

# Current Status of Organic Research and Education - Washington and Oregon



**David Granatstein**

*Washington State University  
Wenatchee, WA*



# Outline

- **Organic farm trends**
- **Organic research trends**
- **Research and education examples**
- **Challenges and opportunities**

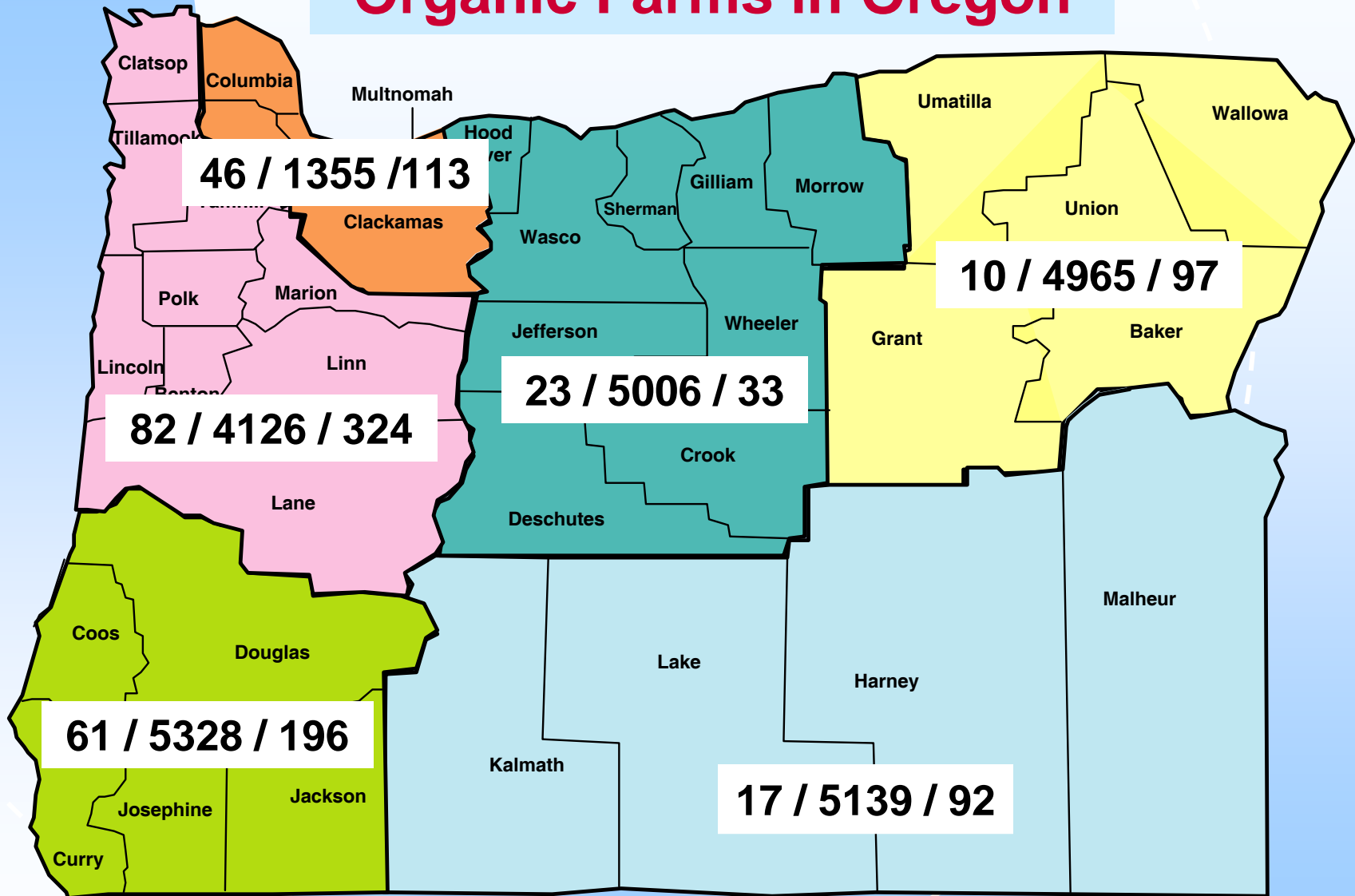


# Organic Acres - 2003

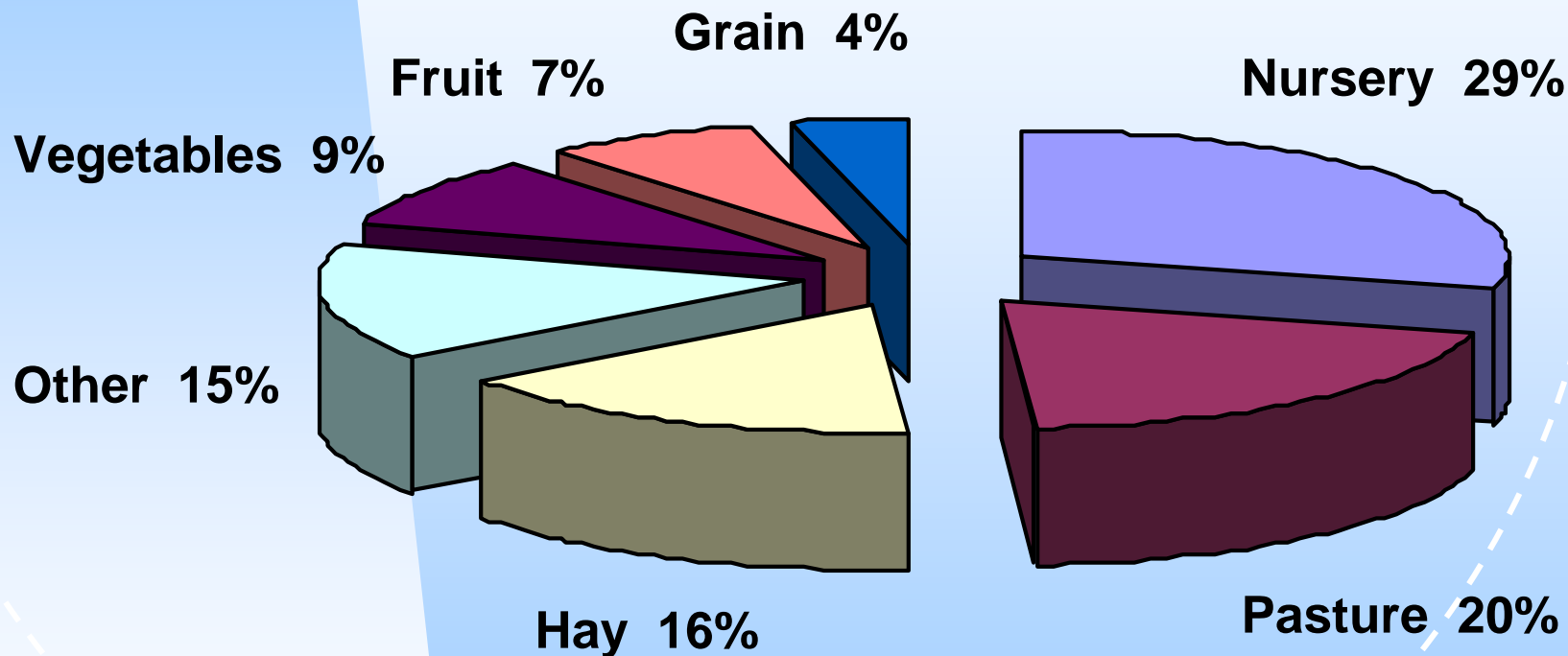
	<u>Cert.</u>	<u>Trans.</u>
WA	30,640	1,914
OR	25,928	854

