Veganic Gardening & Agriculture

Jill Schatz & Peter Spendelow
+ Stephanie Lucas
February 21, 2010
Northwest VEG Portland Potluck

Veganic Farming

Like Organic Farming except does not use any animal products:

- No fish waste
- No blood or bone meal
- No manure

Additional emphasis on producing fertility on-site, and not importing it.

My first garden 35 years ago

Used conventional techniques:

- Artificial fertilizers
- Even some pesticides

Located where a tree had just been removed – lots of leaf litter

Great produce the first year

Declining harvests in subsequent years

“Conventional Farming”

- Not conventional before 1945
- Ammonium nitrate left over from bomb-making

Artificial pesticides

- Insecticides
- Herbicides to kill competing plants (weeds)
- Chemical disease control

Monocrops

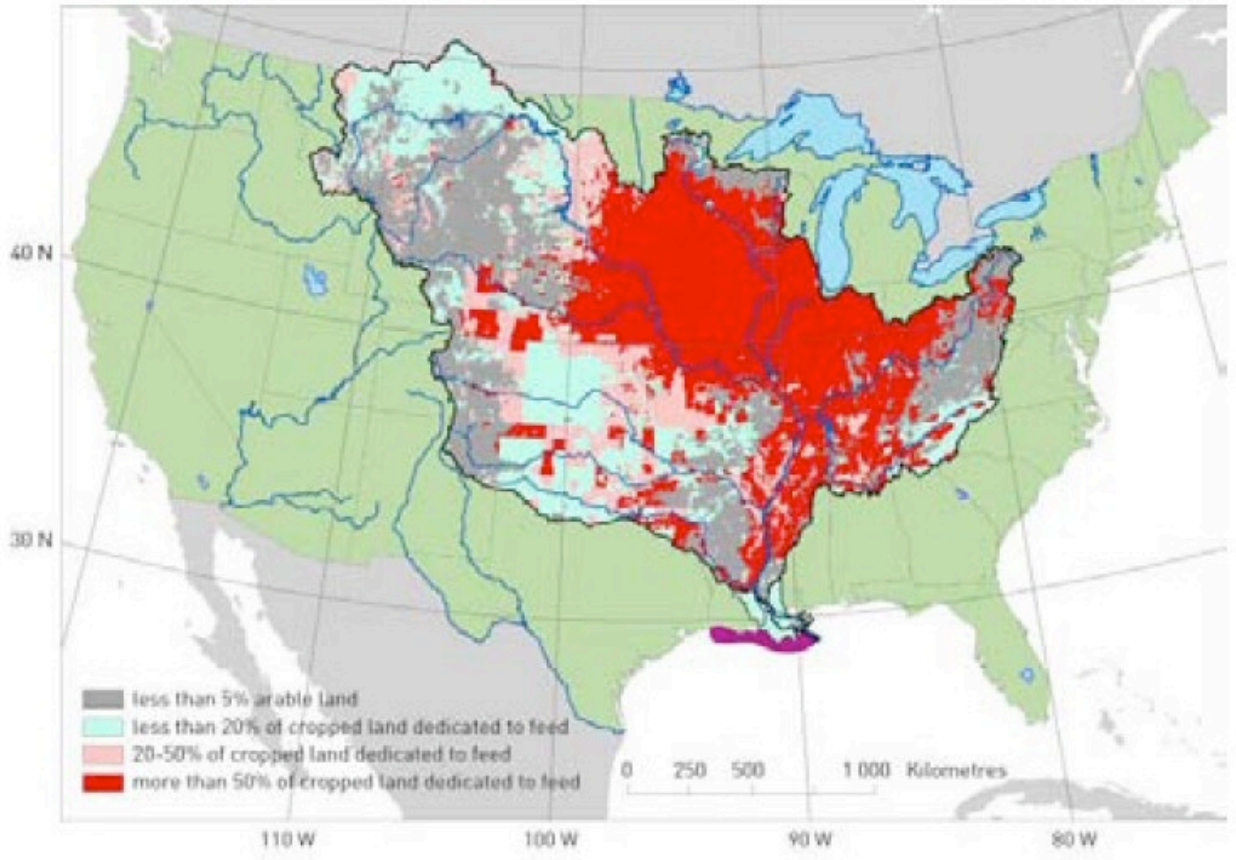
- Single crop more efficient for using farm equipment
- Grow crops border to border – minimize natural vegetation
- Earl Butz – Secretary of Agriculture 1971-1976 “Get Big or Get Out”

Soil depletion

- Soil loses organic matter
- Becomes barren of life
- Erosion
- Loses water-holding ability
- More irrigation needed
- Minerals not replaced
- Loss of nutrients leads to more fertilizer and pesticide use, loss of nutrients from food

Agriculture and Gulf Hypoxic Zone

Map 5.2 Feed production in the Mississippi River drainage basin and general location of the 1999 midsummer hypoxic zone



Note: see Annex 3.4.

