

# The Organic Industry

---

## Why and What is Organic?

- More sustainable production system; healthy soil, no synthetic inputs etc.
- Less chemical presence in food
- A process based term, regulated and defined (only one).



# The Organic Industry

---

Organic Food sales are \$23BB in US (3.5% of food),  
\$39BB worldwide

Growth is 15-20% per year, since 1990

Organics are fastest growing Food and Ag segment

Several macro trends point that organics  
will continue to grow; concern for Health  
and Environment.

Organics offer a Value which consumers  
want and will pay for.



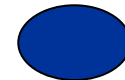
# Fresh Produce Supply



•Year round conventional supply to retailers



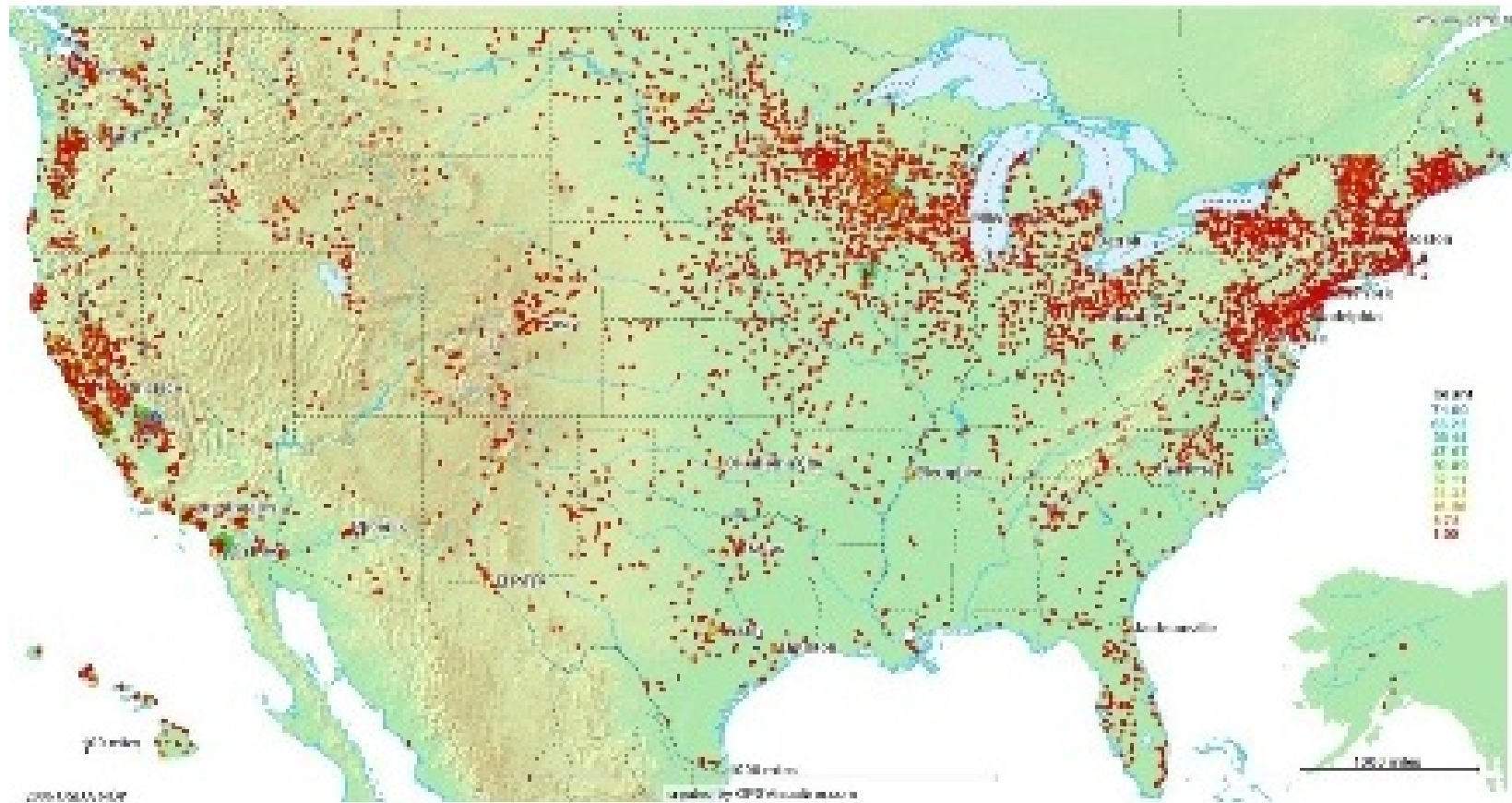
•Organic/local/seasonal grows where traditional production declined with industrial ag



SEEDSofCHANGE



# Distribution of Organic Farms



# The Organic Seed Industry

**Vegetable seeds sold to organic farms:  
\$20MM**

**Organic seeds sales to farms: \$1.5MM**

**Organic seeds sales to home gardeners:  
\$10MM**

**Tomato seeds sales to organic farms:  
\$3.0MM - \$3.5MM**



# **Organic Seed Business - History**

**Since 2002, under National Organic Program rules (also in EU), all organic food products must be produced using organic seed.**

**Exception unless “not commercially available in equivalent type”.**

**This has created a “loophole”.**



# Organic Seed Business – Future

---

What do we do to break this?

- Make supply available

**CHALLENGE:** produce large volumes of high quality seeds of the right varieties

- Superior genetics development

**CHALLENGE:** provide genetics for traits that are either specific or beneficial to organic growers and consumers, while staying within the certification rules and within the scope of an ethical and mission driven business

- Regulatory reform

**CHALLENGE:** certifiers enforcement of the rules



# Organic Tomatoes

---

What is your perception?





# Organic Tomatoes – Abiotic stress factors

- Early fruit set under cold temperatures
- Late fruit set under hot temperatures
  - Late harvest
- Nutrient deficiencies: mainly Calcium
  - Water stress

# Organic Tomatoes – Biotic stress factors

- Fusarium & Verticillium wilts: all areas in USA
  - Late Blight (*Phytophthora infestans*)
  - Early Blight (*Alternaria solani*)
- Tomato Spotted Wilt Virus
- Curly Top Virus

# Organic Tomatoes – Consumer traits

- **FLAVOR, FLAVOR & FLAVOR**
- **HEIRLOOMS**
- **CHERRY, GRAPE, TRUSS TYPES**



**MARS**  
health & nutrition  
us



# Organic Tomatoes – Further developments

---

- Parthenocarpy (early set in cold, late set in hot)
  - Insect control
- Response to bio-protectants & beneficial organisms
  - Culture in containers



# Organic Tomatoes – Conclusion & Discussion

- Can firmness and shelf life be compatible with flavor?
- Selection and seed production under organic environment
- Long term benefit for all growers and consumers



**MARS**  
health & nutrition  
us

