

Sustainable Agriculture

Converting Conventional Farmland to Sustainable, Organic Farmland

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1 Conventional Agriculture

Conventional farming practices degrade the very assets on which they depend:

1. Soil has lost 50% of its organic matter (Fig. 1), increasing erosion, decreasing resilience in drought, and increasing atmospheric CO₂.
2. Agriculture is a major user of fossil fuels, and contributes to climate change by generating 12% of greenhouse gasses (Fig. 2).
3. Over 70% of fresh water is used for irrigation and many sources are polluted or depleting.
4. 5 billion pounds of pesticides are used on farms each year, killing the organisms needed to rebuild healthy soil, and contaminating fresh water and food.

2 Sustainable Agriculture

Sustainable Agriculture delivers the following environmental, social and economic benefits:

- Improved soil, water, and biodiversity
- Mitigation of global warming (See Table)
- Reduced pollution including pesticides and fertilizer run-off
- Improved resilience/food security (Fig. 3)
- Increased food nutrient density (Fig. 4)
- Organic price premiums of 50% to 200%
- Higher profit margins of up to 5x by selling direct to consumers
- Competitive yields with lower input costs
- Higher per farm income: 2.5x more likely to earn \$40k - \$100k than conventional farmers

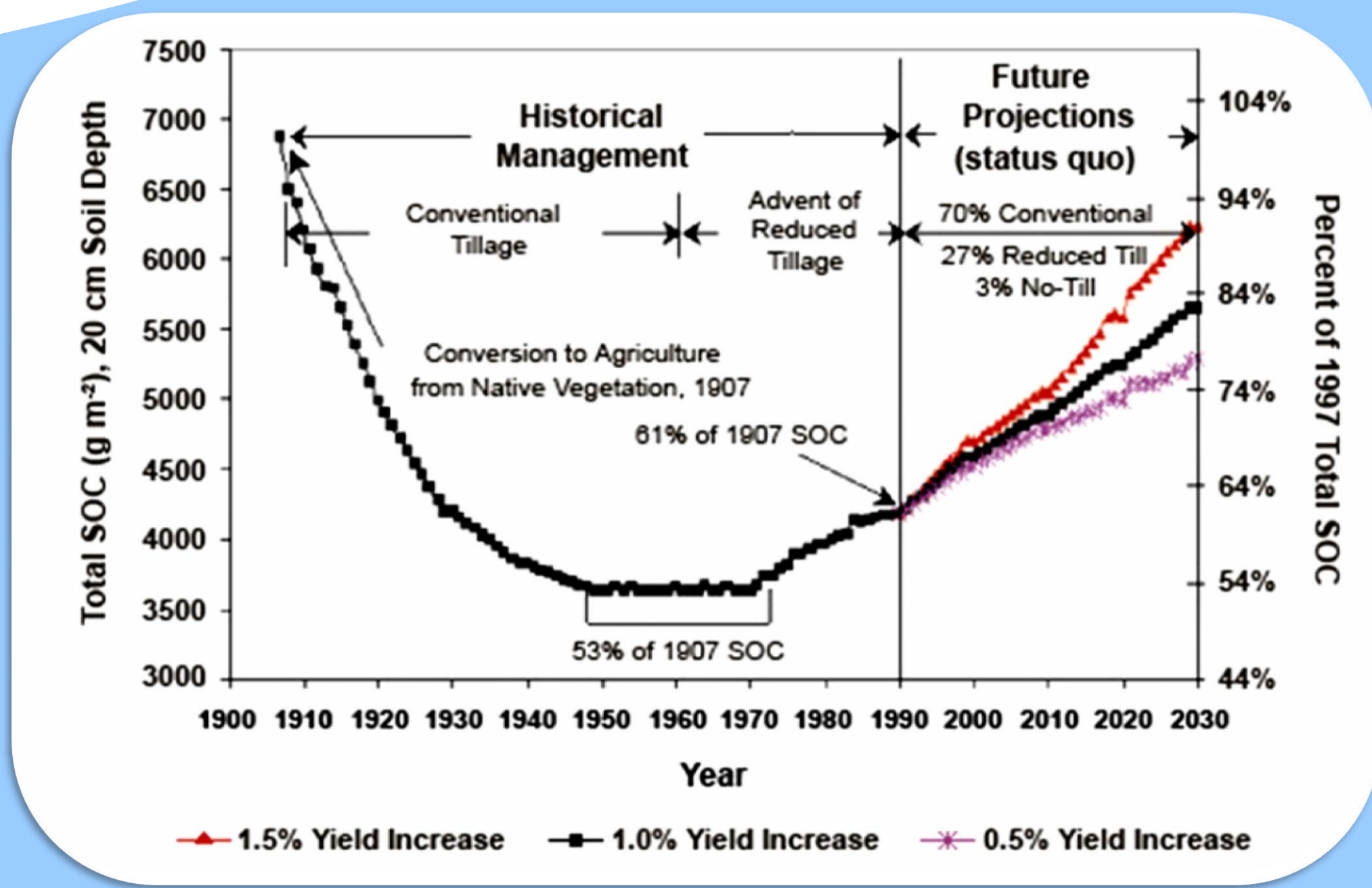


Fig. 1. Soil organic content in U.S. cropland was reduced by about 50% during the 20th century. Agricultural carbon sequestration could store 15% of annual U.S. CO₂ emissions, and 30% world-wide.

