.02
CASH OVERHEAD COSTS/ACRE	282	282	282	282	282	282	282
TOTAL CASH COSTS/ACRE	1,593	1,603	1,613	1,623	1,633	1,643	1,652
TOTAL CASH COSTS/GALLON	10.84	9.54	8.53	7.73	7.07	6.52	6.05
NON-CASH OVERHEAD COSTS/ACRE	1,151	1,151	1,151	1,151	1,151	1,151	1,151
TOTAL COSTS/ACRE	2,744	2,754	2,764	2,774	2,784	2,794	2,804
TOTAL COSTS/GALLON	18.67	16.39	14.62	13.21	12.05	11.09	10.27

Economic Study in Spain Cost of Production & Income

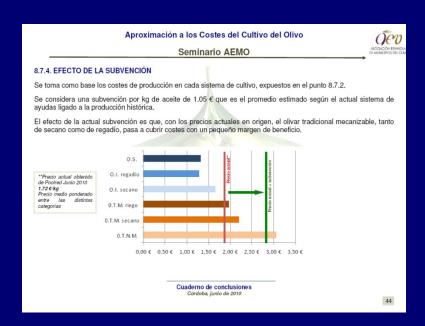
Cost of Production

- Super High Density \$6.83/ gallon
- •Med Density (irrigated) \$6.57
- •Med Density (non-irrigated) \$8.94
- •Traditional (irrigated & mechanized) \$10.00
- •Traditional non-irrigated & mechanized) \$12.09
- •Traditional non-irrigated and not mechanized \$16.30

Base price \$9.04/gallon

+ EU Subsidy: \$5.25/gallon

Final price \$14.3/gallon

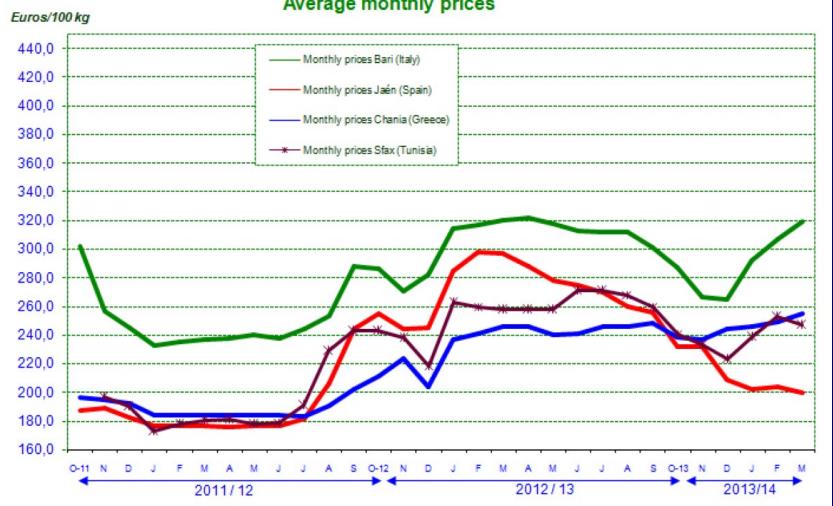


World Olive Oil Prices

MOVEMENTS IN PRODUCER PRICES

EXTRA VIRGIN OLIVE OIL

Average monthly prices



\$/G

16.80

13.10

10.50

Freeze Damage (leaves – flower buds)





Defoliated Trees (Dec. 2008)



Bark cracking from freeze



50% Killed Trees (21°F)



100% Killed Trees (15° F)



