

Pear Production in Western States: Status, Challenges and Trends

Mid-Atlantic Fruit and Vegetable Convention

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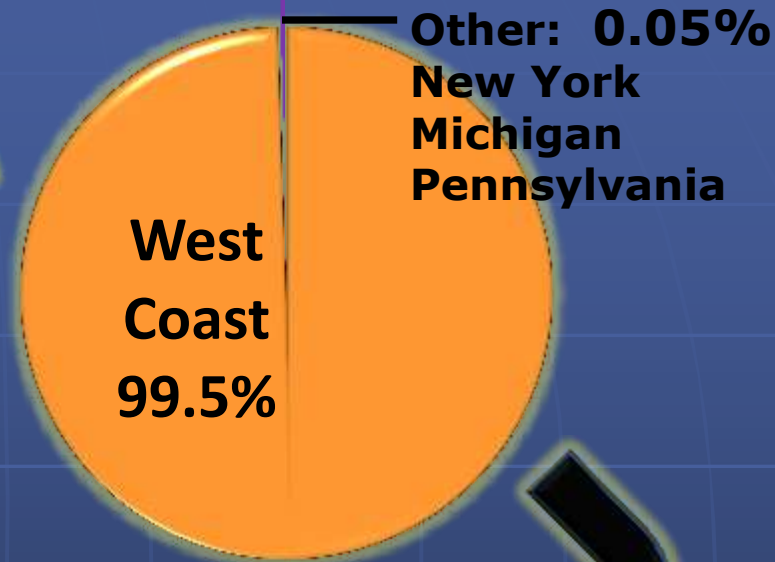
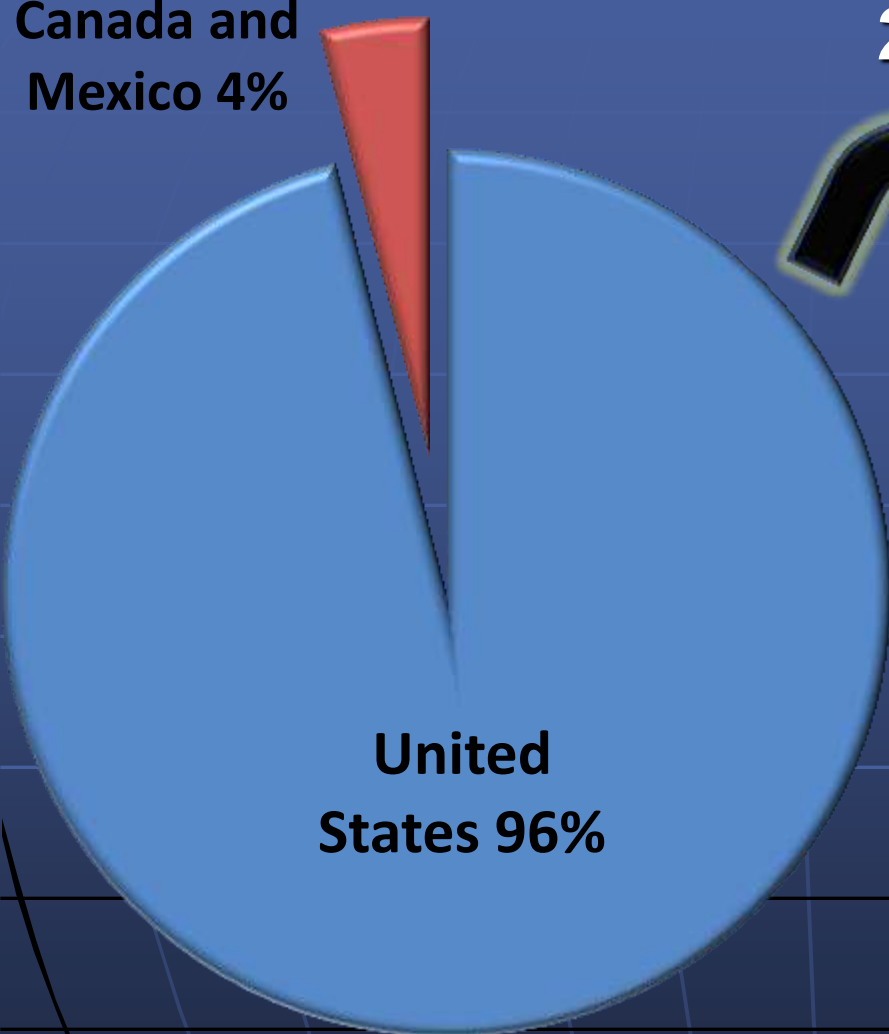
Many Thanks To:

- Linda Bailey, Pear Bureau Northwest
- Tara Baugher, PA State University
- Steve Castagnoli, OR State University
- Todd Einhorn, OR State University
- Bob McClain, CA Pear Advisory Board
- Makaila Rodrigues, Carolyn Shaffer and Daniel Suenram UC Coop Extension, Lake County
- Tim Smith, WA State University
- David Sugar, OR State University

