

Organic

Agriculture

# Albert Howard (1873-1947)



- British agricultural scientist.
- 25 years in India.
- Critical of reductionist agricultural science and specialization
- Blamed fall of past civilizations on unsustainable agriculture
- Wrote *An Agricultural Testament* (1940)

# Howard on Chinese agriculture

- *“The small-holdings of China, for example, are still maintaining a steady output and there is no loss of fertility after forty centuries of management.”*



# Howard on Chinese agriculture

- Balance between livestock and crops
- Use animal *and* human wastes
- Lots of legumes
- Little cultivation



# Howard on Western agriculture

- Large, growing farms
- Monocultures
- Mechanized.
  - Machines consume resources, but do not contribute urine and dung for soil fertility
- Synthetic fertilizer dominates
- Increasing crop disease
- More processed and preserved foods
  - questioned nutritional value
- Success judged by profit
- Too much food
  - People forced off farms into cities.



# Lady Eve Balfour (1899-1990)

- Among first women to graduate from University of Reading (agriculture)
- 1939 – began long term experiment comparing conventional and organic production
- 1943 – wrote *The Living Soil*
- 1946 – founded the Soil Association

“Healthy soil, healthy plants, healthy people.”

Soil Association (2003) / Mary Erstman





# J.I. Rodale

- Bought farm in PA to test Howard's ideas
- Popularized term 'organic,' through his *Organic Gardening and Farming* magazine
- Relationship with science
  - Presented reader testimonials as research ("science for the people by the people")
  - Solid long-term research trials continue



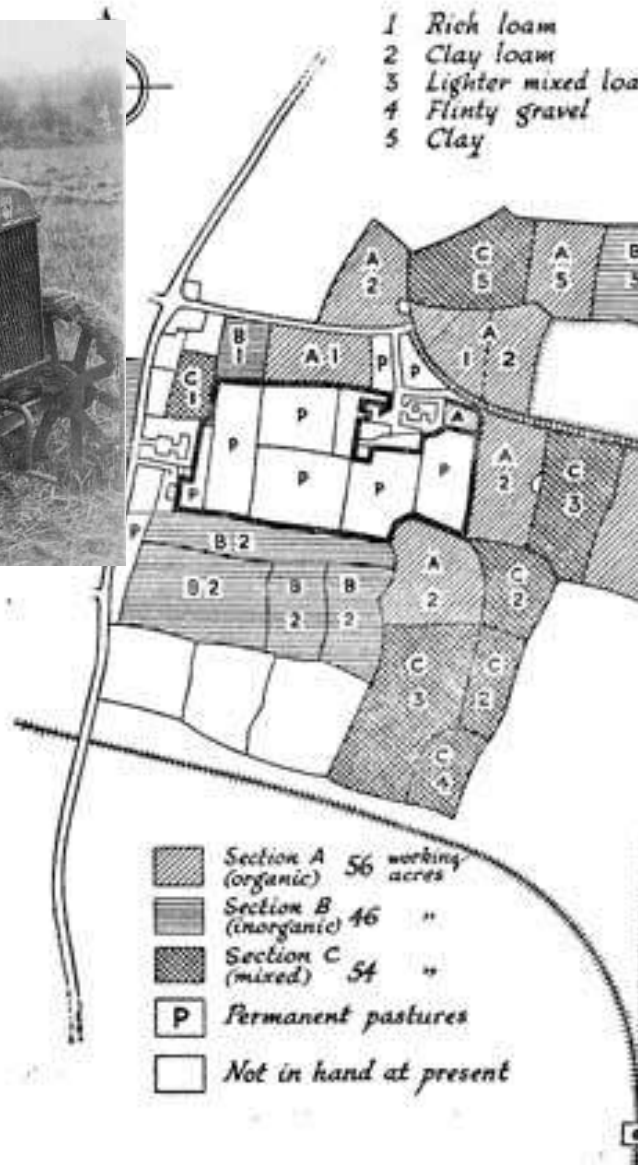
1945 - Division of Arable Land  
showing Soil Types



