

# Making the Case for Organic

---

Marty Mesh, Executive Director



# Florida Organic Growers

A 501(c)(3) nonprofit corporation established in 1987. FOG operates two programs: Education & Outreach and Quality Certification Services.



*FOG's mission is to support and promote organic and sustainable agriculture, wherein; we educate consumers, farmers, future farmers (children & youth), businesses, policy makers and the general public.*



# *Organic Farming:*

Where we were, where we are, and where we are going...





*Study the past, if you would divine the future. - Confucius*

# *History of Organic Certification*

## 1980's

- Farmers, retailers, and consumers want uniformity
- Multi-ingredient products

## 1990

- Organic Foods Production Act [OFPA]

## 2002

- NOP Regulations "Go Live"

# What is Organic?

## A Production System...

*managed to respond to site-specific conditions  
integrating cultural, biological, and mechanical  
practices to foster cycling of resources  
promote ecological balance  
and conserve biodiversity*

USDA Definition





***Where are we today?***

U.S. sales exceed **\$39** billion



**\$35.9** billion = organic food

**↑ 11%** in 2014



Over **\$60** billion  
Global Market 2013

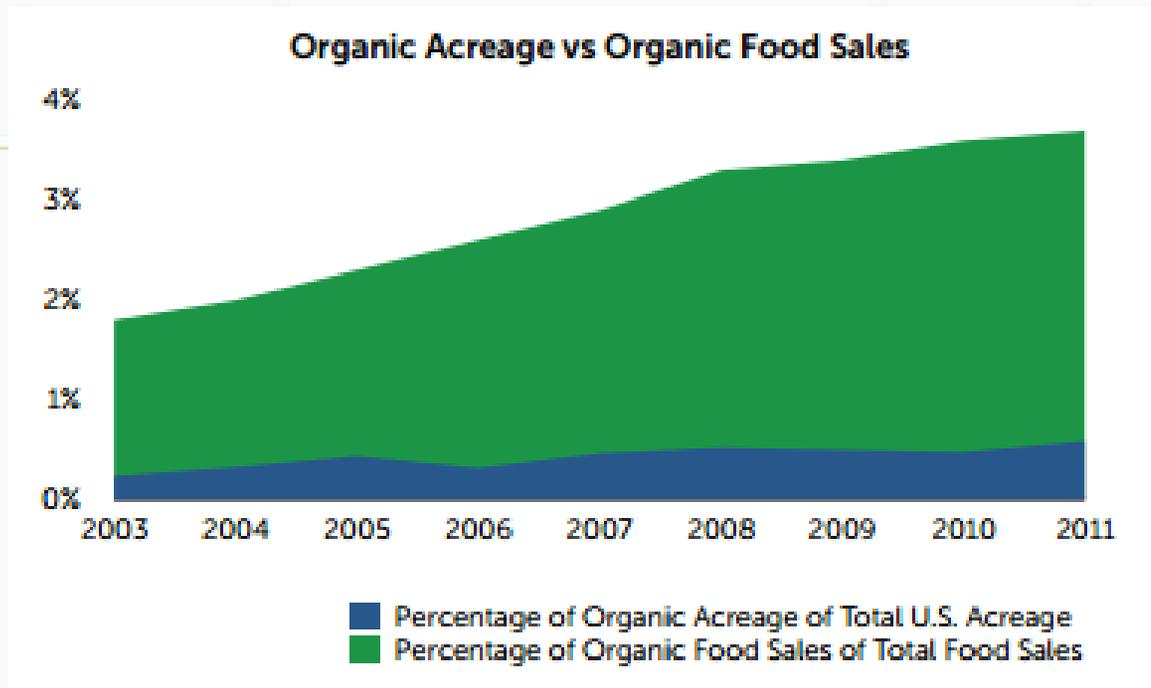
IFOAM 2014

**Demand Exceeds Supply**



Source: 2015 Organic Industry Survey, 2015, OTA

Organic food sales now represent almost **5%** of total U.S. food sales.



Source: 2015 Organic Industry Survey, 2015, OTA



Over **3,000 farms**  
transitioning to organic in USA

Nearly **19,500**  
certified organic operation in USA

- farms and processing facilities.