North American Pear Production

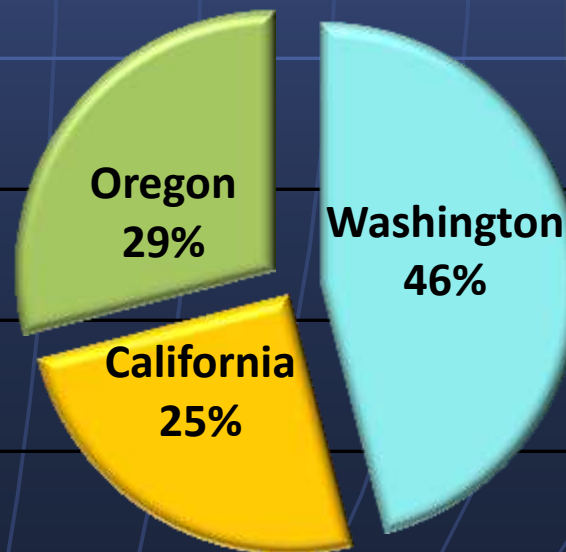
2012

Canada and
Mexico 4%



Other: 0.05%
New York
Michigan
Pennsylvania

West
Coast
99.5%

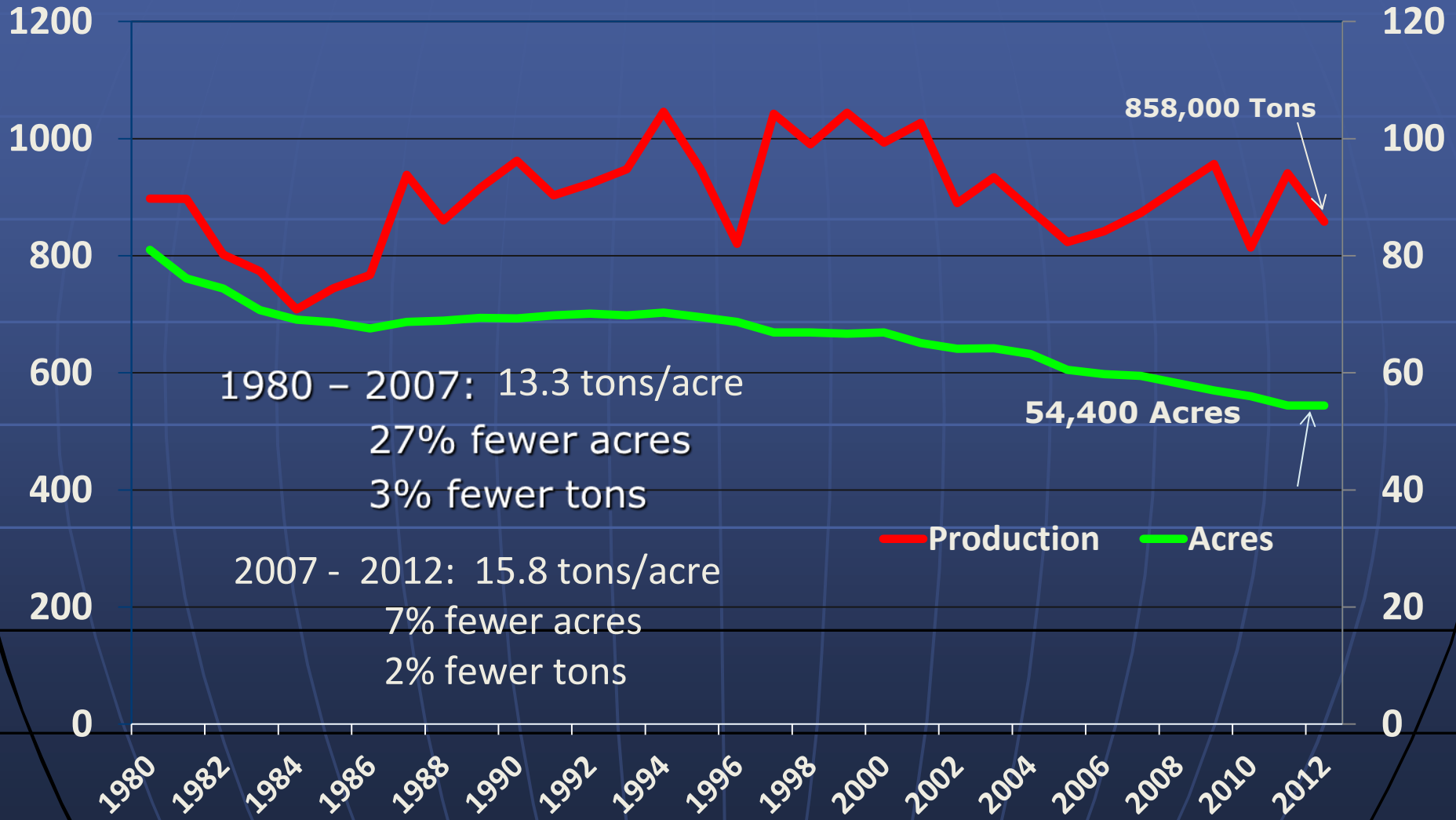


Oregon
29%

Washington
46%

California
25%

U.S. Pear Production



Source: USDA, Economic Research Service

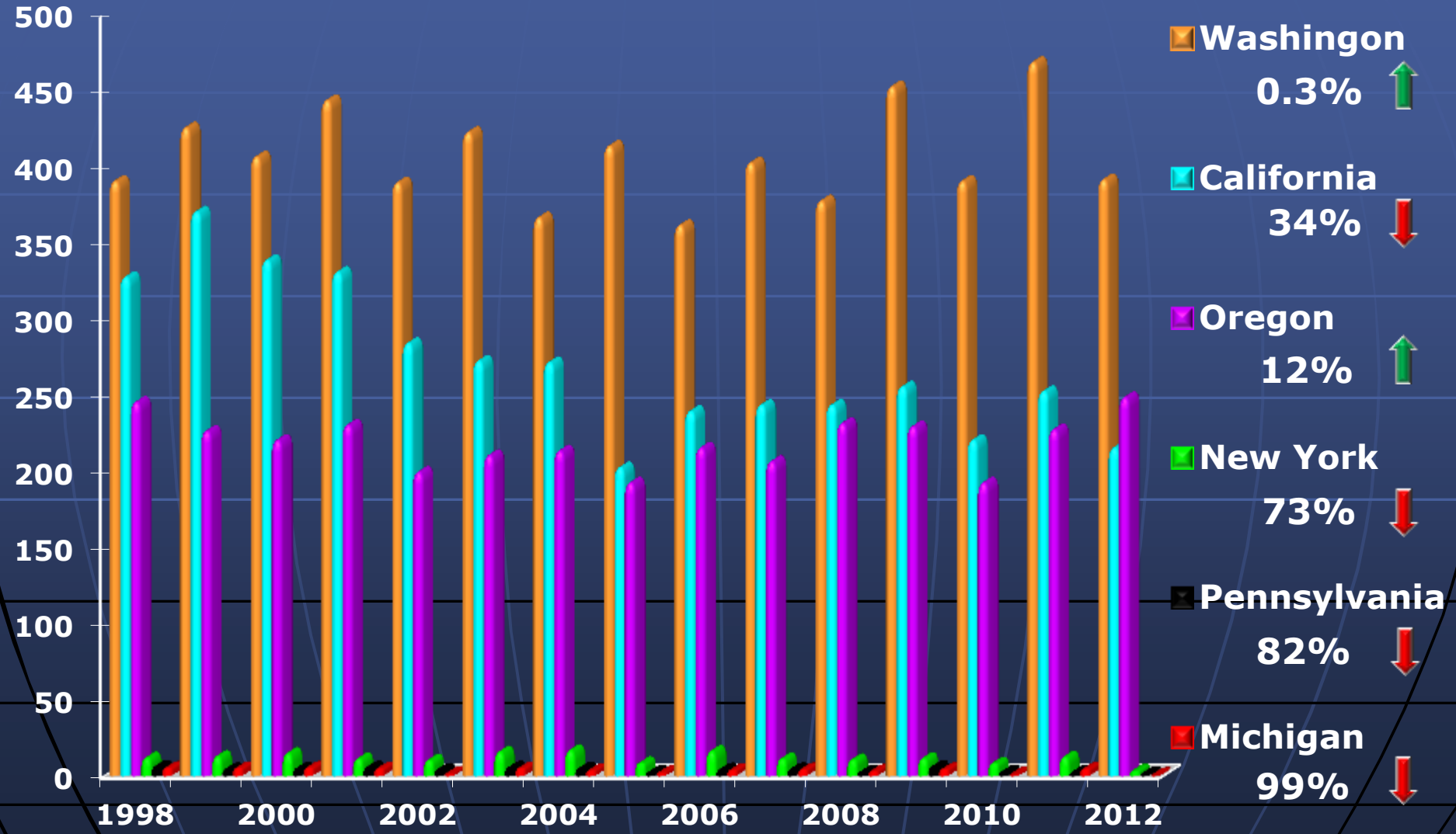
AVERAGE 2010-2012

BEARING ACREAGE & TONS PER ACRE

Washington	22,000	19.0
Oregon	16,200	13.7
California	14,000	16.4
New York	1,200	6.5
Pennsylvania	800	2.4
Michigan	730	2.5

