

# UMass Cranberry Station

Role in industry viability

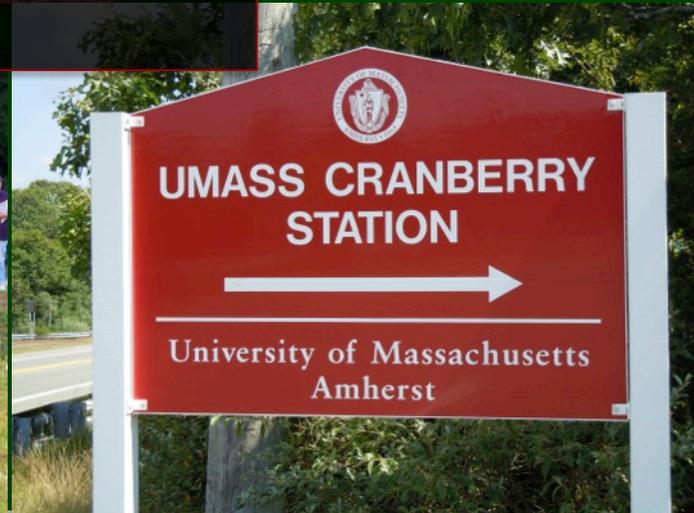
February 26, 2016



UMass Cranberry Station conducts critical research and provides practical applications to growers

Established 1910

2 working cranberry bogs, 18 acres, research sites and retained revenue



# Current Challenges/Opportunities

- Pest management
- Nutrient management and environment
- Water quantity and quality
- Market forces – the ‘perfect cranberry’
- Resilience in the face of climate change
- Sustainability



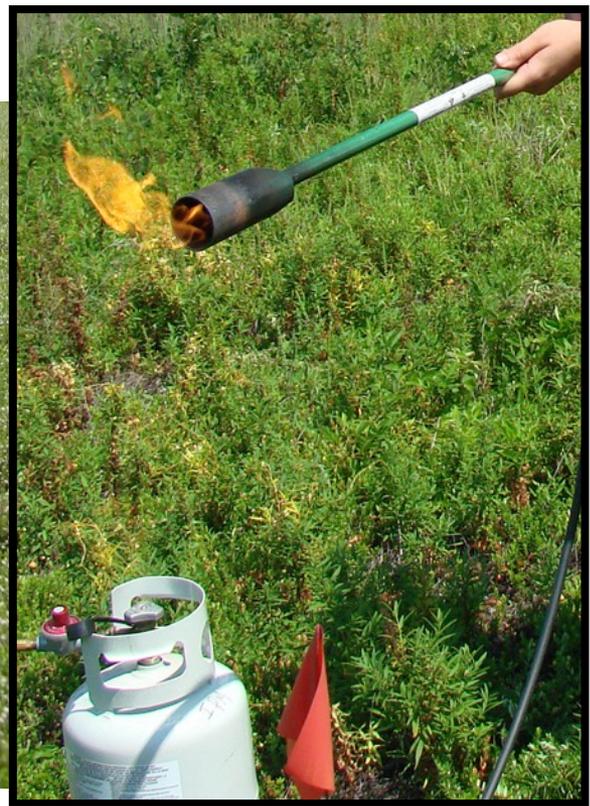
# Fungal fruit rot

- Up to half of all pesticide applications
- Biggest impediment to producing high quality fruit demanded by handlers
- Interacts with heat stress
- Predicted to worsen with climate change



# Integrated Pest Management IPM

Only treat a real problem.  
Correct timing.  
Include non-chemical options.  
Maximize investment.