	<u>W.OR</u>	<u>E.OR</u>	<u>W.WA</u>	<u>E.WA</u>
Cert. acres	42%	58%	19%	81%
Trans. acres	74%	26%	10%	90%
# cert. farms	79%	21%	37%	67%

# Organic Farms in Oregon



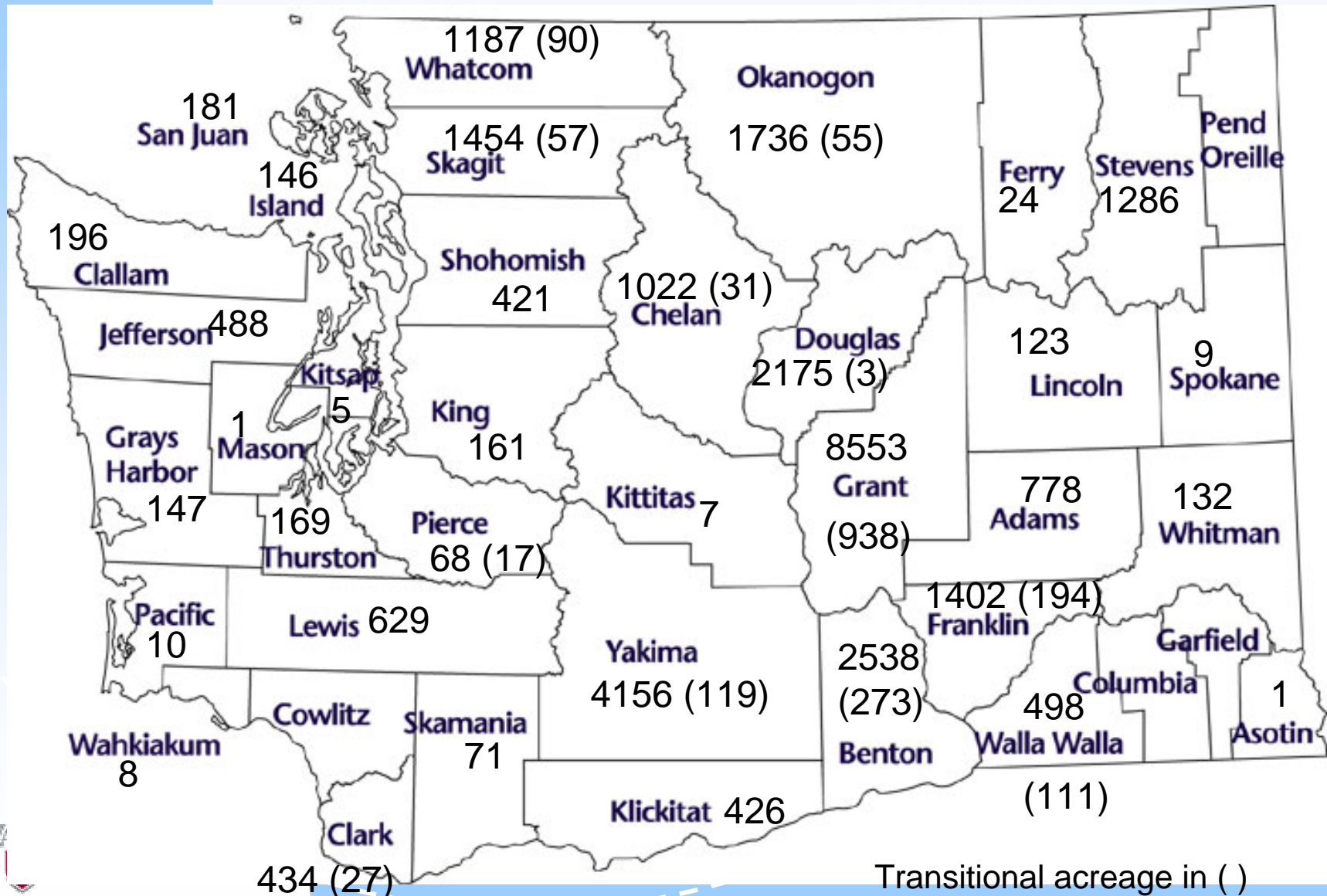
# Leading Organic Crops in Oregon - 2001