Frozen rotten fruit – 29°F

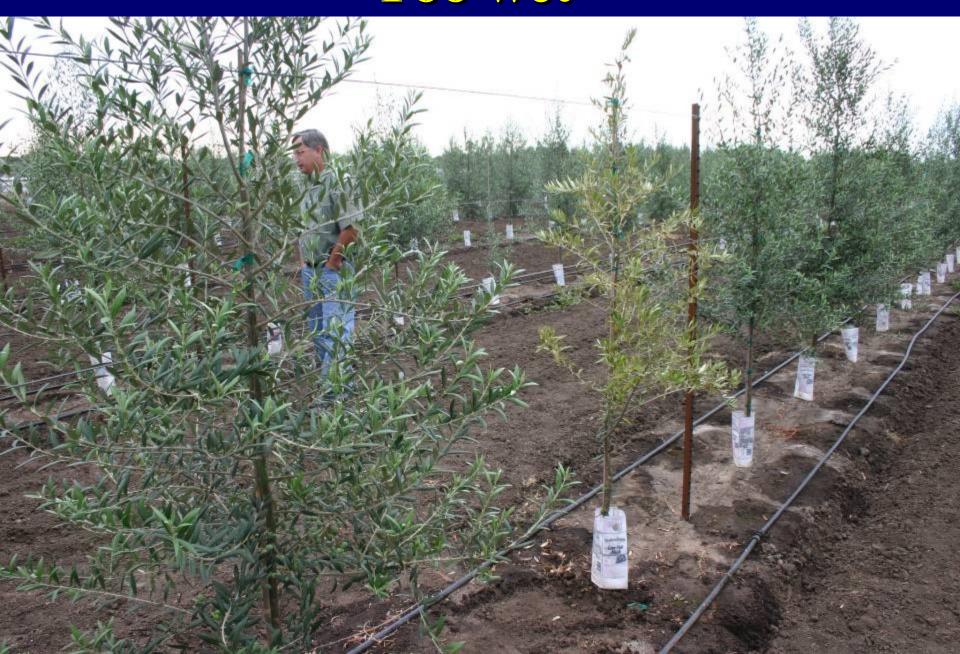


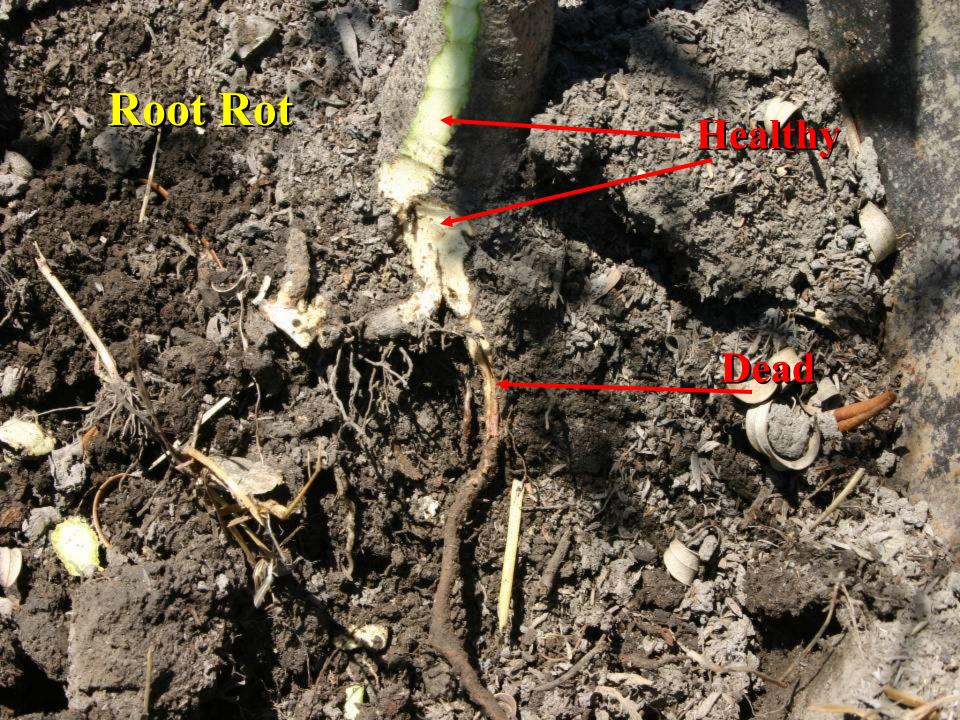
Cold injured fruit – 40°F



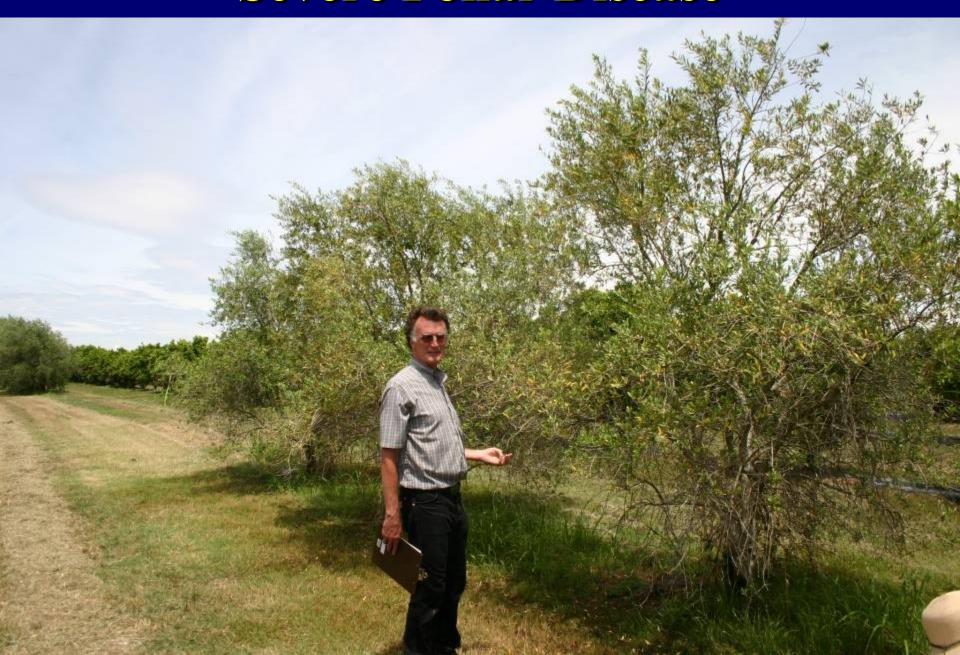
Paul Vossen

Too wet





Severe Foliar Disease







Olive Knot



Chilling (Winter & Spring)

• First step: Reversible

- Opposition of chilling and high temperatures
- Form and destroy 'Precursor for Dormancy Breaking Factor' (PDBF) (hormone)

Second step: Irreversible

- Moderate temperature: fixes chilling effect
- -When a critical portion of the PDBF is accumulated = 'Dormancy Breaking Factor' (DBF) or <u>chilling portion</u>.