Production and % Change by State 1998-2012

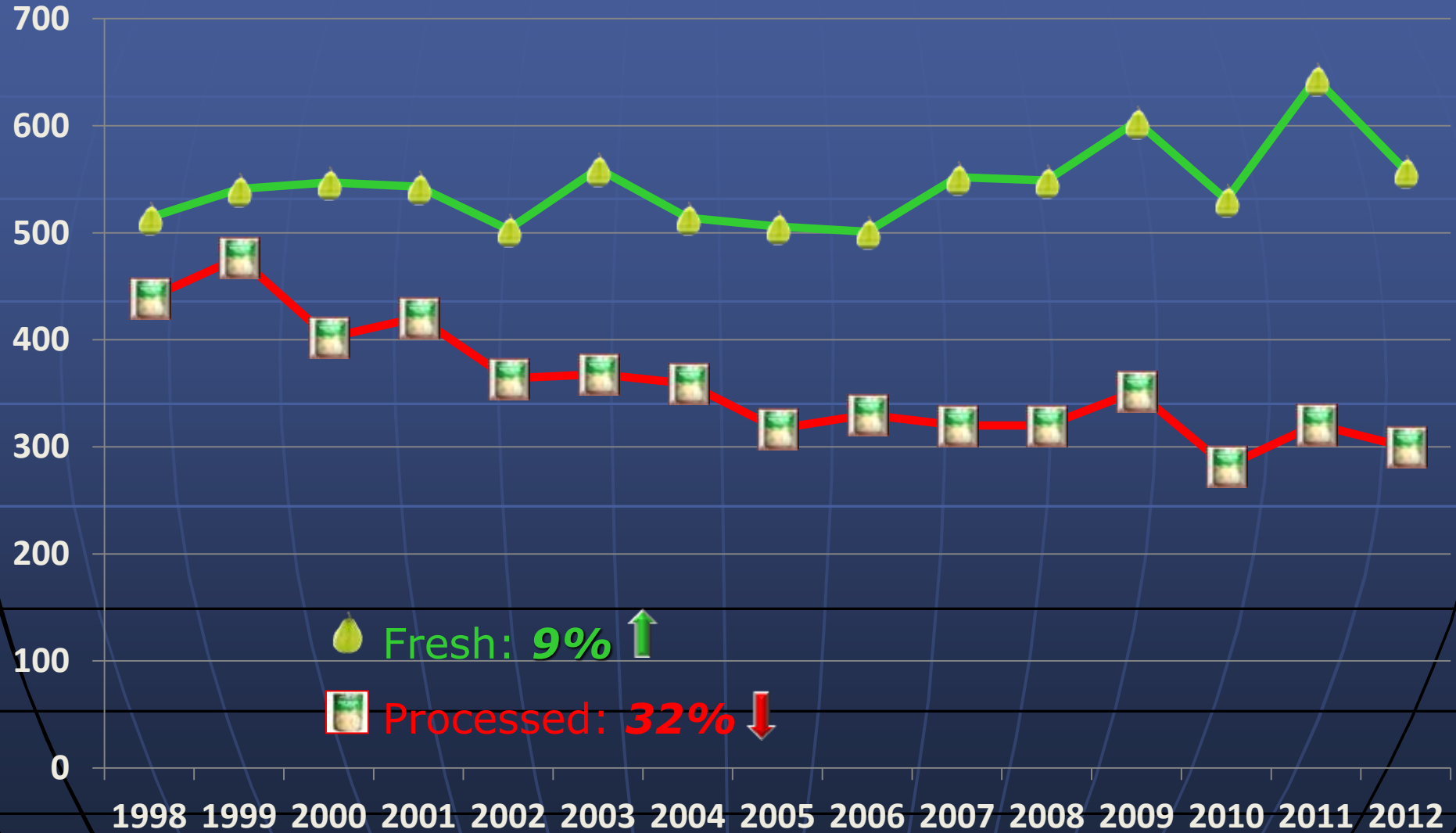
1,000 Tons





Source: USDA, Economic Research Service

Crop Utilization

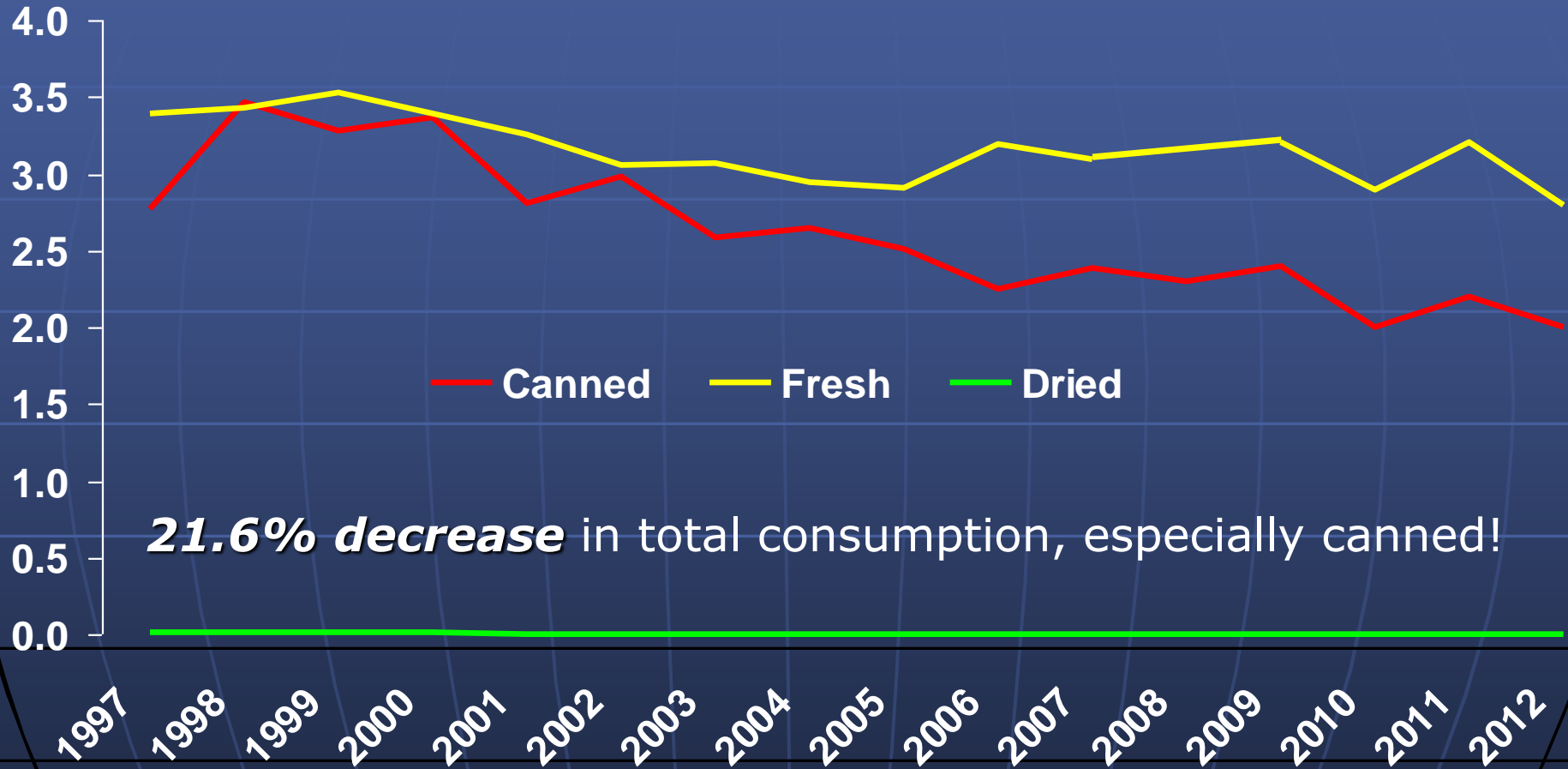
1,000 Tons



 Fresh: 9% ↑
 Processed: 32% ↓

Total Per Capita Consumption

Pounds



People are eating fewer pears!

The Industry Revolves Around Bartlett and Anjou (4 year average, 2009-2012)

Bartlett (Williams)

- Acres: ~ 24,000
- Production:
418,500 tons (47%)
- Utilization:
 - 28% fresh
 - 81% processed

Anjou and Others

- Acres: ~ 28,000
- Production:
484,000 tons (53%)
- Utilization:
 - 72% fresh
 - 19% processed

Total U.S. West Coast Bartlett Production 1998-2012



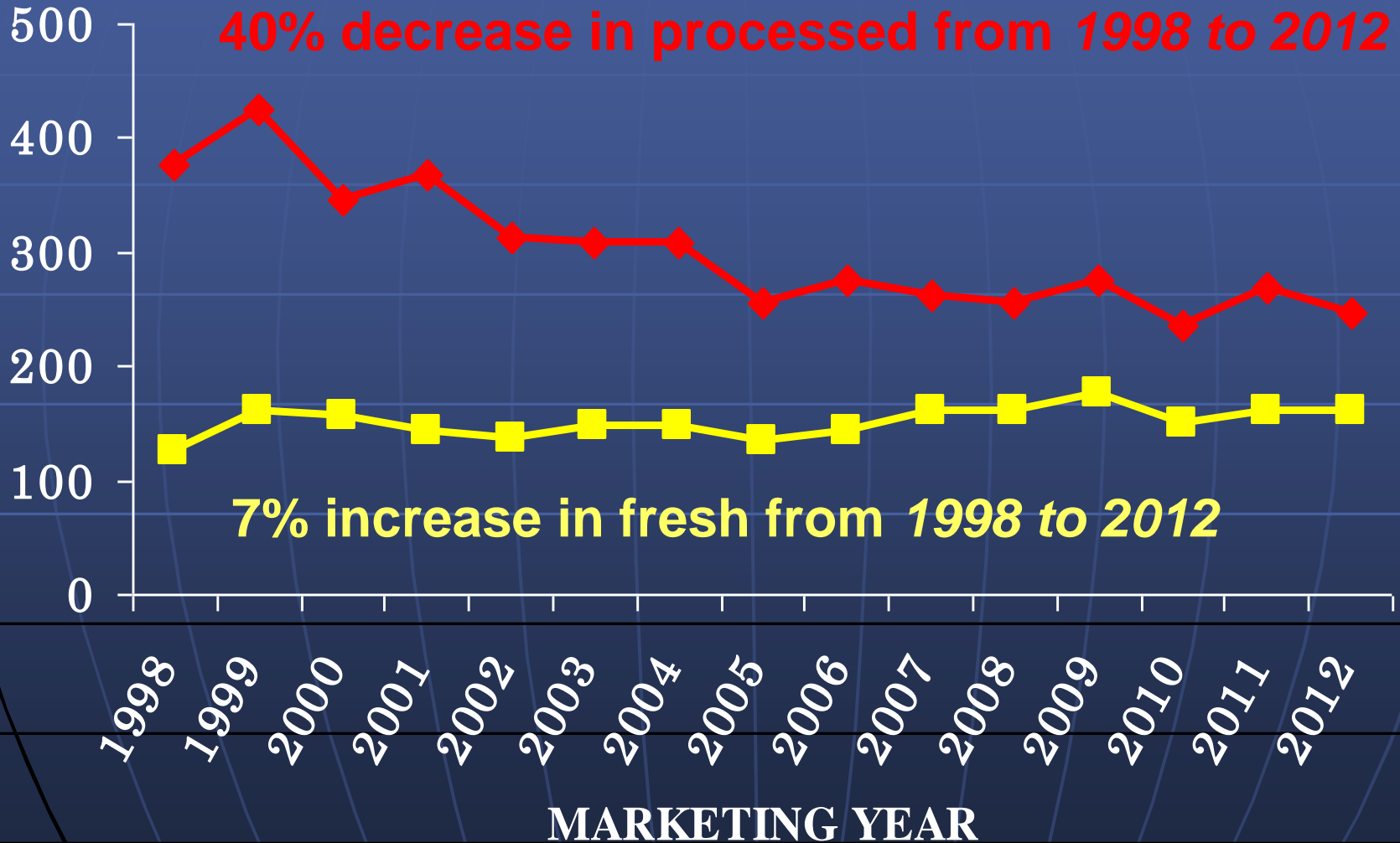
—● Bartlett Pears

1,000 Tons



Bartlett Utilization

1,000 Tons



Canned Pear Trends

(x 1000 Tons)

Canned Pear Data	2010	2011	2012
Starting Inventory	282	321	300
Total Supply	313	347	329
Year End Inventory	2.4	2.5	2.6
Exports	6.9	9.4	9.1
US Domestic Sales	303	338	320
Imports	31.6	26.3	27.5

Source: Chris Zanobini, California Pear Advisory Board, USDA, Economic Research Services and World Pear Review, 2013 Edition, Belrose Inc. publication, pg. 101.