**Lady Eve  
Balfour  
(1899-1990)**



**Jerome Irving  
Rodale (1898-1971)**





# Organic Production Standards

Organic agriculture is “a production system that is managed in accordance with the Act and regulations in this part to respond to **site-specific** conditions by integrating **cultural, biological, and mechanical** practices that foster **cycling of resources**, promote **ecological balance**, and conserve **biodiversity.**”



# Organic Production Standards

- Land is certified by gov't-approved agencies
- Farmer develops and follows organic farm plan
- Synthetic substances prohibited
  - Includes synthetic organics
- Natural substance allowed
  - Includes natural inorganics
- Maintain or increase soil organic matter content
- Separation from conventional products
  - In time – 3 year transition period
  - In space – buffer zones, barriers, separate containers, equipment cleaning etc.
- \$10,000 fine for misuse of word



**Some  
exceptions**

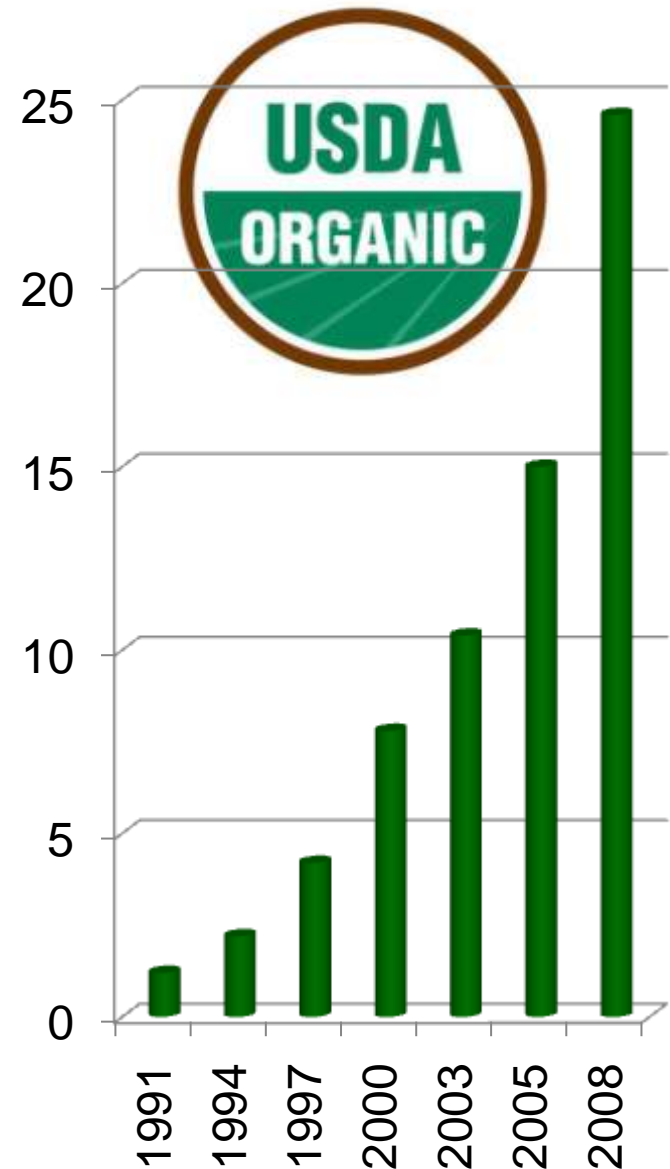


- U.S. organic food sales have grown between 17 and 21% each year since 1997 (total U.S. food sales over this time have grown in the range of 2-4% a year)