# Conserving bee species



# Multiple Uses of Water

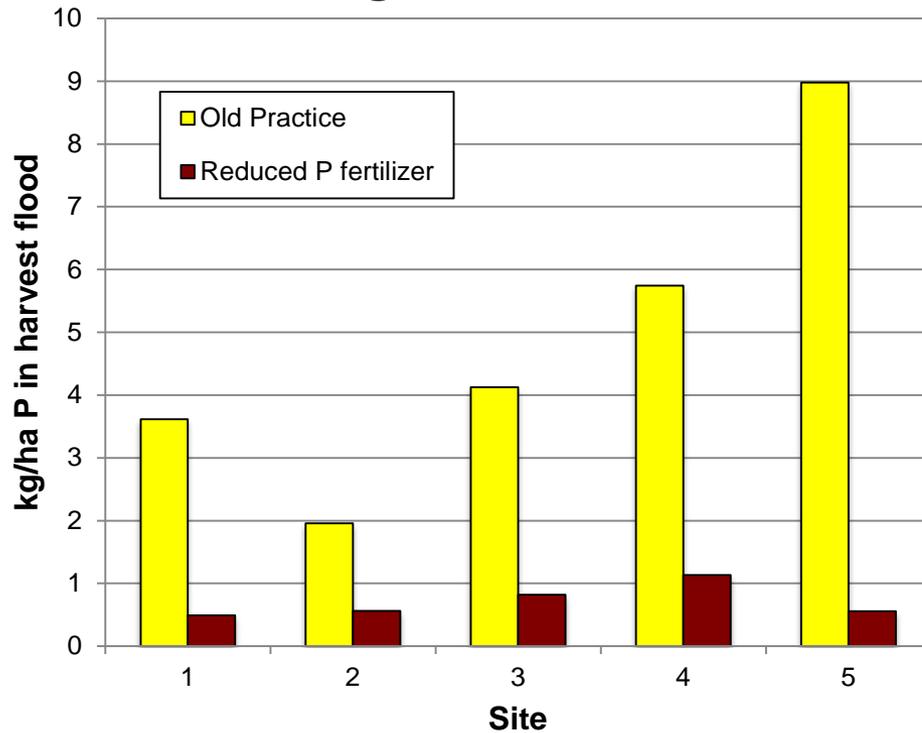


- Competition for resources
- Protect water quality
- Maximize efficiency of use



# Change in nutrient management practice improves the environment

## Reducing P Fertilizer



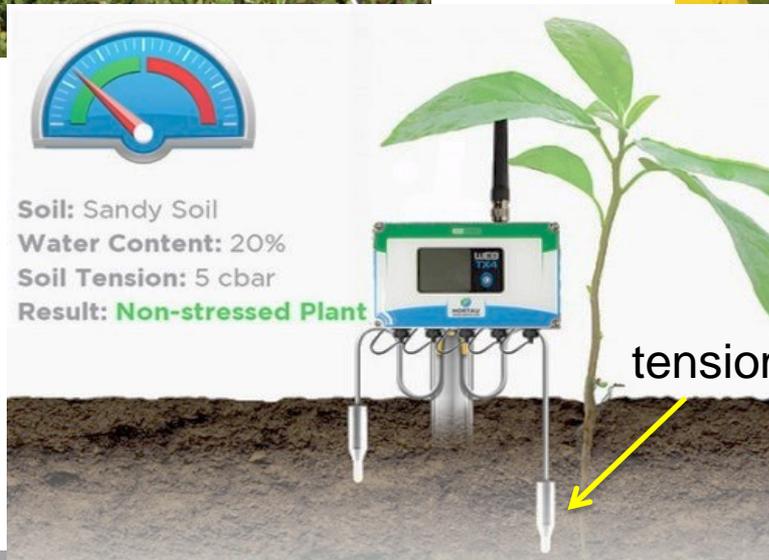
# New technology – more efficient, improved production