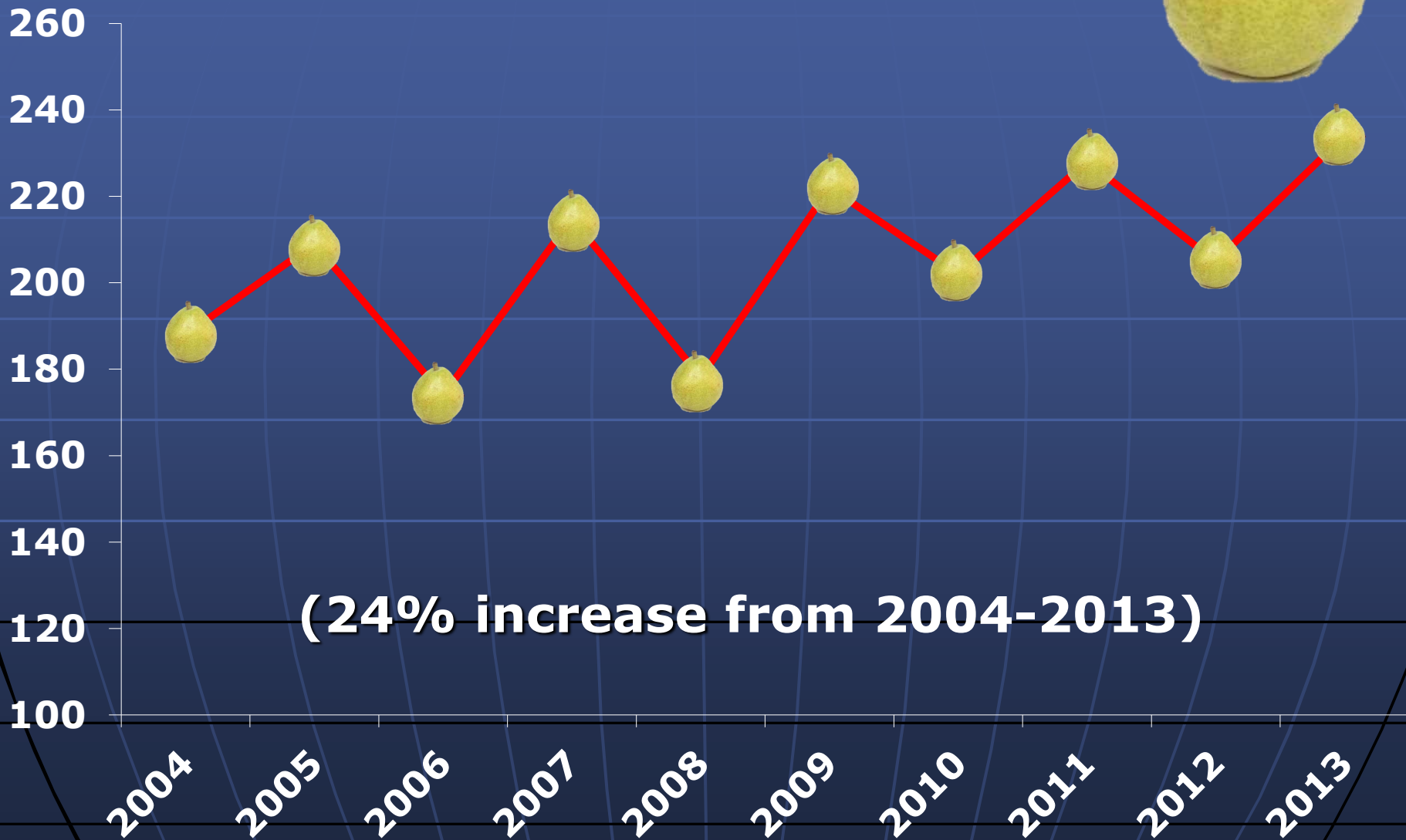
U.S. Fresh Availability by Variety-2013



Anjou Pear Production



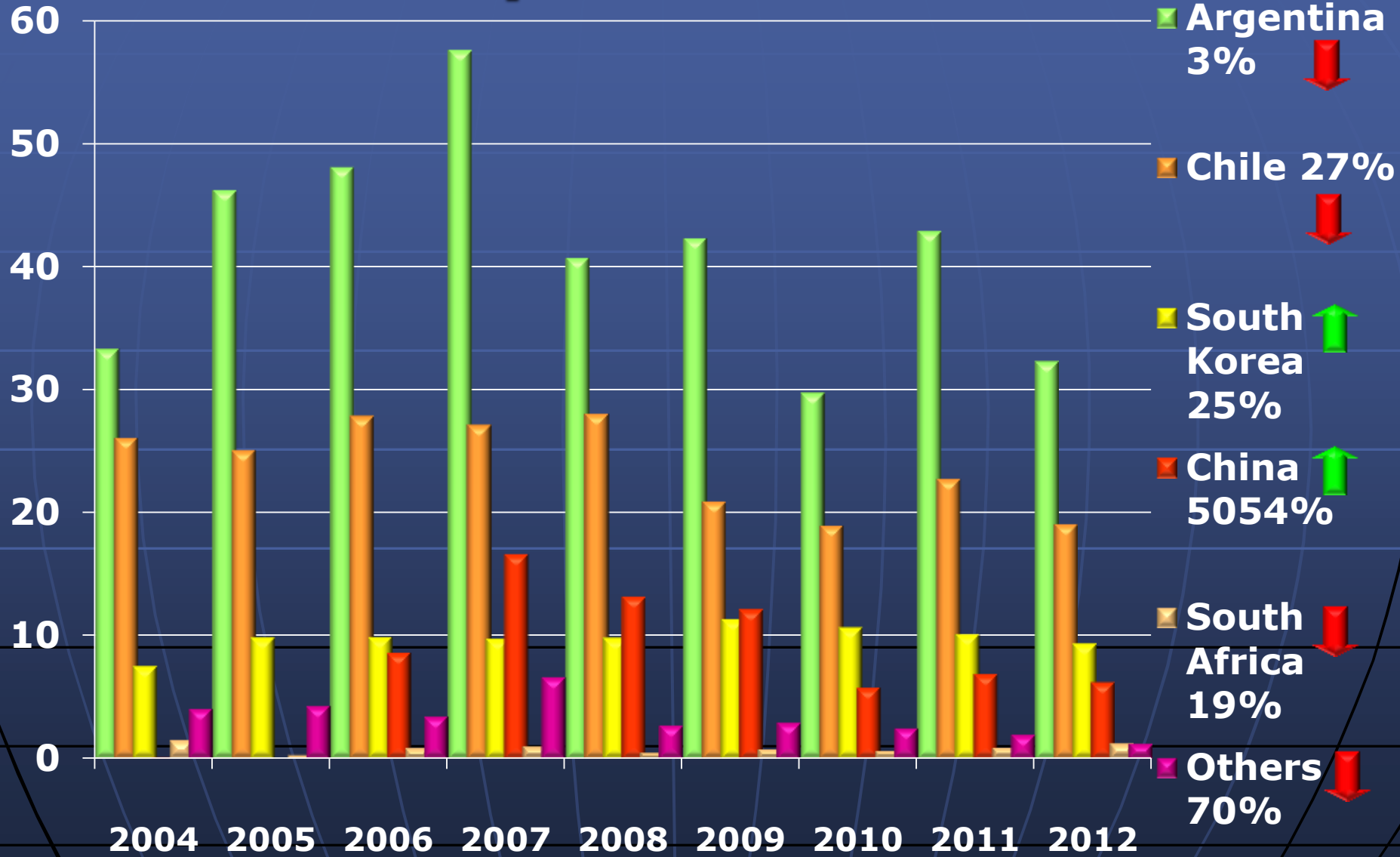
1000 tons



U.S. Imports 2004-2012

1,000 Tons

% Change

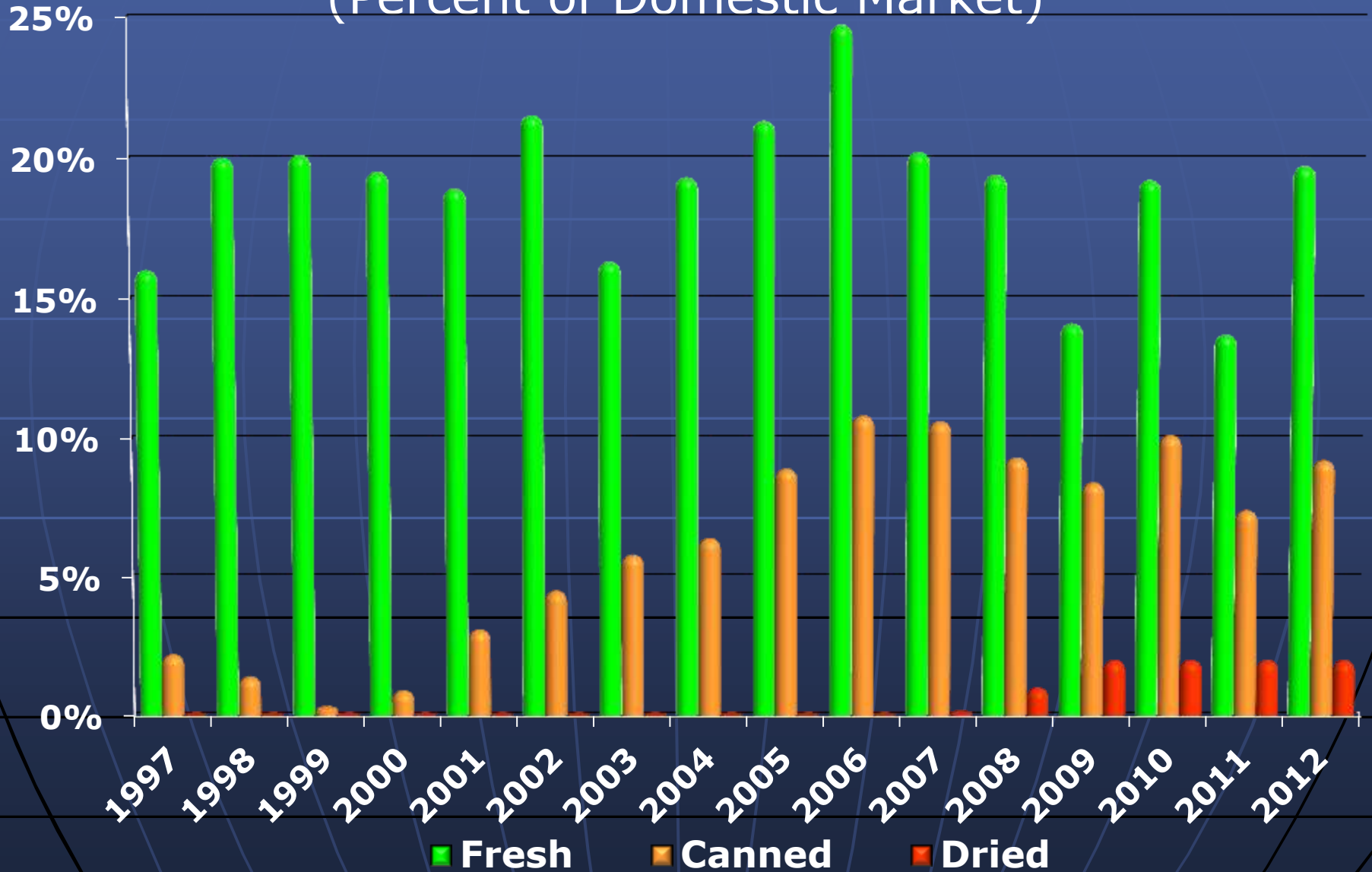


- **Argentina**
 3% ↓
- **Chile** **27%**
↓
- **South Korea**
 25% ↑
- **China**
 5054% ↑
- **South Africa**
 19% ↓
- **Others**
 70% ↓

Source: U.S. Department of Commerce, U. S. Census Bureau.

Imported Pear Utilization

(Percent of Domestic Market)



■ Fresh

■ Canned