**Total acres 27, 502**

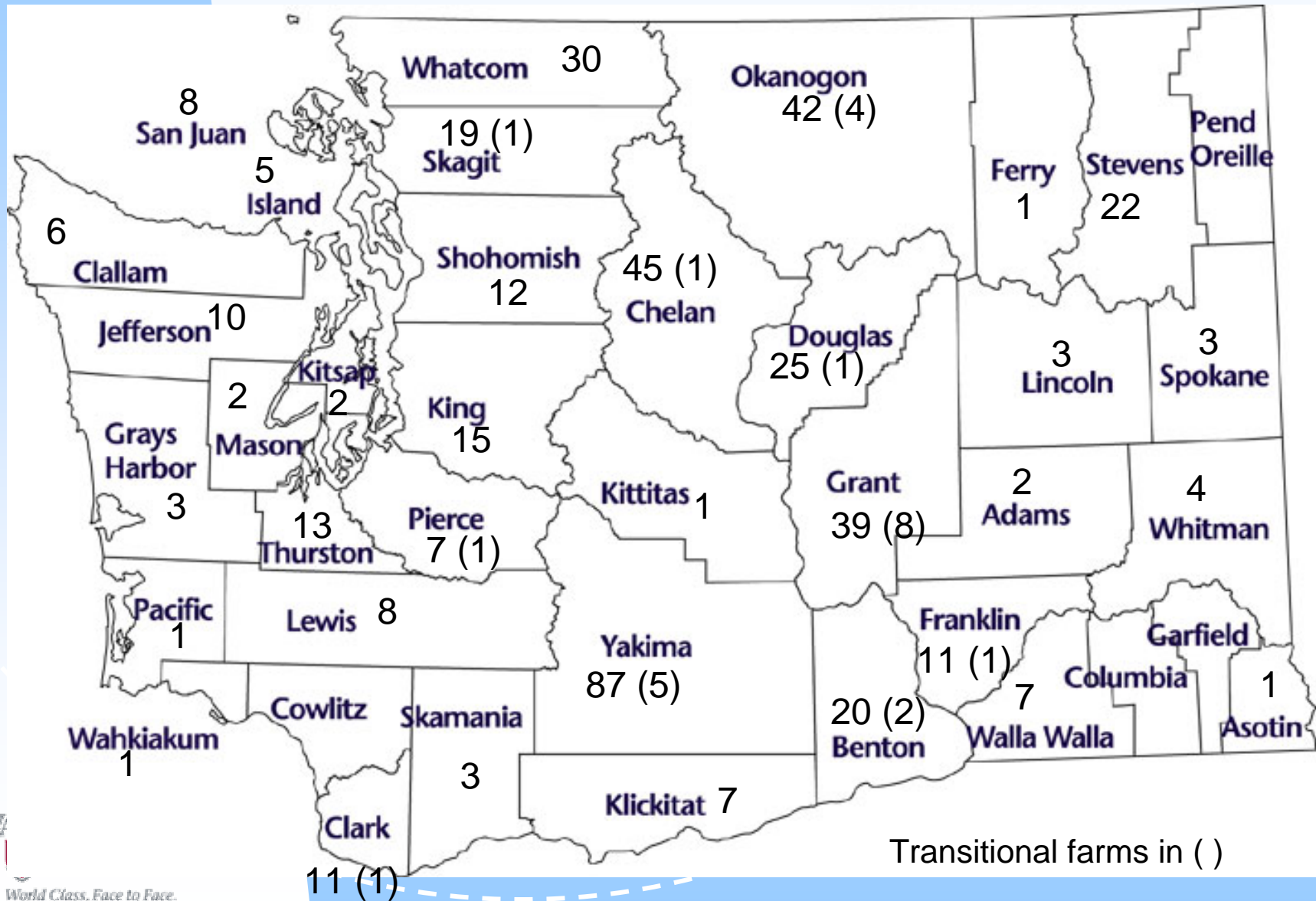
**Source: USDA-ERS**

# Organic Acreage in Washington State - December 2003