**>25,000**  
certified organic operations  
Worldwide in

**>120**  
different countries





51%

of families are buying more organic products than a year ago



83%

of parents sometimes purchase organic products

97%

of those parents purchase organic fruits and vegetables

Source: U.S. Families' Organic Attitudes & Beliefs 2015 Tracking Study, 2015, OTA

# Pesticides

Over **1 billion lbs.** applied to crops in the U.S every year



Source: *Alavanja, Michael C.R.* Pesticides Use and Exposure Extensive Worldwide; Environmental Health PMC 2009

# Negative Affects of Pesticides



Polluting water

Honey bees



## Human Health

New study has found that chronic exposure to specific pesticides is associated with end-stage renal disease in licensed pesticide applicators

- Atrazine, paraquat, permethrin and more



Source: Pesticide use and risk of end-stage renal disease among licensed pesticide applicators in the Agricultural Health Study; Occupational and Environmental Medicine

GMOs = ↑ use of Round-up

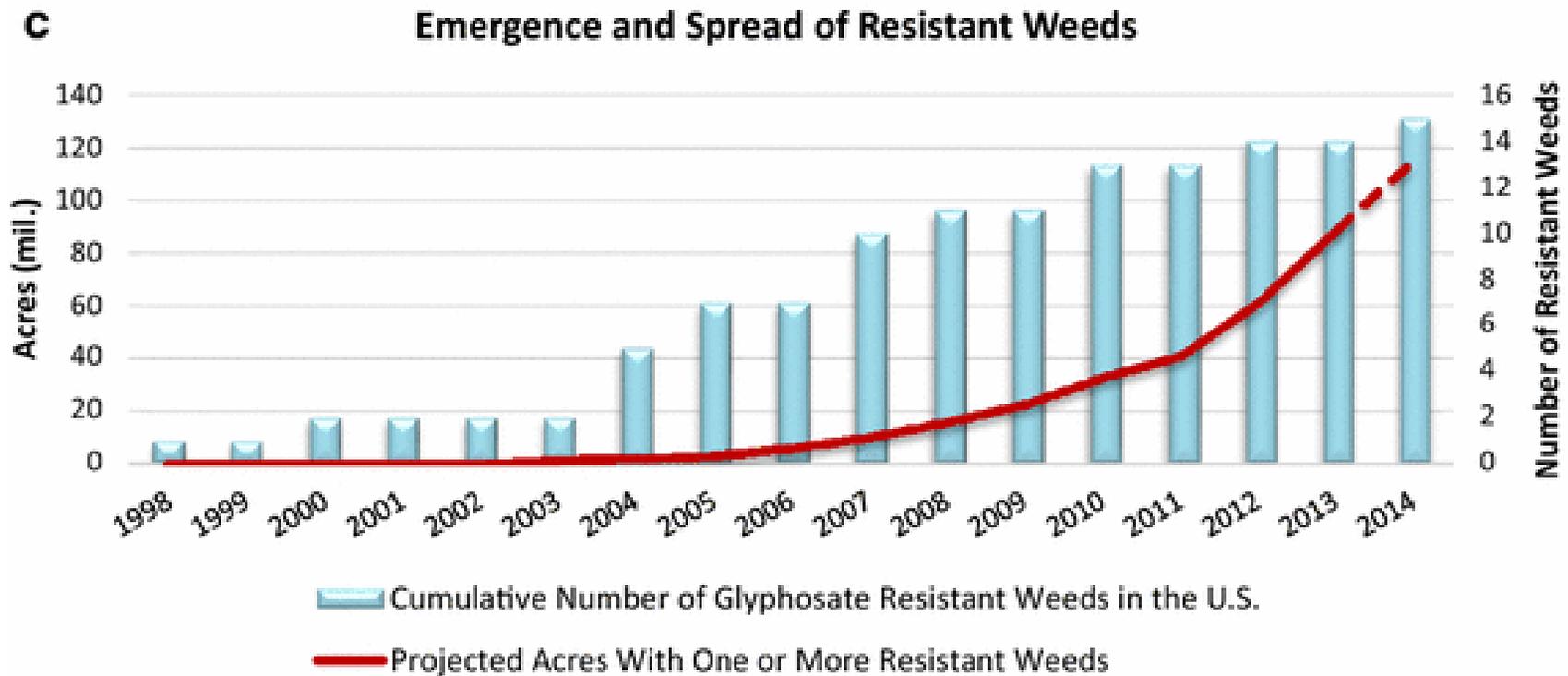
Glyphosate is the most widely applied pesticide worldwide

---

- Glyphosate → AMPA = persists in the environment
  - affects the quality of ground water
- Transgenes may spread through pollen drift
  - resulting in super weeds
- Pollen from **Bt**- Genetically modified species may cause risks to beneficial species
  - such as nationally protected butterflies and bees