■ Dried

Consumption of Imported Pears (2010-2012)

- Canned: 22%
decrease
- Fresh: 2.5%
increase



“Cheap imported pears from China* and Thailand are taking an increasing bite out of the market for canned pears in the United States.”

***25.4 Thousand tons from China– 2012**



United States

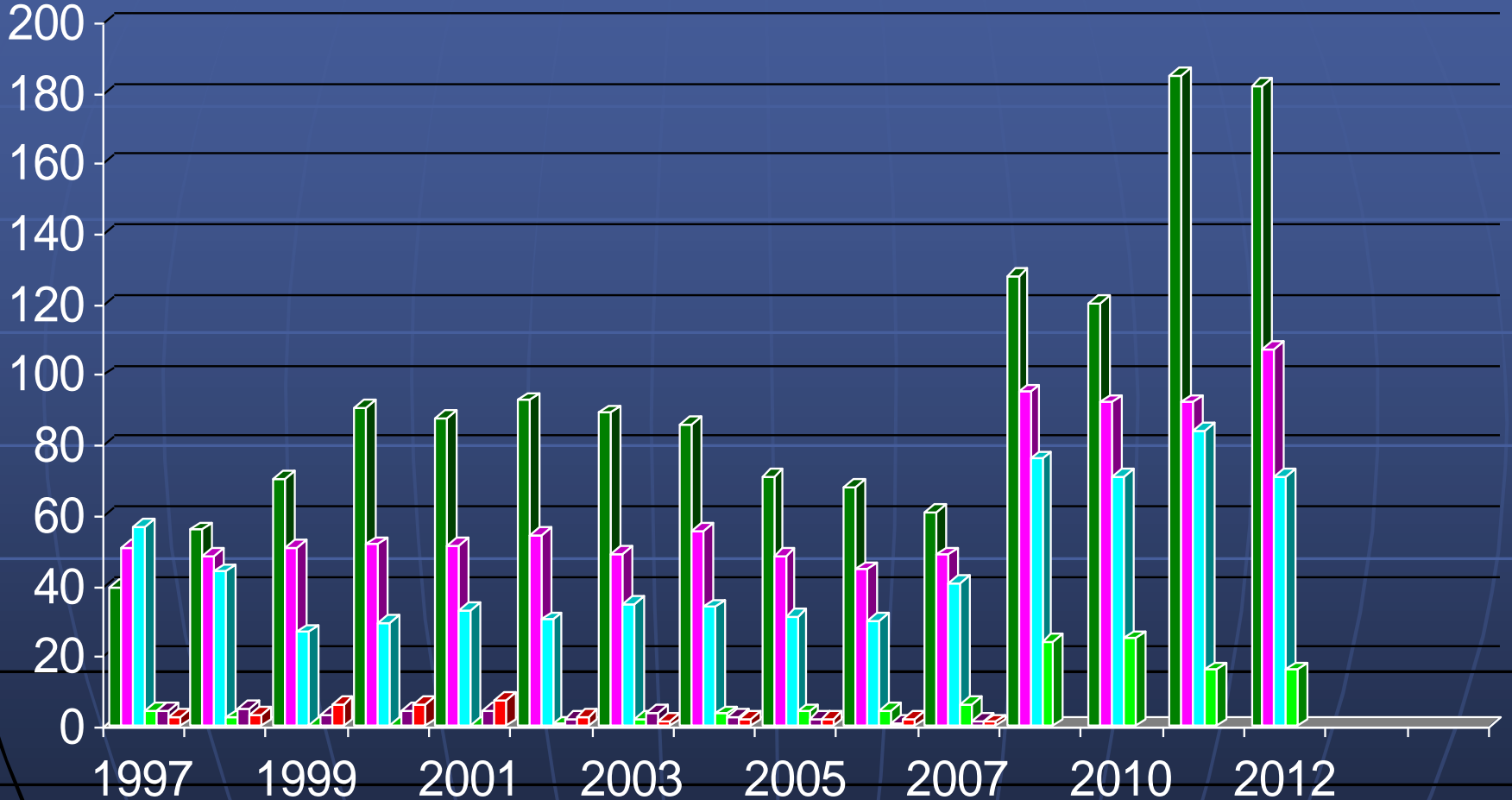
The United States is the world's largest producer of canned pears, producing about half the world's total. In recent years, between 65 and 70 percent

We need fresh AND processed!