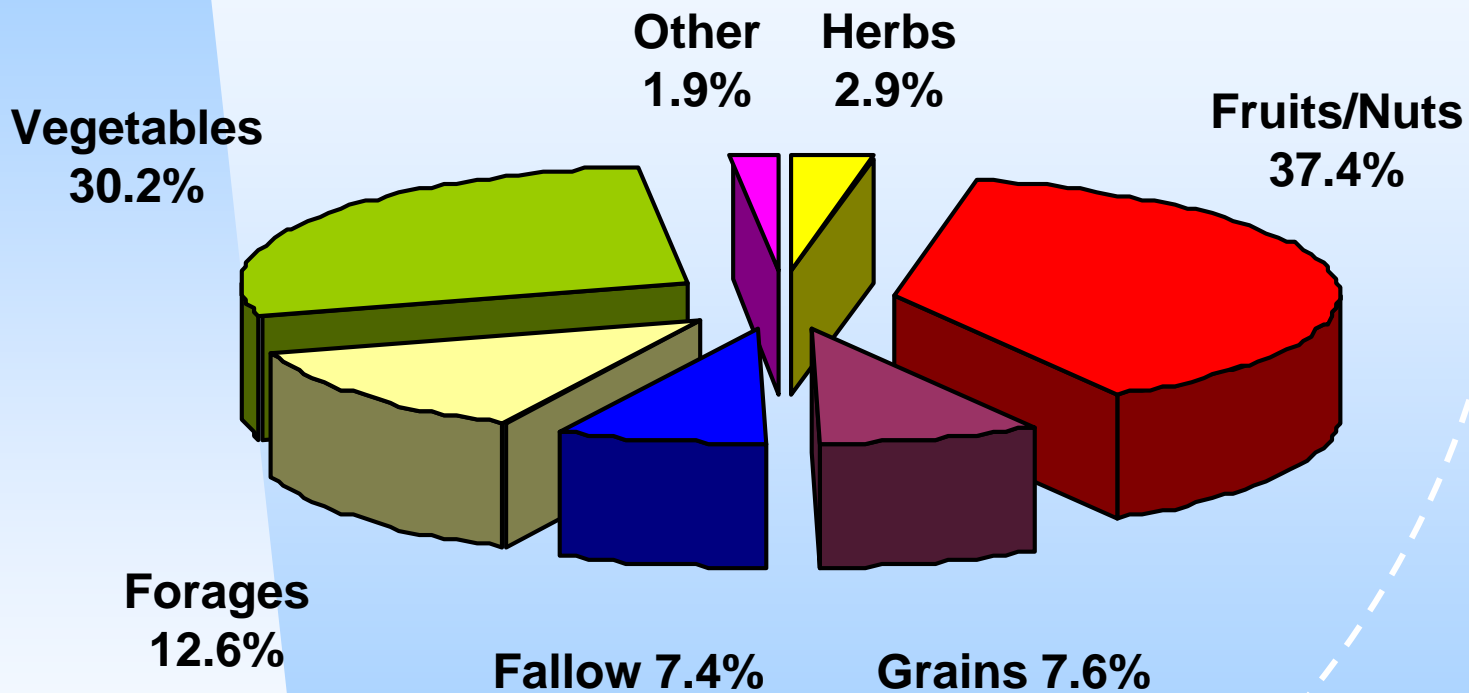
Transitional acreage in ( )

# Number of Organic Farms per County - December 2003



Transitional farms in ( )