frost protection



weather monitoring



tensiometer

soil moisture status

# New technology – more efficient, delivery and diagnostic systems



Boom applicator for fertilizer

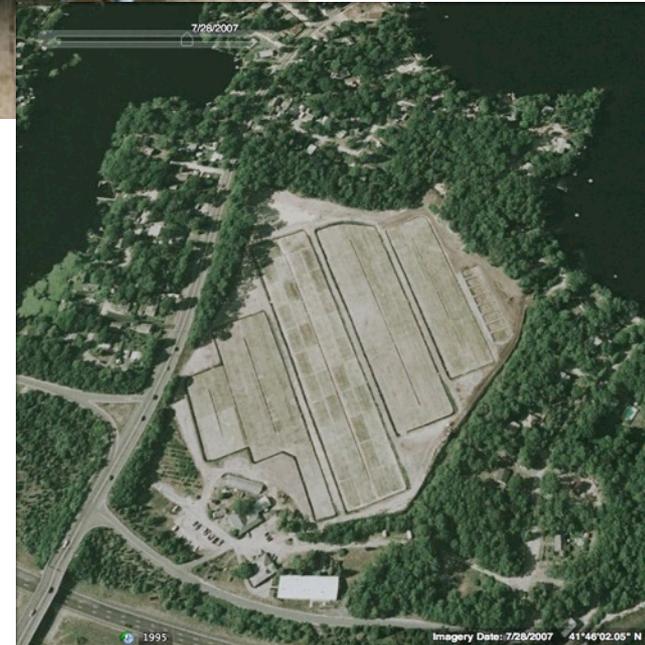


Research-scale sprayer

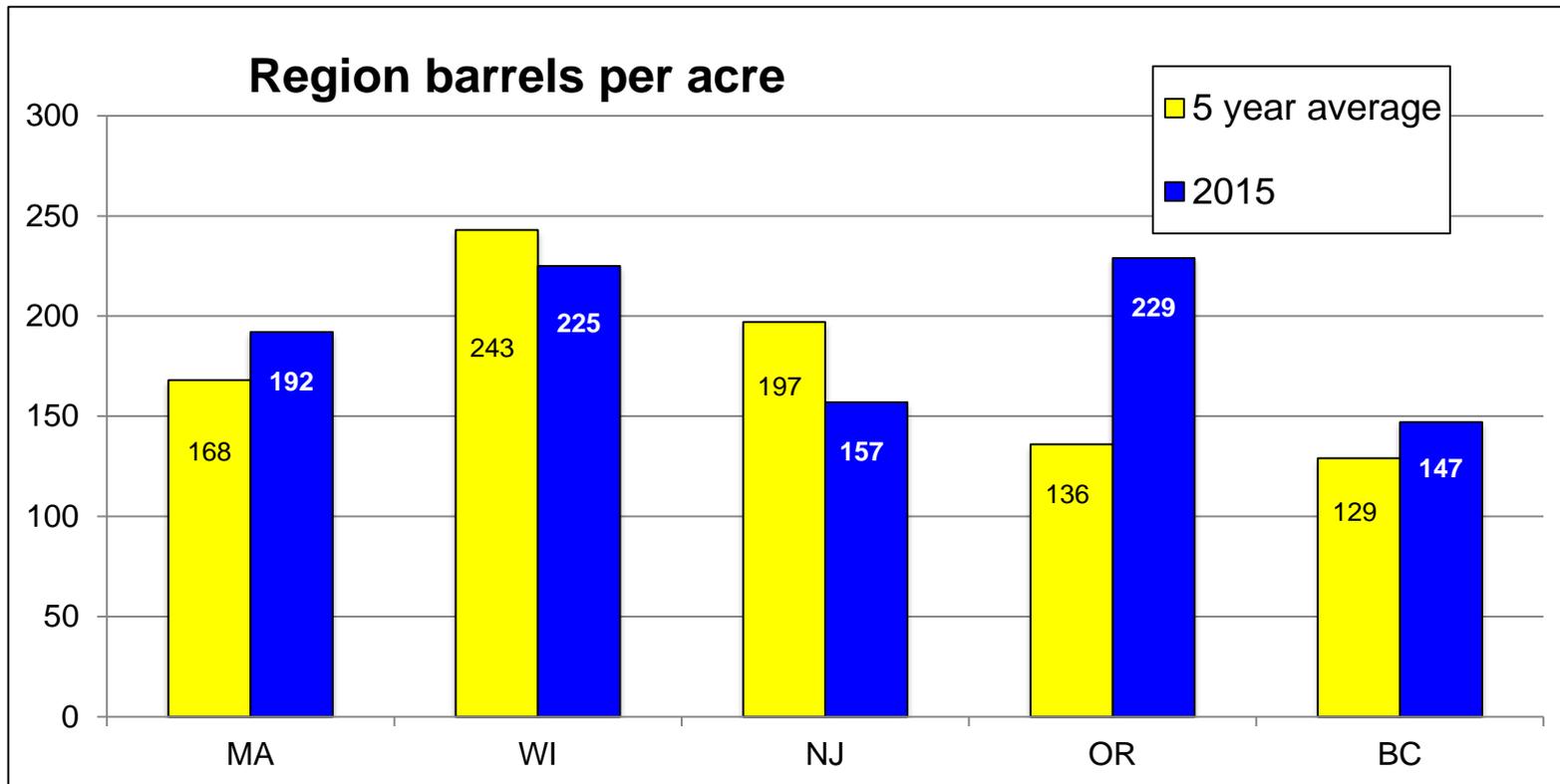


UAV for applying materials or aerial scouting

# Renovation is needed

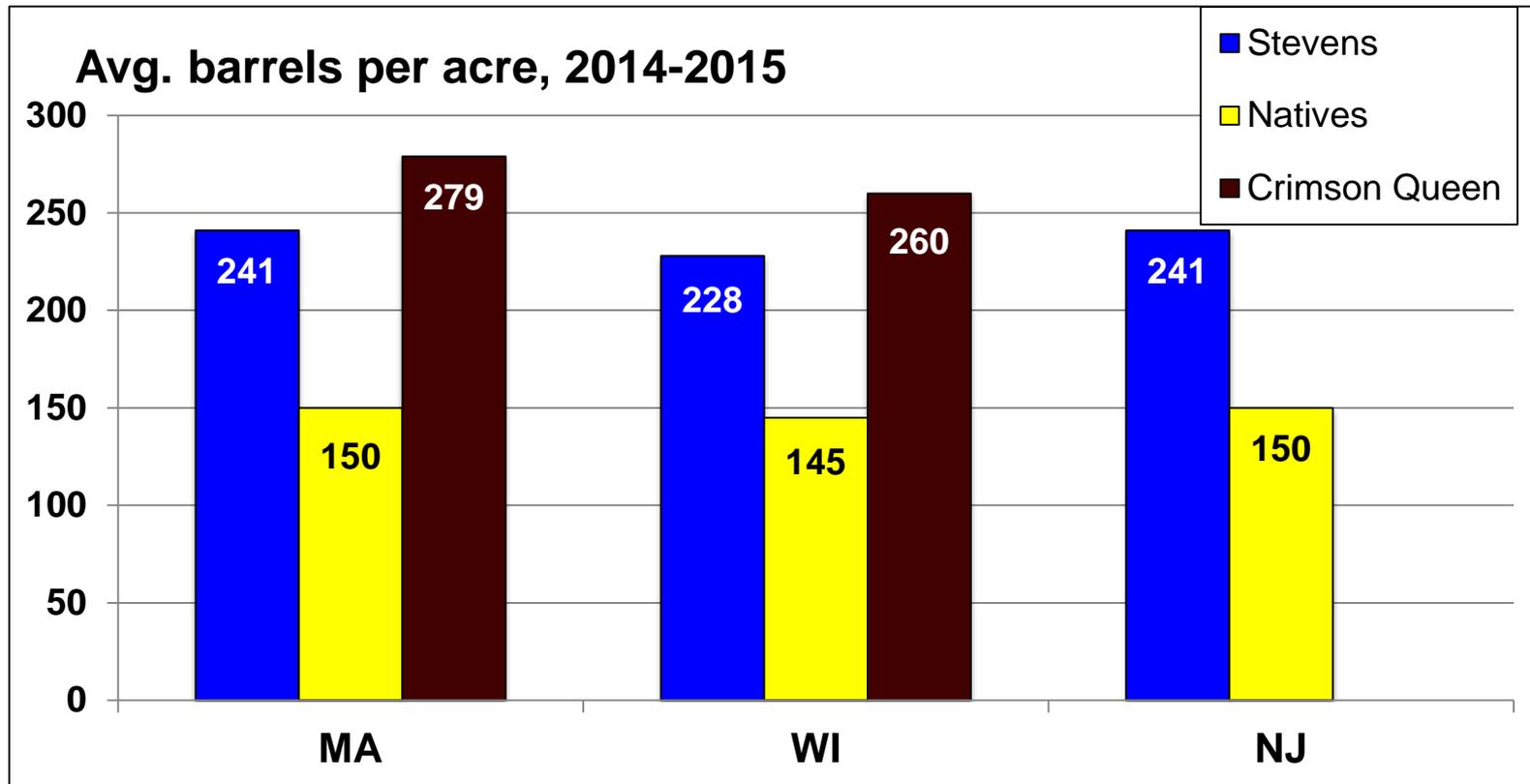


# Why renovation?

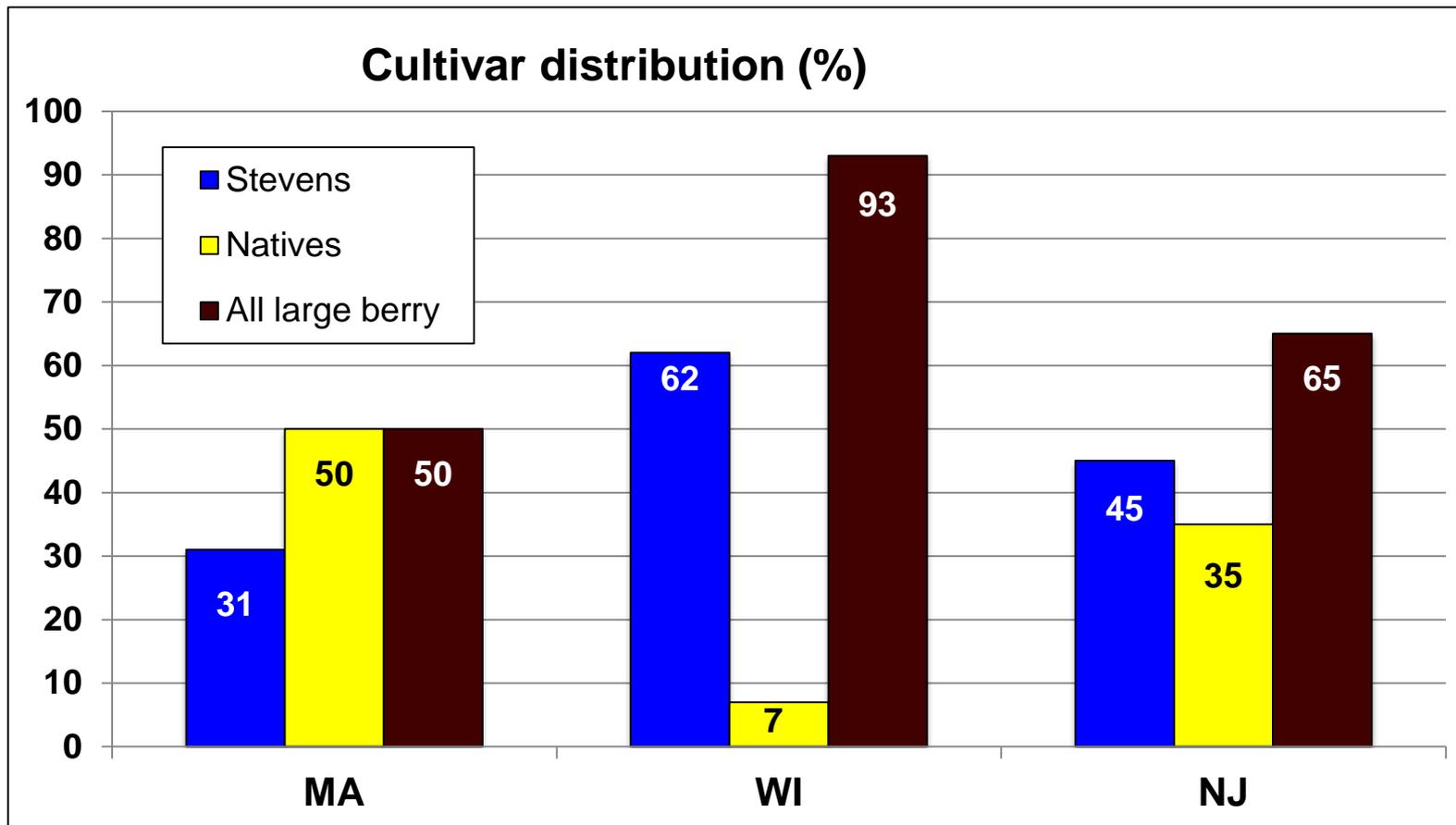