U.S. Pear Exports

1,000 Tons



Mexico **Canada** **Others** **Russia** **Taiwan** **Venezuela**

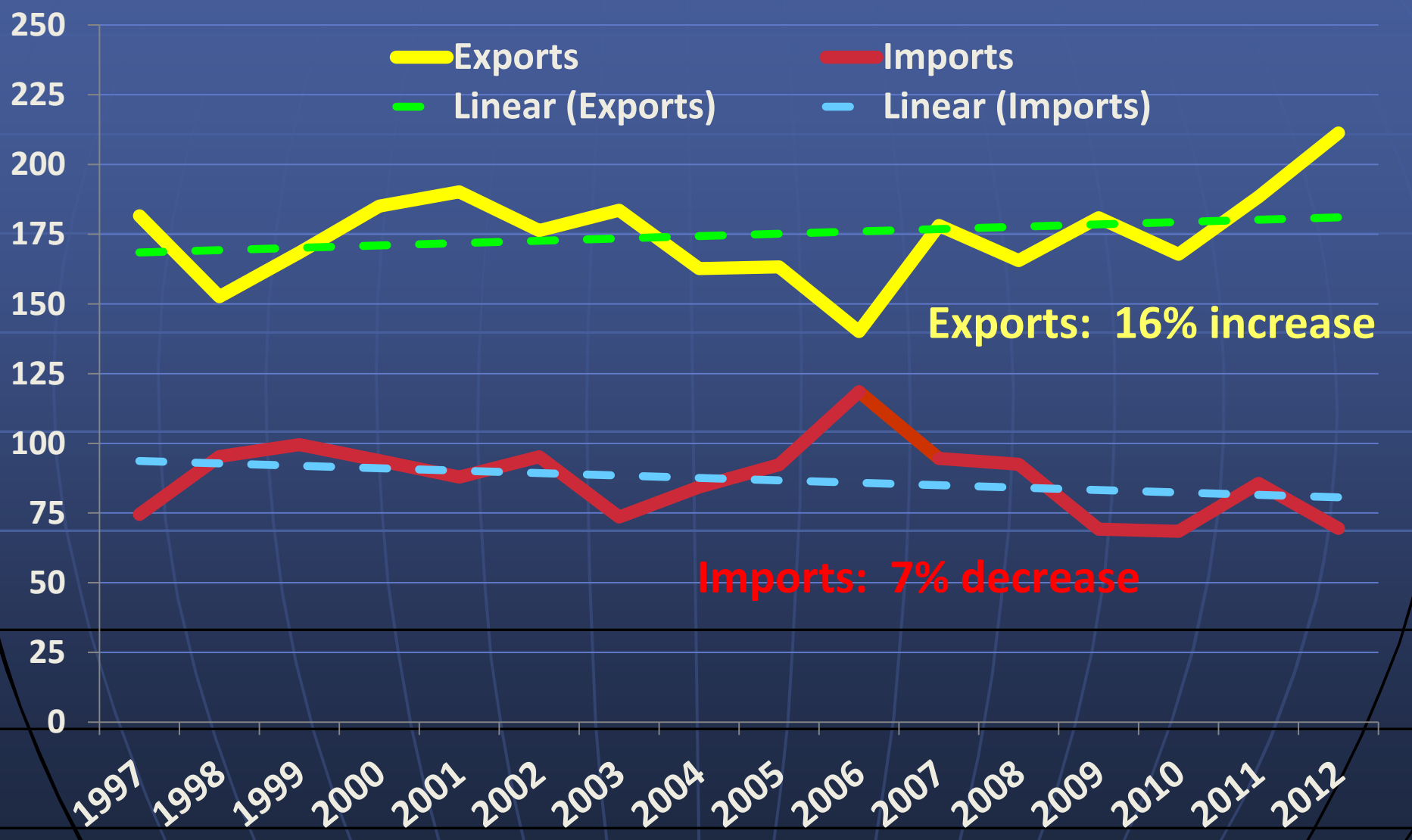
Change in Top Export Markets

10 yr. avg. 5 yr. avg.
1997-2007 2002-2007 2012-2013

Canada	5% ↓	10% ↓	<1% ↓
Mexico	55% ↑	34% ↓	6% ↓
Russia	45% ↑	966% ↑	14% ↓
Taiwan	65% ↓	32% ↑	~
Venezuela	59% ↓	~	~
Others	28% ↓	34% ↑	15% ↓