Source: adapted from Rabalais, Turner and Scavia, (2002).

Organic Farming

Rebounding movement from home gardens to farms

Minimize artificial inputs

- No chemical fertilizers
- No chemical pesticides
- No GMO (genetically modified organisms)

Photo from Oregon Tilth

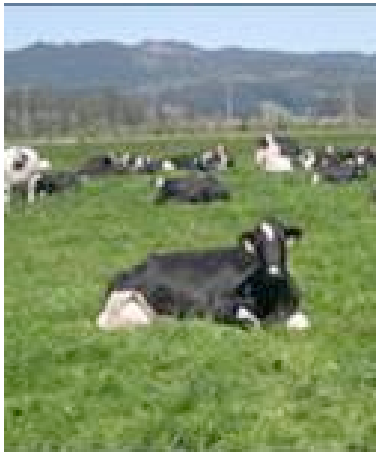
My Garden 30 Years Ago

- Front and back yards of Seattle neighborhood
- Mainly organic
- Lots of compost, chicken manure

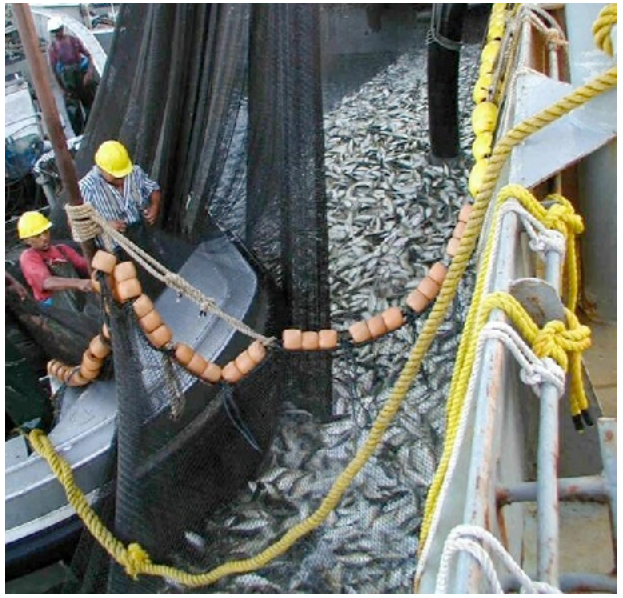
Start of Organic Farming

- Preserve and improve soil quality
- Preserve connection to natural world
- Willamette Valley Tilth began organic certification in 1982
- Organics Law passed in 1990 Farm Bill
- National Organics Program rules not into effect until 2002

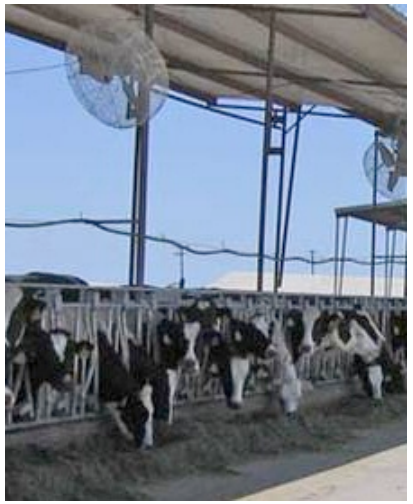
Organic Farming Nutrient Sources

- Green manures like alfalfa
- Animal manures
- Blood, bone meal
- Fish waste, fish meal



Animals don’t make nutrients...



They concentrate and use nutrients

- Animals take food / nutrients from wide area
- Use some nutrients – rest are concentrated and excreted as manure or urine
- Do not excrete enough nutrients to make up for those used
- Original source of nutrients often non-organic chemical fertilizers passed through non-organic cows

Quotes from Elm Farm Research Center – Great Britain

"Manure is nothing more than the grass or grains that are growing on the farm, cycled through a cow's digestive system."

It is .."not necessary to pass materials through an animal in order to enrich the soil. From a biological perspective, this passing-through merely results in a net loss of energy, and ultimately, an inefficient and unstable process of food production."