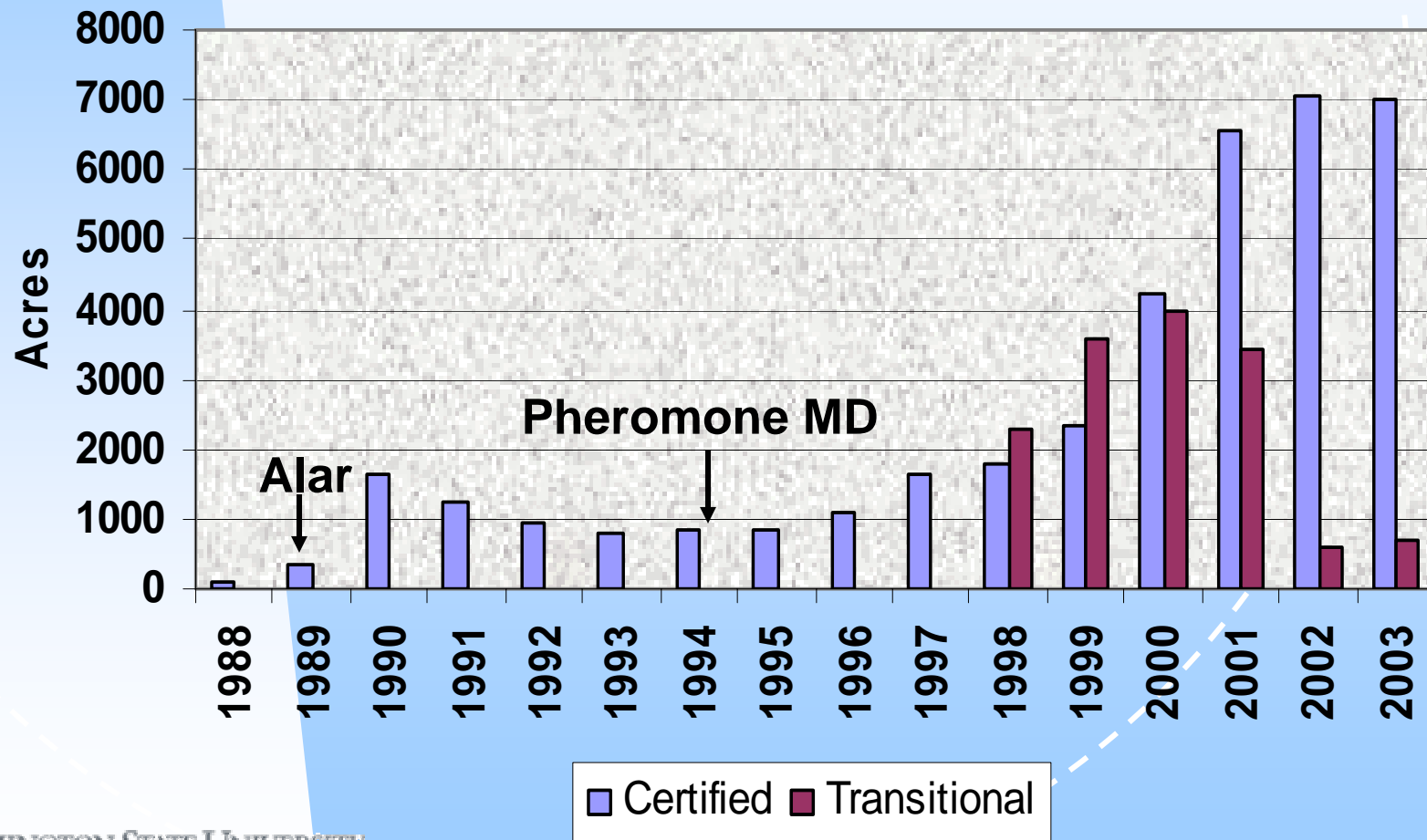
# Proportion of certified organic acreage by crop type in Washington State – 2003



Total certified acres 30,640

Total transition acres 1,914  
(no wheat)

# Estimated Organic Apple Acreage in Washington State



# Has organic research increased?

Projects funded by USDA with 'organic' in the title.