- Competition from other regions

# Why renovation?



- MA can produce on par with other regions

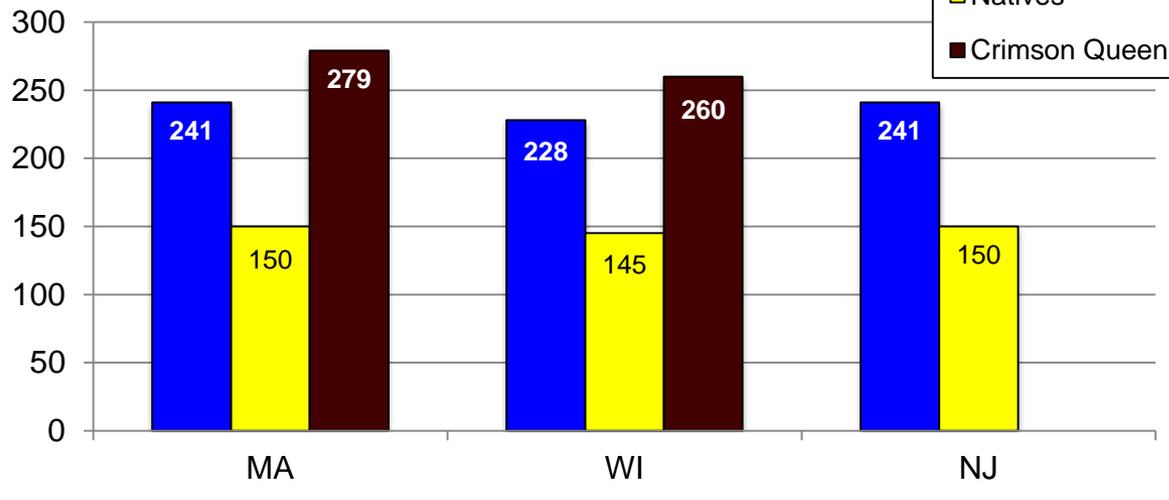


- Old farms, old varieties

Large berry = Stevens, Ben Lear, new hybrids

Data from Ocean Spray Cranberries, Inc.

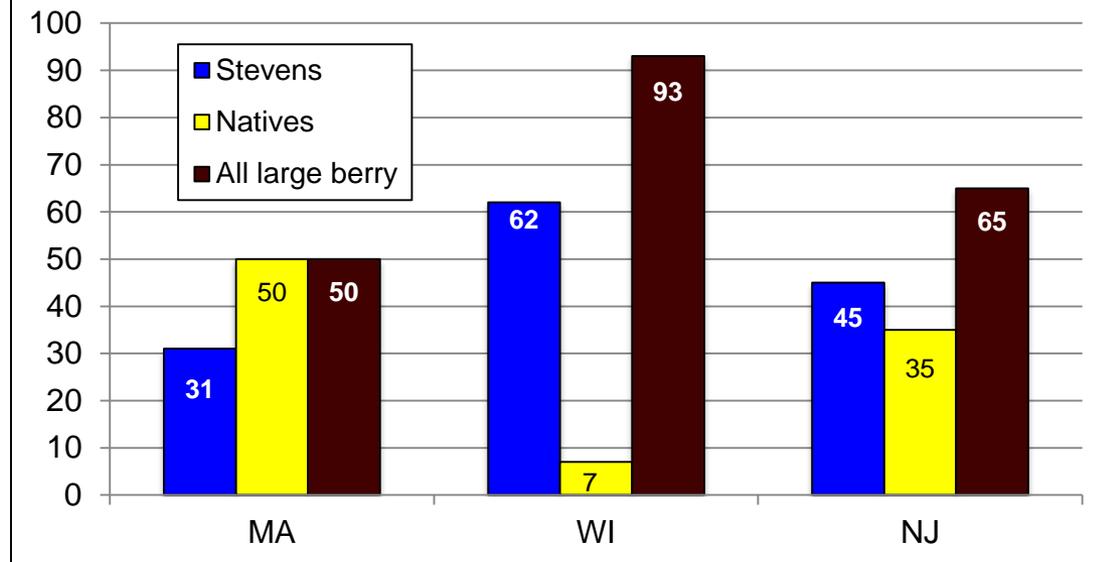
**Avg. barrels per acre, 2014-2015**



Within cultivars:  
Yield parity with  
other regions

MA has more heirloom  
acres, less large-fruited  
cultivars

**Cultivar distribution (%)**



# Implementing New Cultivars



**Early Black**  
Native  
Heirloom

**Stevens**  
1<sup>st</sup> Gen. hybrid

**Demoranville**  
2<sup>nd</sup> Gen. hybrid

# UMass Cranberry Station: New Cultivar Research

- Common approaches to pest and water management may not be optimal for newest cultivars.
- Processors developing stringent quality standards.
  - Fruit firmness, esp for large fruit
- Climate change – potential for increased heat stress.
  - large fruit most susceptible
- Nutrient management for new cultivars.
- Include Stevens in research for comparison.
  - most common large-fruited cultivar

# UMass Cranberry Station: Extension Research Needs

- Loss of **Core Funding** for professional staff
  - Dependent on soft monies
- Personnel attrition
- Designate as priority
  - Extension
  - Oversight Committee
  - Legislative efforts

UMassAmherst  
The Commonwealth's Flagship Campus