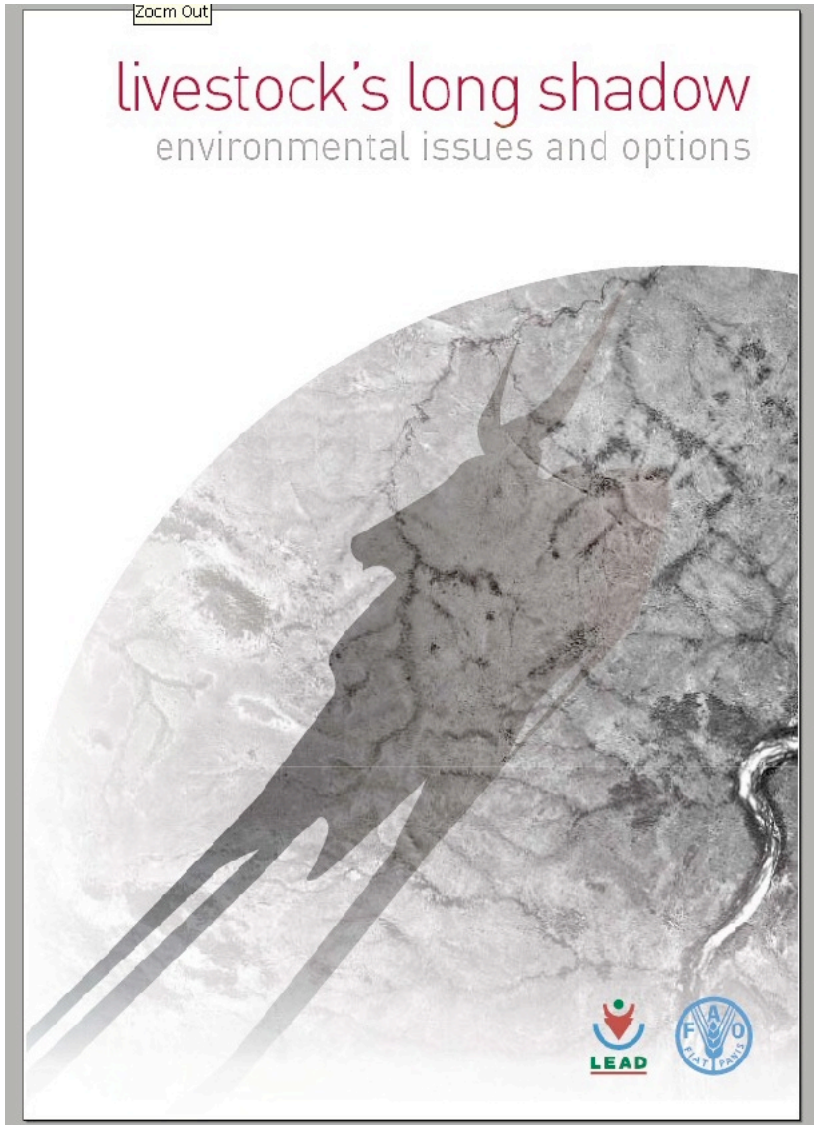
Other Manure Issues

- Farmed animals are a major source of methane – a greenhouse gas 23 times more potent than carbon dioxide.
- “Enteric fermentation” (cow belching) is the largest source of human-created methane in the United States, and manure (mis-)management also contributes methane.
- Pathonogenic organisms introduced to the soil and our food – salmonella, hookworms, E. coli, giardia
- Antibiotics, steroids, other drugs/chemicals used on animals, plus salt, harms the microorganisms in the soil
- Some herbicides used on feed may pass through animals and be taken up by crops

More animal agriculture issues

- “Animal Agriculture is a leading consumer of water in the United States.” David Pimentel, Cornell University
- It takes 100,000 liters of water for every kilogram of beef raised. In contrast, it takes only 2,000 liters per kilogram of soybeans and 900 liters per kilogram of grain – David Pimentel, Cornell University

United Nations Food and Agriculture Organization 2006



- In all, livestock production accounts for 70% of all agricultural land and 30% of the land surface of the planet.

Greenhouse Gases:

- The livestock sector is a major player, responsible for 18 percent of greenhouse gas emissions measured in CO2 equivalent. **This is a higher share than transport.**

Veganic Agriculture

- Also called Stock-Free Agriculture
- Overlaps with organic agriculture, but all plant-based

Focuses on:

- Environmental concerns
- Health of the people and the planet
- No animal exploitation or cruelty

Beginnings of Veganic Farming

- Movement began more than 20 years ago
- Gathered momentum with Mad Cow Disease in Great Britain
- Vegan Organic Network formed in 1996
- Veganic Agriculture Network formed in North America in 2008

Main Points of Veganic Farming

- No artificial chemicals or fertilizers
- No genetically modified organisms
- No animal manures or slaughterhouse byproducts
- Produce soil fertility on-site where possible (do not rob fertility from elsewhere)

Veganic Farming Practices

- Green Manures: maintain healthy soils, mine minerals from deep down, legumes fix nitrogen
- Undercropping helps hold water, adds organic matter to soil
- Crop rotation to discourage pests/diseases, reduce soil nutrient depletion.
- No-till or reduced tillage option to maintain organic matter in soil
- Composts, mulches, chipped branch wood
- Maintain plant and insect diversity, hedgerows, natural plant areas for natural pest control

Our Garden Now:
Veganic Garlic 2010 Crop