	<u>1988-96</u>	<u>1997-2004</u>
National	50	141
Northeast	17	53
North Central	12	32
South	9	39
West	13	16
WA	3	3
OR	1	0

# Has organic research increased?

## OFRF projects – 1992-2003

WA	13
OR	13

## Recent OFRF projects:

late blight resistance in tomato, organic wheat breeding, pastured turkey production, compost tea, and biocontrol of insect pests in organic vegetables

## WSU faculty with explicit organic research

1984	6
1994	8
2004	30

# PNW Organic Farming Research Accomplishments

- 1979 Dryland grain, energy and economics – Holland & Kraten
- 1982 N,P flow, dryland grain – Papendick & Patten
- 1986 Alt. crops, rotations, mgt., conv., organic, biodynamic – Goldstein
- 1987 Soil erosion, conv. vs. organic – Reganold et al., *Nature* 330:370-372
- 1990 Dryland database, 100 yr of research – Granatstein
- 1993 Soil quality, financial performance, conv. vs. biodynamic – Reganold et al., *Science* 260:344-349
- 1995 Sustainable potato production – Stark, Thornton
- 1995 Compost comparison, organic vs. biodynamic – Carpenter-Boggs et al.
- 2001 Apple systems study, conv., IFP, organic – Reganold et al., *Nature* 410:926-930
- 2002 WSU faculty survey of organic projects – 50 respondents, 90 projects
- 2002 WSU/OSU Organic symposium – 50 poster presentations, 220 attendees

# Reasons for Increase in Organic Research

- Familiarity, acceptance of 'sustainable agriculture' and 'conservation farming'
- Increases in organic acres, sales
- New funding sources for organic research (SARE, OREI, NRI, EPA, OFRF, CPR)
- More receptive University leadership
- Entry of mainstream farmers & companies with university relationships

# Examples of Current Organic Research

**Dryland wheat – breeding, weed control, rotations**

**Orchards – pear insect management, biocontrol of replant disease, weed control, post-harvest treatment, ‘rose gardens’, microbial insect controls**

**Vegetables – variety evaluation, insect biocontrol, mulching for weed control**

**Seeds – breeding, seed diseases and treatments**

**Soils – soil quality, N management, compost, cover crops, effects on food quality**

# WSU Organic Crop Research Grant

Special grant through Federal appropriation –  
Sen. Patty Murray

Funded in 2003, 2004 – total \$335,000

## E. WA

Wheat breeding

Weed control in  
dryland wheat

Bionematicides

Orchard floor management

## W. WA

Transition rotations

Seed diseases and  
treatments

Biodegradable mulches

Cover crop rotations

Selecting vegetable  
varieties

Organic sector statistics

# Educational Activities

- **WSU/OSU/Tilth organic research symposia**
- **WSU/WSDA NOP training**
- **WSU B.S. organic farming major**
- **Organic sessions at mainstream ag meetings (e.g. WA Hort, PNVA, WWHA)**
- **Organic grain workshop (Spokane)**
- **SARE organic training project**
- **National Organic Tree Fruit Research Symposium (Chelan, June 2005)**

# Challenges and Opportunities

**Large research needs – a “50 yr deficit”**

- research to improve organic, not just to compare to conventional systems

**Maintain profitability**

**Integrate “organic” and “conventional”**

**Organic farming as a conservation system - CSP**

**Organic farms as living laboratories**

# Challenges & Opportunities



Strip-till organic vegetables, OR

Blending 'organic' and 'no-till'