Sources: 1. *Benbrook, Charles*; Global and U.S. Trends in Glyphosate Herbicide Use; Environmental Sciences Europe 2016  
2. *Székács, A*, Environmental and Ecological Aspects of First Generation Genetically Modified Crops Regarding Their Impacts in a European Maize Producer Country; International Journal of Environmental Protection 2012



**Fig. 2.** Use and impacts of glyphosate in corn and soybean production

Source: *Benbrook, Charles*; Global and U.S. Trends in Glyphosate Herbicide Use; Environmental Sciences Europe 2016

# Organic ≠ Pesticide-free

---

- Greater use of biopesticides
  - Fewer applications of pesticides with shorter activity periods.
- Systems approach
  - Rotations, cover crops, diversity, attracting beneficials



# Biodiversity



# Biodiversity

- 31% of organic farmers reported > 30 bird species on their farms
  - Compared to 12% of conventional farmers
  - Birds help with pest control on organic farms
- “Long-term conservation and organic alternative cropping systems improved the abundance and/or biomass of soil biota and altered the structure of the soil food web compared to a conventional system”



# Crop Rotation

---

- Sod, cover crops, green manure crops, and catch crops that...
  - maintain or improve soil organic matter
  - pest management
  - manage nutrients
  - provide erosion control





**July 20th**



**August 15th**

# Potential Carbon Sequestration



- We could remove up to **78,000,000,000** tons of carbon from the atmosphere
  - rejuvenating soils depleted of carbon by conventional farming methods
  - enough to offset up to **15%** of the entire world's fossil fuel emissions
- A **30-year** study shows **organic soils** are healthier and increase in carbon-based organic matter over time  
(Rodale Institute)



Source: Gattinger, A., Enhanced top soil carbon stocks under organic farming; Journal Science 2012

# Hurricane Mitch

- Farms using ‘sustainable’ practices appeared to have suffered less damage than their ‘conventional’ neighbors.
  - soil and water conservation methods
  - reduced or discontinued use of chemical inputs
  - cover crops
  - Agroforestry
  - in-row tillage
  - organic fertilizer and pesticides
  - Integrated Pest Management



October of 1998-  
1 of the Caribbean's  
5 most powerful  
hurricanes



Source: Eric Holt-Giménez, Measuring farmers agroecological resistance to hurricane Mitch; LEISA Magazine 2001

# *Profitability*

Organic farming typically = lower yields than conventional farming



But the premium  
organic farmers  
receive for their products  
makes  
organic 22 -35% more  
profitable



Source: Crowder, D., Financial Competiveness of organic agriculture on a global scale; PNAS 2016

# How does *Organic* measure up?

**100 studies** to determine how organic farming measures up to conventional food production:

- productivity, environmental impact, economic viability, and social well-being

***Organic farms are...***

- more profitable
- deliver more environmental benefits
- are healthier- increased nutritional benefit & reduced dietary pesticide exposure than conventionally produced foods.



Source: Reganold, John, Financial competitiveness of organic agriculture on a global scale; Nature Plants 2015

## *Organic in the long-term...*

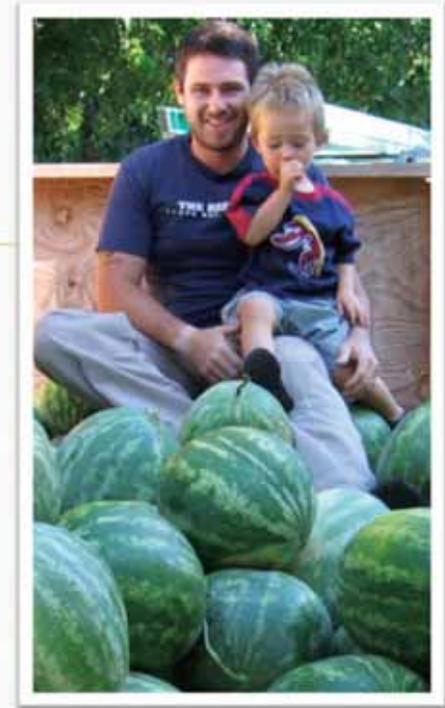
- Six long-term experiments showed
  - an increase in soil health, productivity, water quality, and economic benefits for farmers when they employed organic systems
- “These results suggest that organic farming practices have the potential to reduce nitrate leaching, foster carbon sequestration, and allow farmers to remain competitive in the marketplace”

