

# Specialty Crop Research Team (***SCRT***)

April 24, 2007

Technology Workshop

Arlington, VA

# Specialty Crop Industry

- Includes fruits and vegetables, tree nuts, dried fruits, and nursery and landscape crops (including floriculture).
- Produce over \$45 billion annually in the US alone.
- Very diverse cropping and processing systems.

# Opportunities and Challenges

- Increasing competition from lower cost foreign producers
- Declining availability of labor, land, water and energy resources
- Persistent and serious pressures from insect and plant disease.
- Increasing costs and greater management complexity from state and federal regulations
- Greater demand for improved microbiological food safety

# Opportunities and Challenges

- Interest in healthier diets
- Increased interest in specialty crops at Congress and USDA
  - Specialty Crop Competitiveness Act of 2003/  
Farm Bill
- International markets

# Background

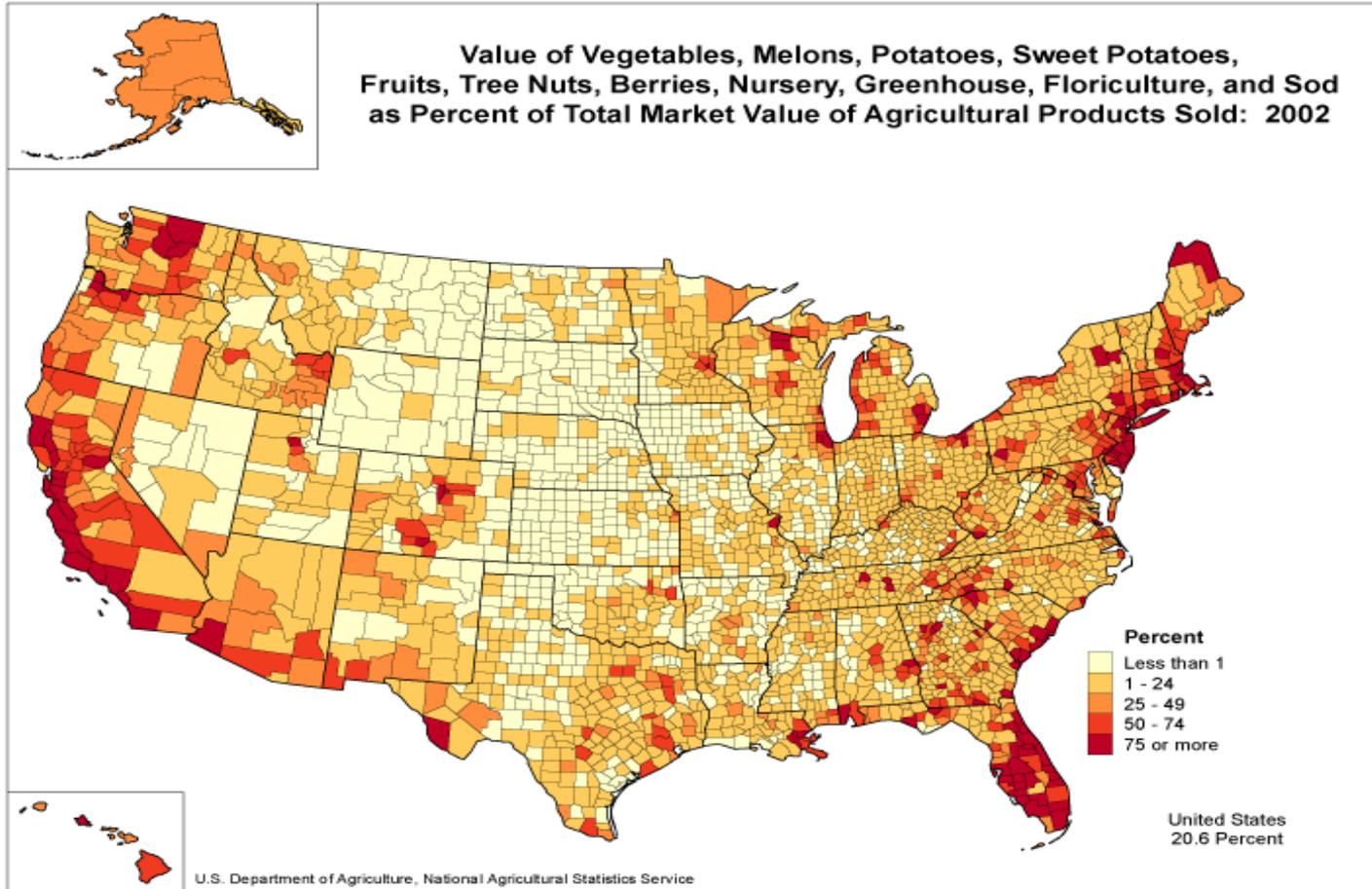
- Why are we?
  - Common research and extension needs
  - Consensus opinion
  - One voice
  - Strength in numbers
  - Industry-driven
  - First meeting December 2005