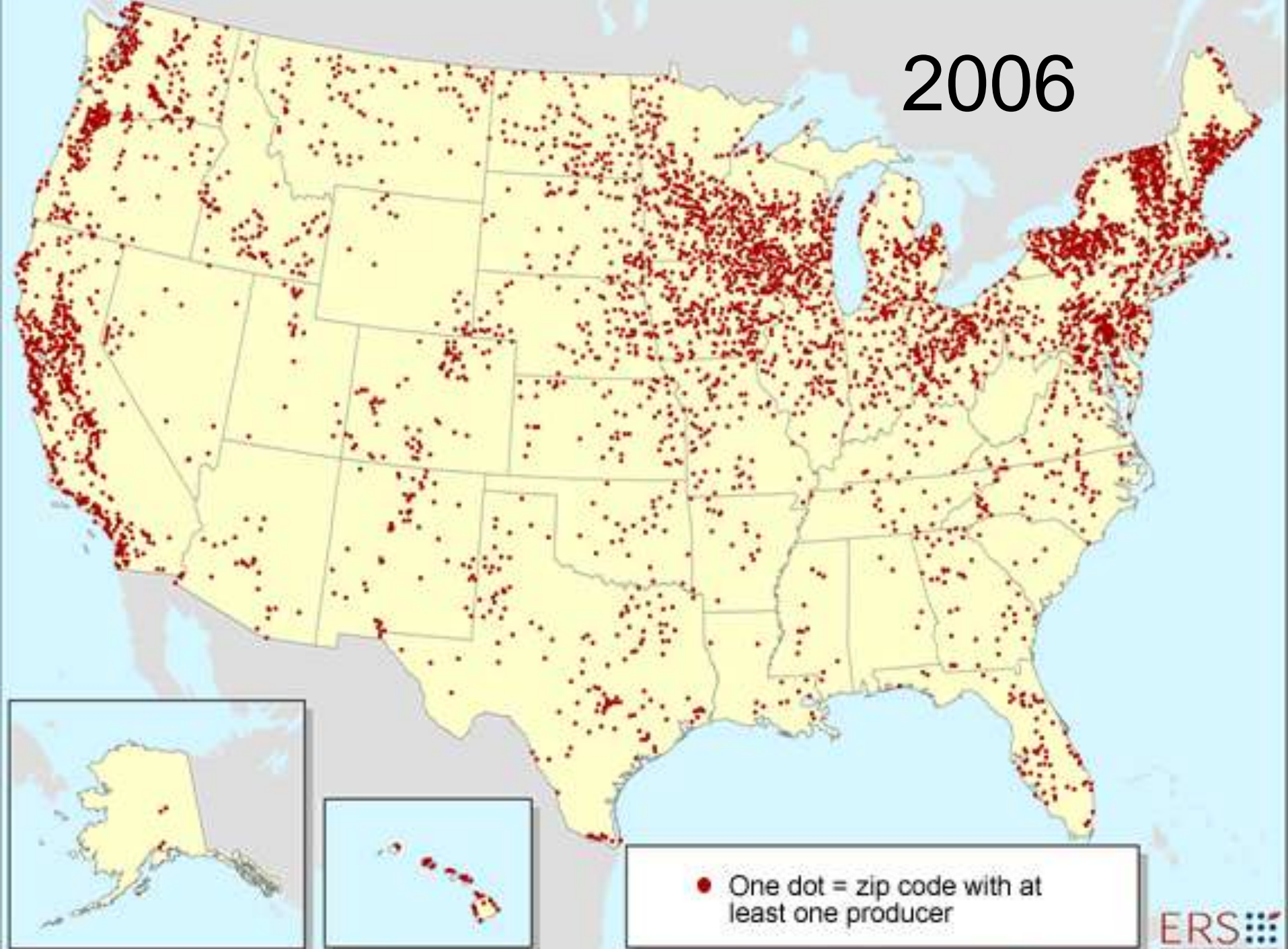
- Organic food sales represent approximately 3% of U.S. food sales.

– (Organic Trade Association's 2007 Manufacturer Survey)



Organic Sales (\$ Billion)



2006



# Certified organic operations, 2000-2008

 Kentucky  
 hundreds in USA