Perfect and Imperfect Flowers

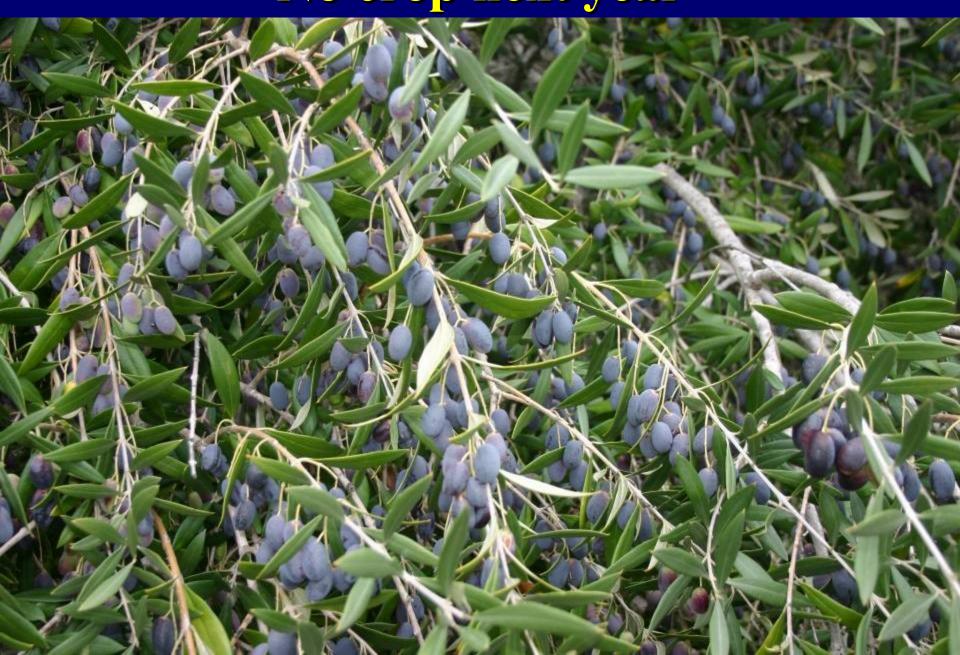


North side (some flowers) — South side no flowers

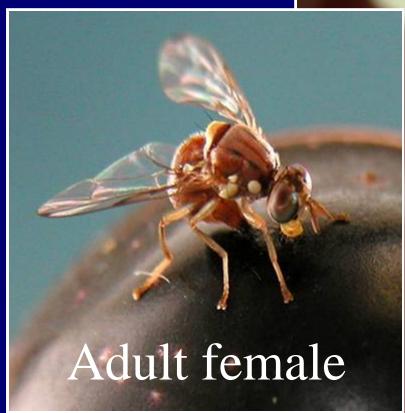


Alternate Bearing

Huge crop one year Nothing the next year No crop next year



Olive Fly





Oviposition punctures





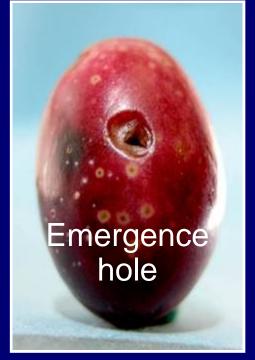












Stings – Damage - Rot







Problems Summary

- World Production is high CA is low
- Prices are low and competitive
- Quality is low people don't know
- Sales are primarily price driven
- Familiar brands are "Italian"
- Taste education is slow
- Whims of nature frost, fly, disease, etc.
- Not much room for error

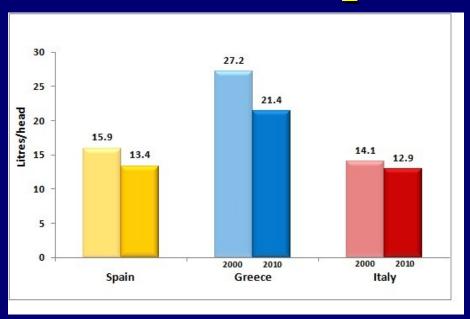
Opportunities

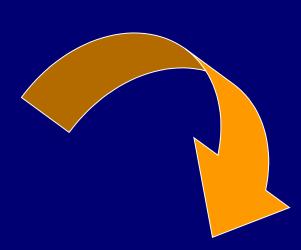
- Market is huge
- Olive oil is healthy and tastes good
- Premium quality oil is not difficult to make
- People REALLY like fresh olive oil
- Prices are good in some situations
- Quality is improving (regulation advancing)
- Other commodities have advanced
- Rare varieties get better prices than Arbequina
- EU subsidies?



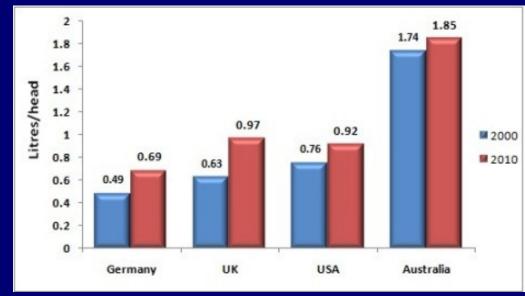
California would have to plant about 300,000 acres to meet USA demand