Direct seed organic peas, WA



Mustard green manure

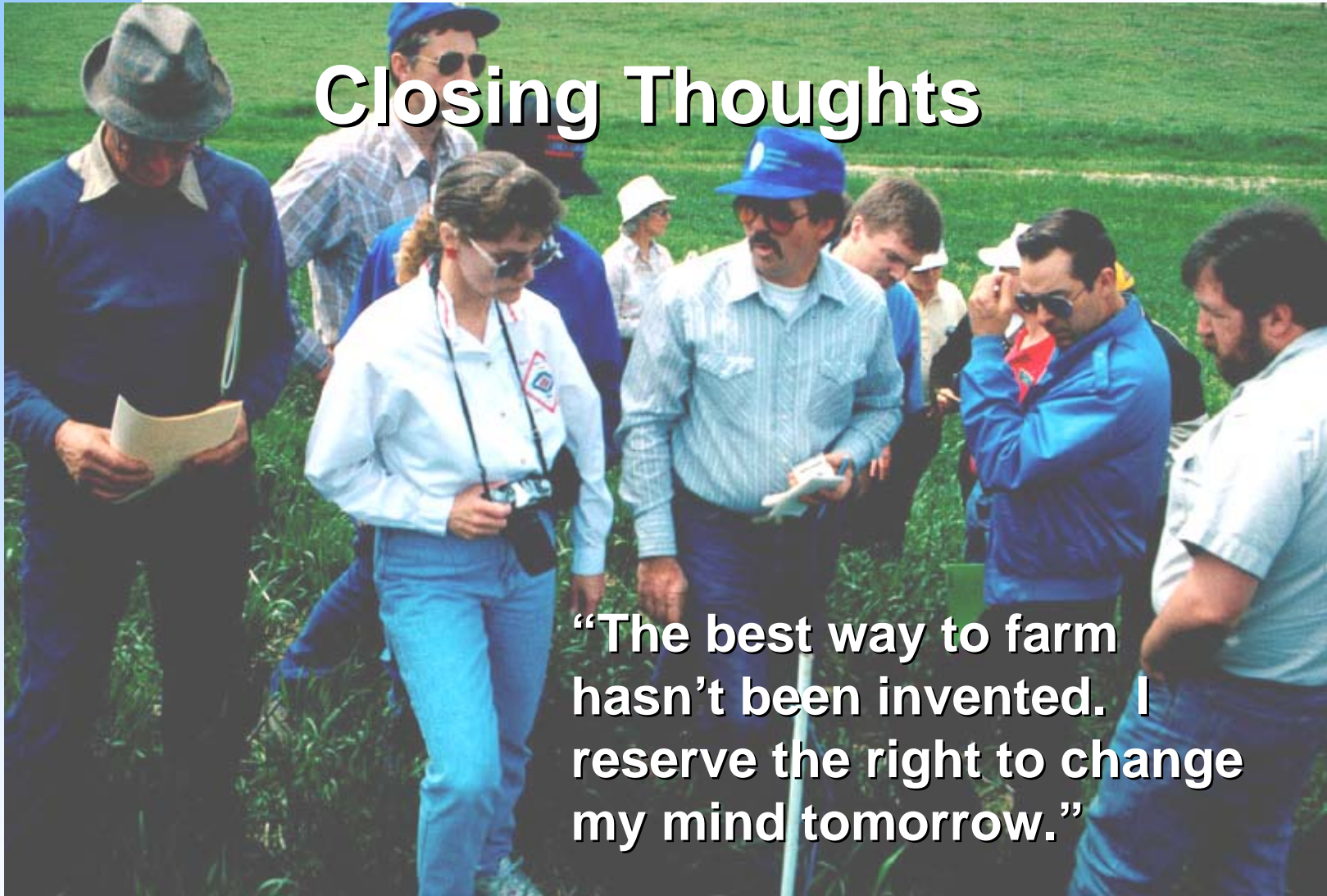
Need more agroecology; **redesign** instead of input substitution – perennial wheat, multi-species grazing, designed diversity, cover crops/green manure



# Closing Thoughts

“Which half of the world will starve if we switch to organic farming?” *Earl Butz, former US Secretary of Agriculture*

# Closing Thoughts



**“The best way to farm hasn’t been invented. I reserve the right to change my mind tomorrow.”**

**-- Dick Thompson,  
Boone, Iowa farmer**