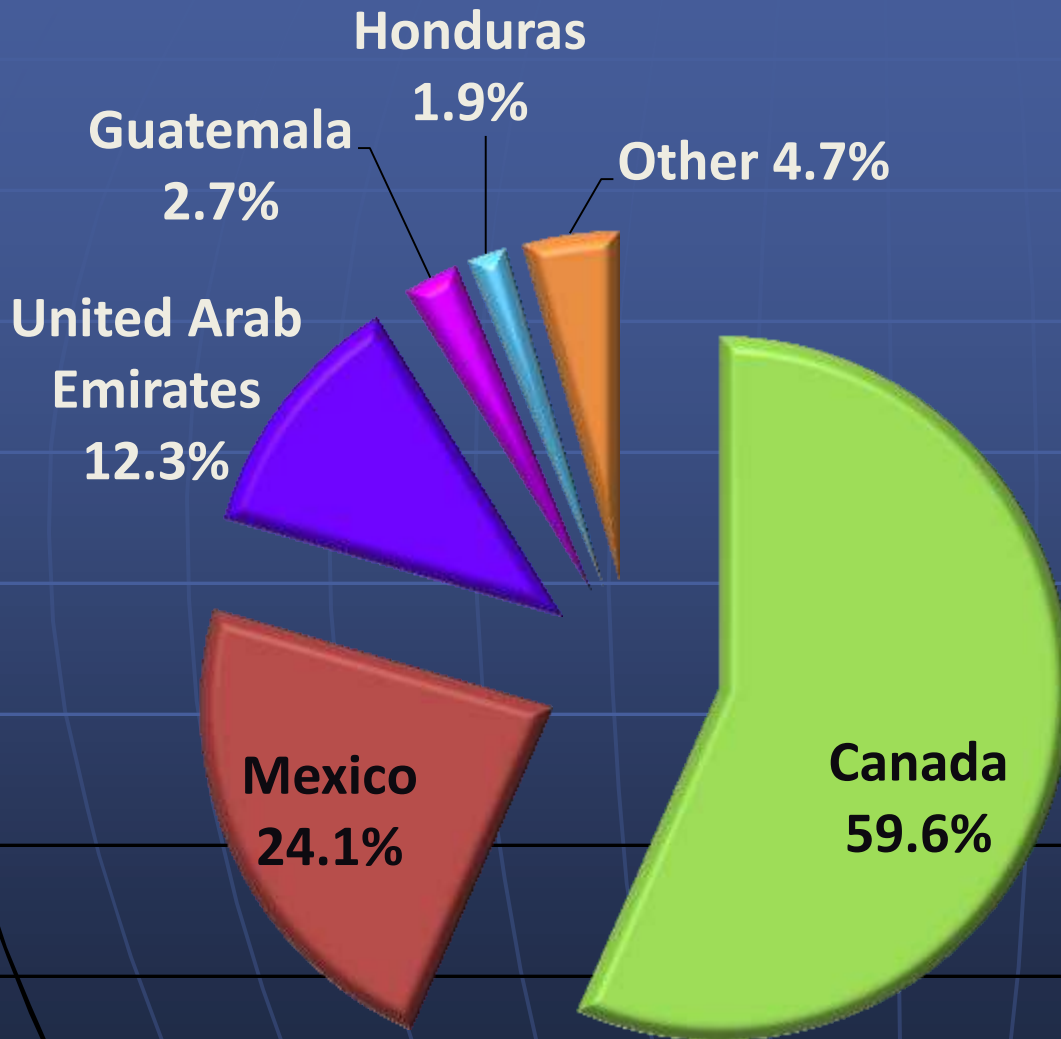
1,000 Tons

U.S. Imports vs. Exports



Source: USDA, Economic Research Service

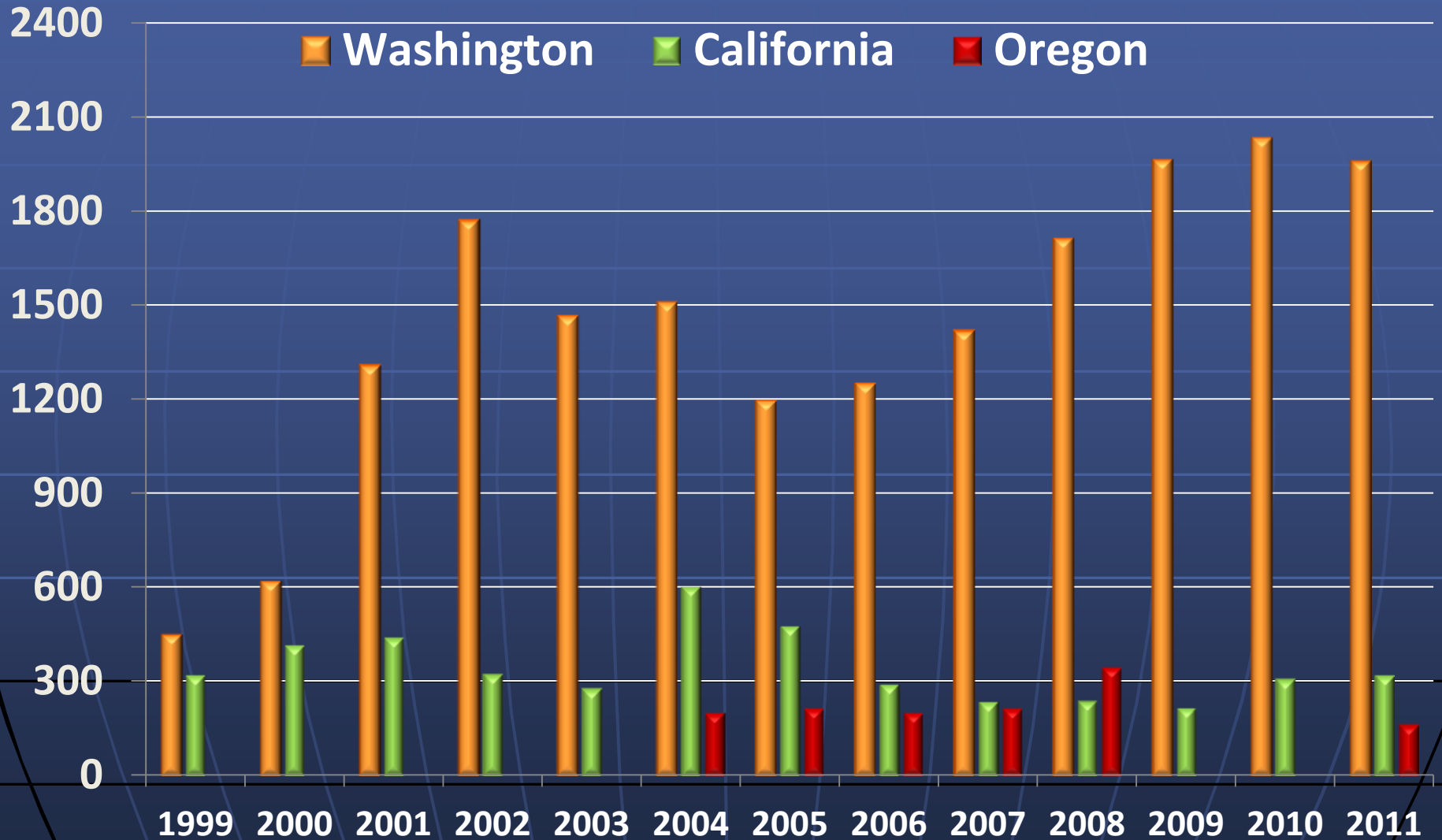
Canned Pear Exports 2009-2012



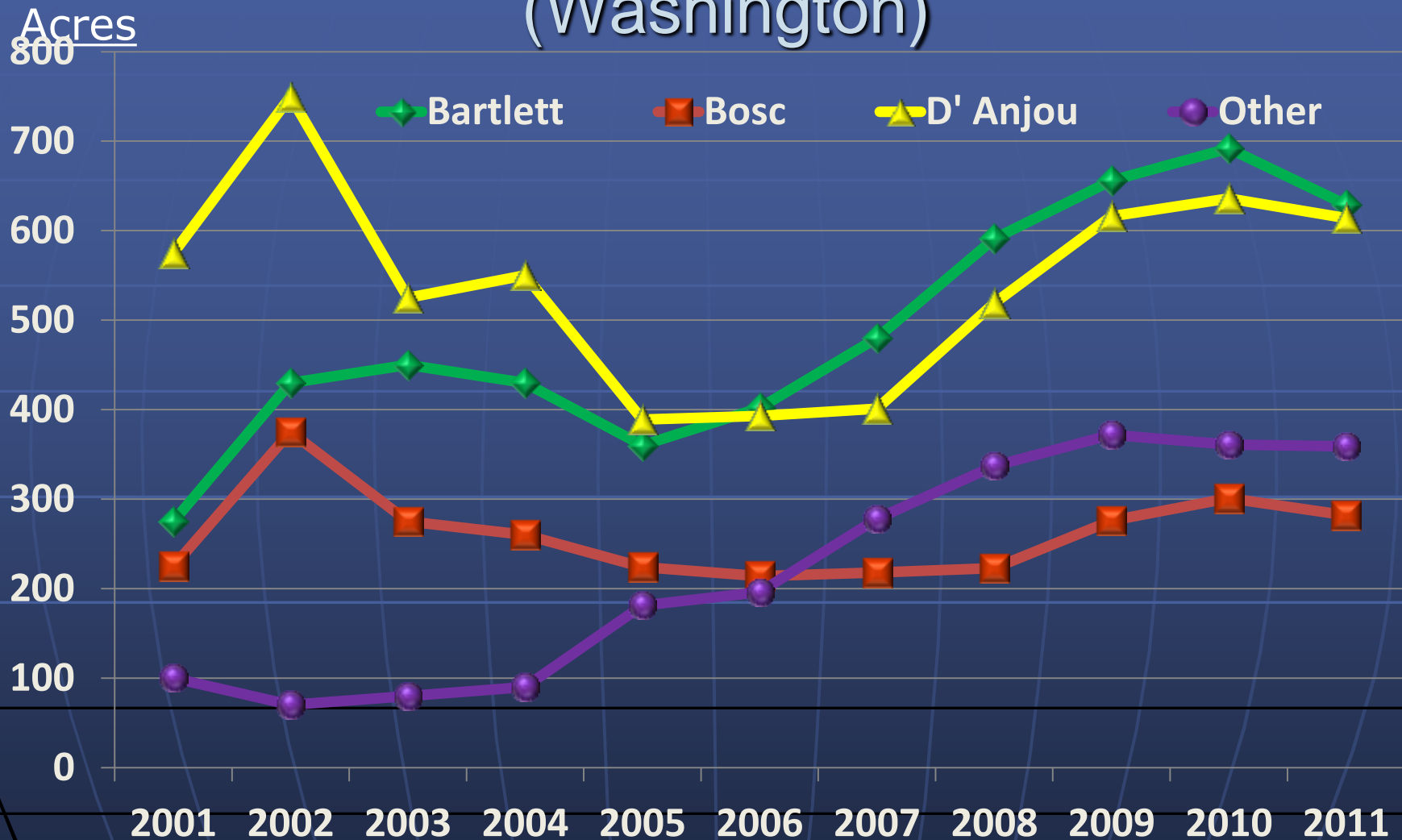
- 8,400 Tons
- ~ 0.9% of total production
- Canada and Mexico largest markets

Organic Acreage

Acres



Organic Variety Trend (Washington)



Source: * 2001-2005 data estimated from graph done by Elizabeth Kirby, David Granatstein, WSU-CSANR, WSDA



UCLA IPM Project
Regents, University of California



Pear slug and damage
to a tree

Keys to Future Profitability

□ Efficient Cost-Effective Production

Orchard design and mechanization to reduce dependence on seasonal manual labor !