Per Capita Consumption





Our European ancestors consume 15-20 times as much as we do



Olive oil's health benefits

- <u>Natural juice</u> monounsaturated fat & source of polyphenols antioxidants
- <u>Heart disease and diabetes</u> lowers LDL (bad) & raises HDL (good) cholesterol
- Lowers blood pressure (polyphenols are anti-inflammatory) USDA label heart healthy
- Alzheimer's lower risk of artery clogging
- Gallstones increased secretion of bile
- <u>Cancer</u> prevention many studies only fat not associated with increased cancer risk





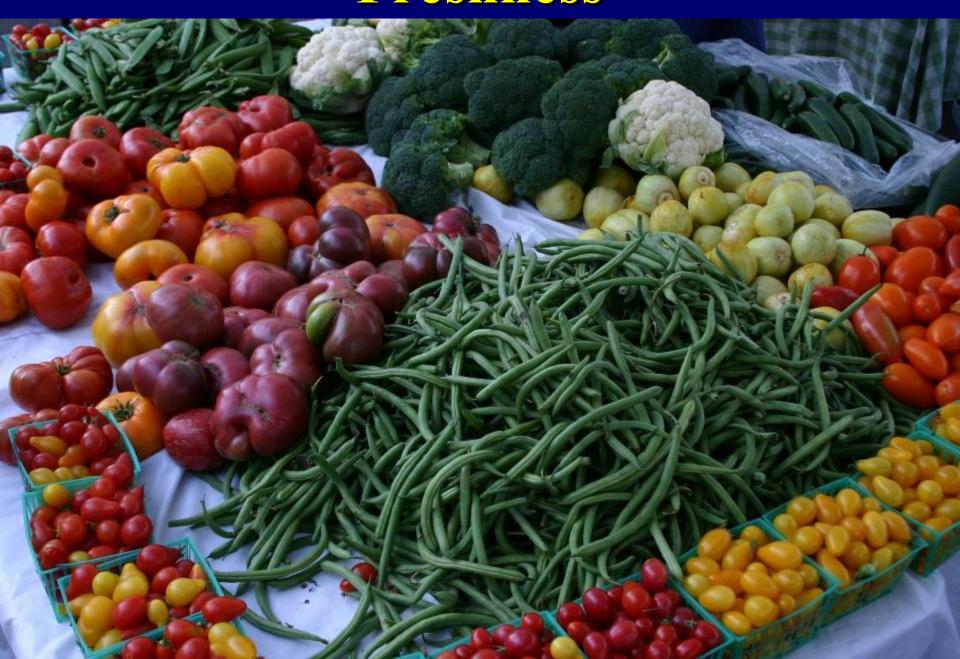
Paul Vossen

Making Premium Quality Oil is Easy Defects come from the extremes

- Severe olive fly damage with rotten fruit
- Frozen fruit
- Severe fruit damage (harvest transport storage)
- Very dirty or contaminated or broken down processing equipment
- Stored on sediments too long
- Stored too long until it goes rancid

Very few California olive oils are not extra virgin

Freshness



Consumers like bitter & pungent food!











Chefs are learning about how olive oil can influence the flavor of food





Enhanced with a drizzle of olive oil









People will eventually get it!



Super Premium Olive Oil Prices

- \$15 to \$30/bottle = \$30 to \$60 per liter
- \$113.55 to \$227.10/gallon



SHOP THE FEED WINE FOOD VISIT CLUBS STORY







OLIVE OILS

ORCHARDS

MILLING

HARVEST

RED WINE VINEGARS

CITRUS SYRUPS

ACCOLADES

OLIVE OILS

Ripened in the rich soils of Rutherford, California, the imported Mediterranean olive trees of Round Pond Estate bestow upon fruit of extraordinary purity, flavor and character. Each of our four estate olive oils is crafted from a meticulous selection of hand-harvested olives using our signature pressing methods, which combine traditional stone mill techniques with state-of-the-art technology. Master blending in small lots, and bottling only on demand ensures that each gourmet olive oil is delivered to our customers at the height of vibrant freshness. We are also pleased to announce the release of three new, complementary herb infused oils, made from the very finest California extra virgin olive oil and hand blended at the Estate. We invite you to savor the goodness of our artisan oils.