*Accelerate Achievement of R&E Goals with  
Commercial Relevance to Specialty Crops*

# SCRTs—Who Are We?

- Primarily perennial crop organizations
- Participation is voluntary and includes:
  - Almond Board of California
  - American Vineyard Foundation
  - California Tree Fruit Agreement
  - Citrus Research Board
  - Dried Plum Board
  - National Berry Crop Initiative
  - National Grape and Wine Initiative
  - National Tree Fruit Technology Roadmap
  - Walnut Marketing Board

# Where Are We From?



# Why are We?

A coalition of Specialty Crop organizations with specific goals

1. Provide a forum for Specialty Crop organizations to discuss and formulate common research and extension needs.
2. Develop a unified voice to articulate our common needs in research and extension
3. Strengthen our relationship with our research and extension partners

*We are a Work-in Progress!*

# SCRTs Common Needs

- Understanding and Improving Quality
- Consumer Perceptions, Nutrition, and Community Enhancement
- Production and Processing Efficiency
- Sustainable Practices

# I. Understanding and Improving Quality

## *Goals*

- Provide innovative tools and technologies to support rapid, precise, and affordable evaluation of crops, products, and processing practices
- Provide improved means for quality evaluation for breeding and plant physiology
- Develop sustainable crop production through introduction and application of new plant materials more suited to regional environmental constraints and local pest and pathogen pressures

## *Key components to understanding and achieving improved quality*

- **Accurate and precise product and process specifications**
- Applied genomics, genetics and breeding

# II. Consumer Perceptions, Nutrition, and Community Enhancement

## *Goals*

- Understand consumer perception of Specialty Crops
- Understand the role of Specialty Crops in improving human nutrition and health
- Characterize and communicate the economic and societal contribution of specialty crop industries to rural communities

## ***Key components for addressing consumer perceptions, nutrition, and community enhancements.***

- Consumer perceptions
- Enhancing rural communities
- Understanding nutritional components

# III. Processing and Production Efficiency

## *Goals*

- Enhance crop management, efficiency, and sustainability
- Improve the viability of production and processing operations
- Improve worker safety and productivity

## *Key components for increasing production and processing efficiencies*

- Automation and mechanization of production, handling, and processing
- Enhance knowledge of pest-plant interactions and develop systems to optimize management
- Worker safety and productivity

# IV. Sustainable practices

## *Goals*

- Make the specialty crop industry a better neighbor by conserving scarce resources and foster enhanced environmental stewardship

## *Key components for improving sustainable practices*

- Integrated crop management
- Water, air, and land stewardship

# Issues Driving Need for Technological Solutions

- Labor issues
  - Seeking tools to reduce reliance on labor or tools to make the work easier
- Environmental Issues
  - Seeking tools to help growers meet the demands for cleaner water, cleaner air and minimizing impact on endangered species
- Food Quality/ Food Safety Issues
  - Seeking tools to better select produce that meet quality and/or food safety criteria

# How we got here

- SCRT was formed and developed common research and extension interests
- The Tree Fruit Industry met with REE in July, 2006
- ARS held a workshop as part of the NP207 review for specialty crops and ARS researchers
- → workshop to bring together researchers with diverse engineering backgrounds with biologists and industry.

# Goal of Workshop

- Rekindle interest in researching engineering solutions for the diversion specialty crop agriculture
- ➔ To maintain a vibrant, competitive, and sustainable specialty crop industry in the U.S.

# Appreciations

- Dan Schmoldt – USDA-CSREES
  - Tom Bewick – USDA-CSREES
- Jeff Steiner – USDA-ARS
  - Sally Schneider – USDA-ARS
- Eduardo Misawa – NSF
- Ed Sheffner – NASA