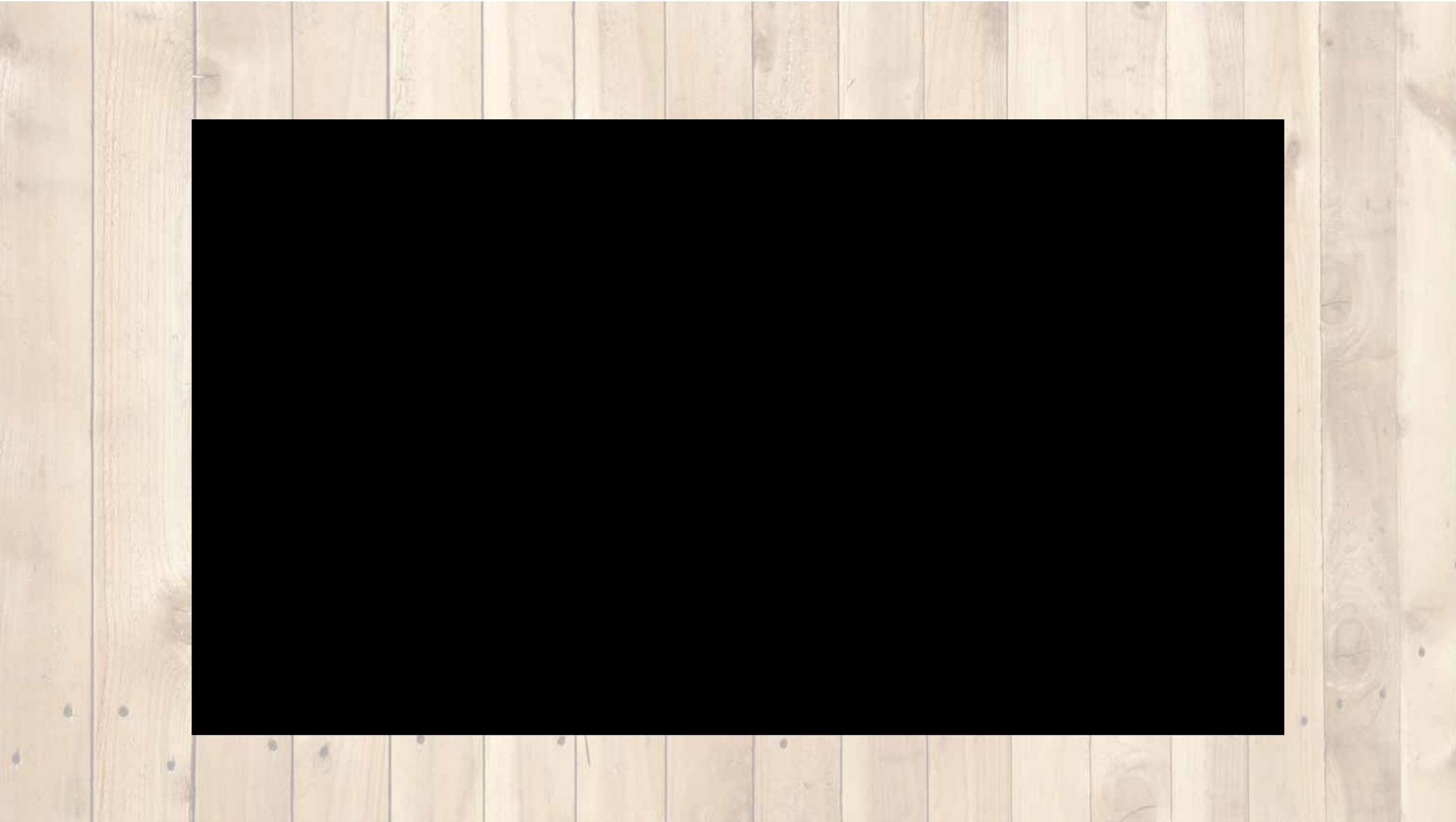


Source: The Farming Systems Trial conducted by the Rodale Institute, the Sustainable Ag Farming Systems at the University of California at Davis, the Variable Input Crop Management Systems at the University of Minnesota, the Wisconsin Integrated Cropping Systems Trials at the University of Wisconsin in Madison, the Beltsville farming systems project at USDA-ARS in Beltsville, and Long-term Agroecological Research at Iowa State University.

## *Where are we headed?*

- **26%** of organic farmers are under 45 years old
- **>5,000** organic farms **39%** intend to increase organic production over the next five years





**The future of organic food starts with you...**



# Resources

---

- The Organic Center
  - <https://www.organic-center.org/>
- eXtension
  - <https://extension.org/>



# Questions?

---