ITALIAN VARIETAL EXTRA VIRGIN

Round Pond's Italian Varietal Extra Virgin Olive Oil is crafted from a medley of olive trees grown on the estate, hand-harvested at the initial stage of ripeness, and crushed individually by varietal. To capture the fresh and lively, green Tuscan flavors of the olives, we blend in small lots. Assertive and robust, our Italian Olive Oil is the perfect finishing oil for salads and vegetables.

Browse Italian Varietal Olive Oil





ABOUT WE OLIVE

ABOUT OLIVE OILS

RECIPES

THE LATEST

STORE LOCATOR

FRANCHISING

OLIVE OIL CLUB

SHOP ONLINE

SIGN UP TO GET NEWS AND SPECIALS FROM WE OLIVE!

Your Name

Your Email

Submit »



We Olive is more than just a store with olive oil ...it is an 'Olive Oil Experience'.

About We Olive

The We Olive story began in October of 2003 in Paso Robles, California.

Located in California's Central coast, this idyllic town has many things to offer its residents and those just passing through: fantastic restaurants, world-class wines, and award-winning olive oils. That last part, however, about the olive oil was once a lesser known fact. There were several olive oil growers in the area, but there was nowhere to try all of them in one place.

That is where Gary and DeeDee Brown came in. "The concept behind We Olive originally came about because we are both totally into food and gourmet cooking. We realized there were a lot of wine bars and tasting rooms around town where people can try wines from the area, but nowhere to sample all of the great, healthy olive oils. We figured there had to be other people like us that would appreciate the hard work that goes into making these artisan olive oils." And that is how it all began.

We Olive specializes in California olive oil because the origin, processing, and quality of each oil can be guaranteed. When you enter a We Olive store you will be amazed at the product selection. There are at least twenty different oils on the bar at any given time! Our highly trained We Olive staff will guide you through an Olive Oil tasting, teaching you about the different flavors and nuances of olive oil. You will also be able to sample all of the products We Olive has to offer, from olive oils to tapenades to fresh

Greater Standards Enforcement

New CA Olive Oil Commission

Some certification program seals:



California Olive Oil Council Certified Extra Virgin



Australian Certified Extra Virgin





Olives New Zealand Certified Extra Virgin



North American Olive Oil Association Certified Quality



Extra Virgin Alliance

The coffee example from Folgers to Starbucks

- Childhood memories of brown coffee
- Few brands of percolated & instant
- Big changes over the last 15-20 years
- Now much greater quality
- Fresh roasted beans by region organic
- Higher price
- Higher consumption overall



GourmetCoffee.com

Passionate about Coffee _____

MY ACCOUNT | F

ABOUT US GOURMET COFFEE OFFEE PODS . EQUIPMENT . WHOLESALE

Gourmet Coffee >

SHOP BY

Gourmet Coffee

- Top Sellers
- Gourmet Blends
- Origin Coffees
- Organic Coffees
- Fair Trade
- Decaf Coffee
- All Coffees in 1lb Bags
- Coffee Club
- Coffee Pods
- Equipment
- Wholesale Gourmet Coffee in 5lb Bags

Gourmet Coffee

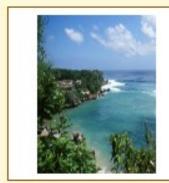
Please select a category of our hand roast coffees from the list below.



Top Sellers



Gourmet Blends



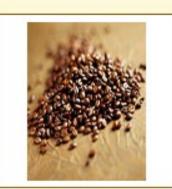
Origin Coffees



Organic Coffees



Fair Trade



Decaf Coffee

Chocolate - from Hershey's









Other varieties



Narrow Tree Training (palmette)



Palmette System – side view



AUSTRALIA Colossus harvester