Cutting fire blight on ladders



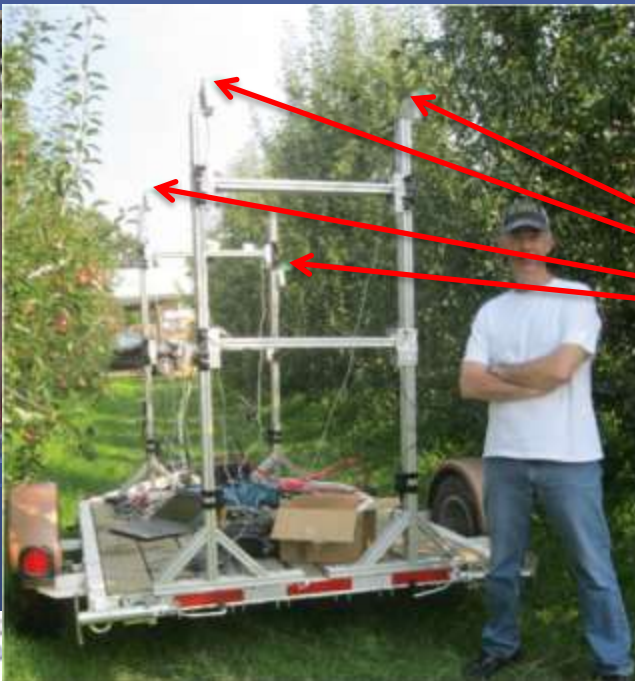
New wine grapes

We need to go from ladders to machines





Mechanical and Robotic Harvesting



30

Stavros Vougioukas, UC Davis, Dept. of Bio & Ag Engineering

2005 N140 Rootstock Project (California)



California, New
York, Oregon,
Washington,
Nova Scotia,
Chihuahua



Horner 4



OH x F 87



Pyro 2-33



Pyrodwarf

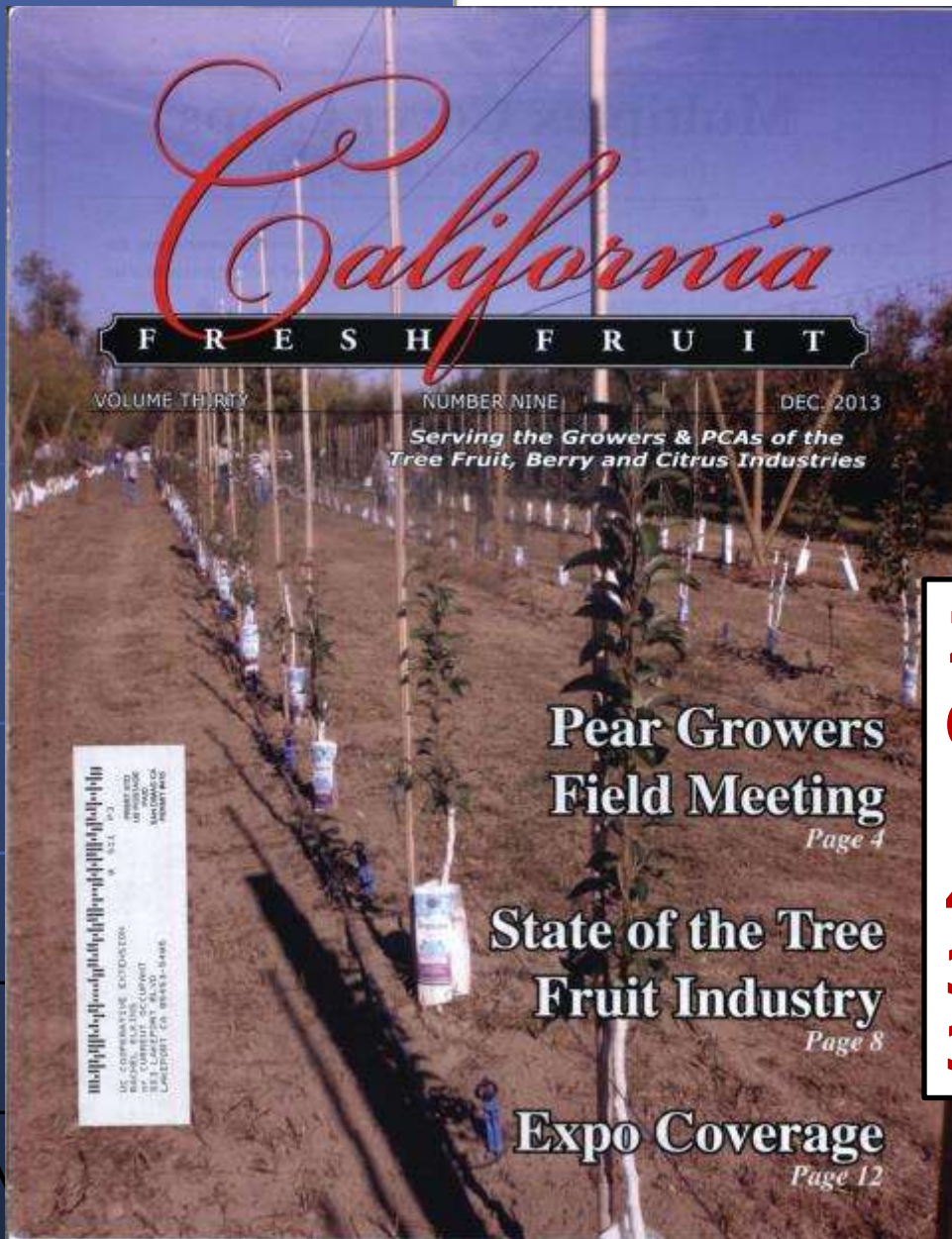
2013 NC-140 Systems Trial



California (Elkins)

New York (Robinson)

Oregon (Einhorn) (PI)



has a five-month store life," he added. "It's a 135-box size pear. With pruning, we can get to 100—sometimes 90."
Rich Hilson is an entomologist and Senior Faculty Research Assistant for Oregon State University. The Brown Marmorated

2013 NC-140 Orchard Systems

- 4 training systems
- 3 spacings (3', 4.5', 6')
- 3 rootstocks

Stavros Vougioukas, an Assistant Professor of Biological and Agricultural Engineering at UC Davis, has been working on the development of systems for mechanical picking of pears and peaches. Smaller pear trees with more concentrated fruiting zones, along with Vougioukas' work, may make automated harvesting a reality in future.



Bi-axis
knip:
spread and
unspread



Stefano Musacchi,
Todd Einhorn, Ted DeJong



2-leader and bi-axis knip



Tall spindle (note blind wood at base of laterals) and unheaded bi-axis

Light management to optimize canopy and spacing: using in pears as well as walnuts, almonds



We still have to farm existing orchards!



223. Pearland, c. 1920's
3 men picking pears.

Reflective fabric to increase fruiting





5 MINUTES PEARREFL MAY.24,12 07:10 AM



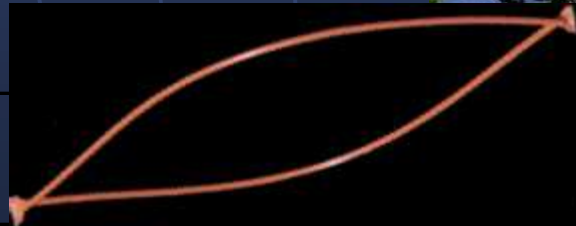
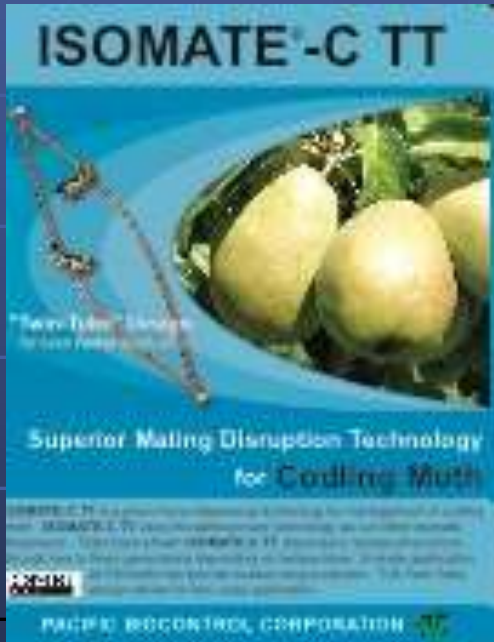
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Keys to Future Profitability

Ability to maintain successful IPM programs



Fire blight management

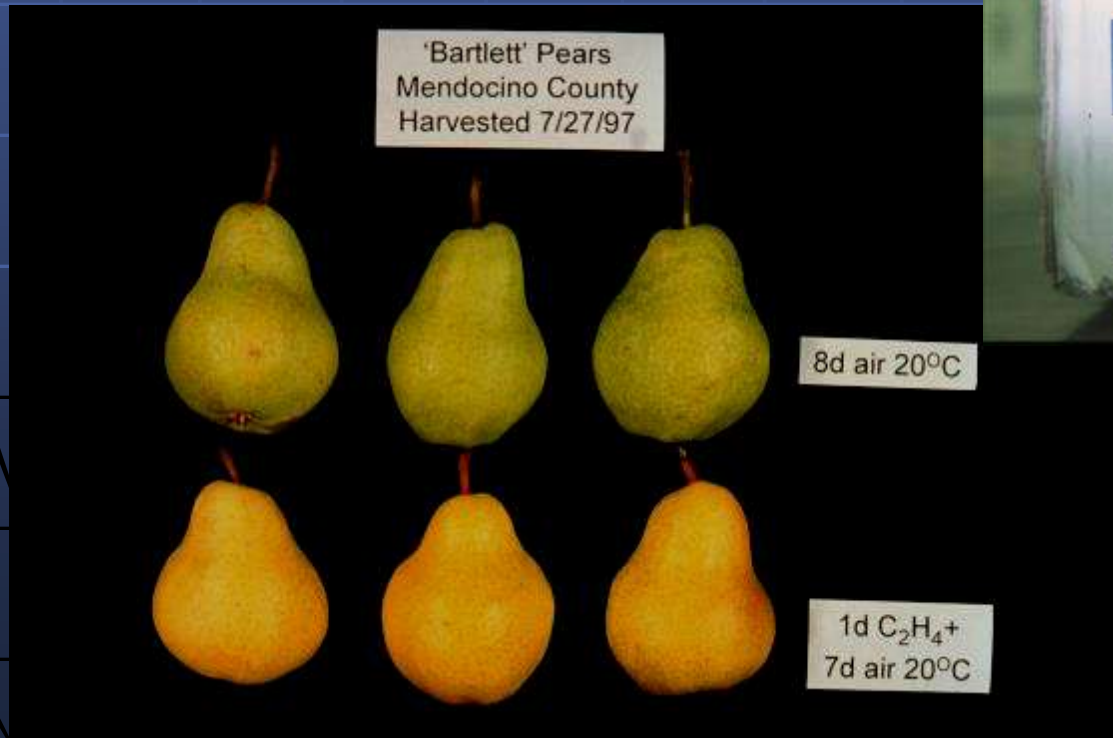


- Delayed dormant copper
- Biological controls
- Actigard to stop running
- FUNDED BY OREI

Keys to Future Profitability

- ❑ Innovative, high quality products

Post-harvest quality



Keys to Future Profitability

❑ Innovative, high quality products

Cultivar breeding and evaluation



Fire blight-resistant cultivars (USDA-ARS, Bell)



06/18/2013 13:39



Which are resistant?



BLAKES
PRIDE
9/28/13



HARROW
CRISP
9/23/13



SUNRISE
9/28/13



HARROW
CRISP
9/28/13

New Cultivar Release: 'Gem'

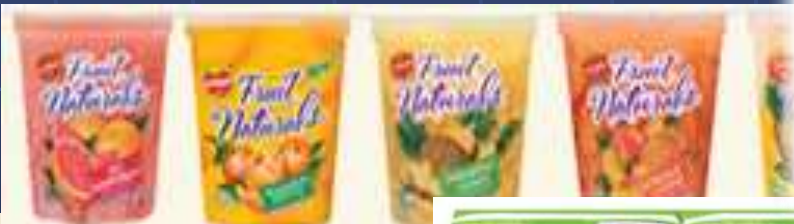


- Precocious and productive
- Fire blight resistance
- Non-russeting
- Crisp/juicy texture at harvest
- Requires hand thinning to achieve good size

Keys to Future Profitability

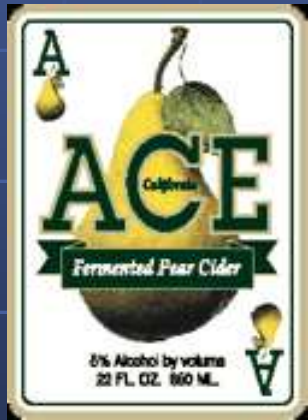
- ❑ Innovative, high quality products
- Value-added products

Fruits



Keys to Future Profitability

- ❑ Innovative, high quality products
- Value-added products



Keys to Future Profitability

❑ Effective Marketing

- Domestic, exports
- Inter-generational
- Multi-cultural
- Market to everyone!



Thank You!