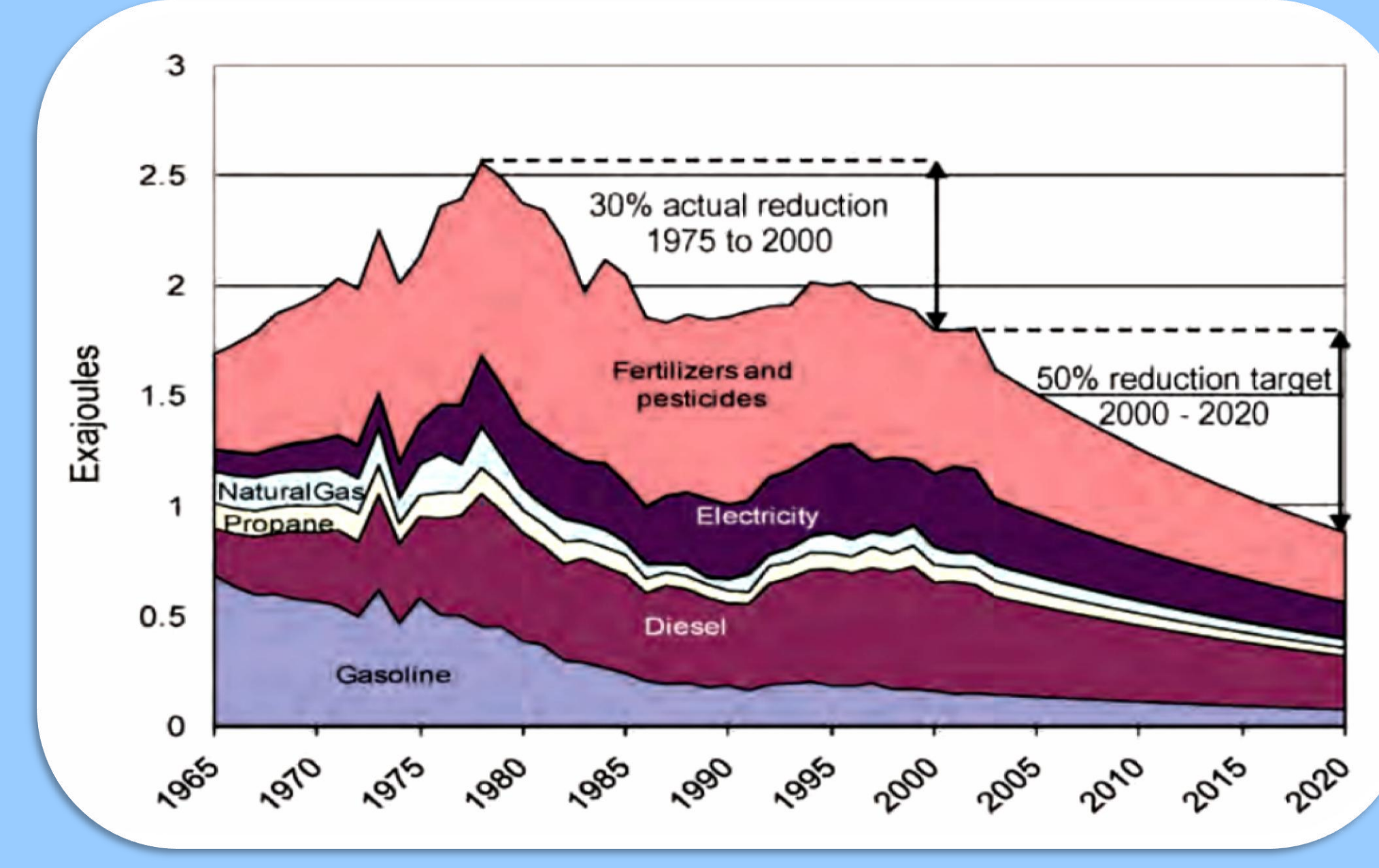


Fig. 2. U.S. farms have become more energy efficient but still rely heavily on fossil fuels. Fertilizers and pesticides generally use fossil fuels as a feedstock.



Fig. 3. Long-term, side-by-side trials demonstrate that soils farmed with organic methods help crops cope better with environmental stress such as drought, due to factors such as better water infiltration, retention and delivery to plants.

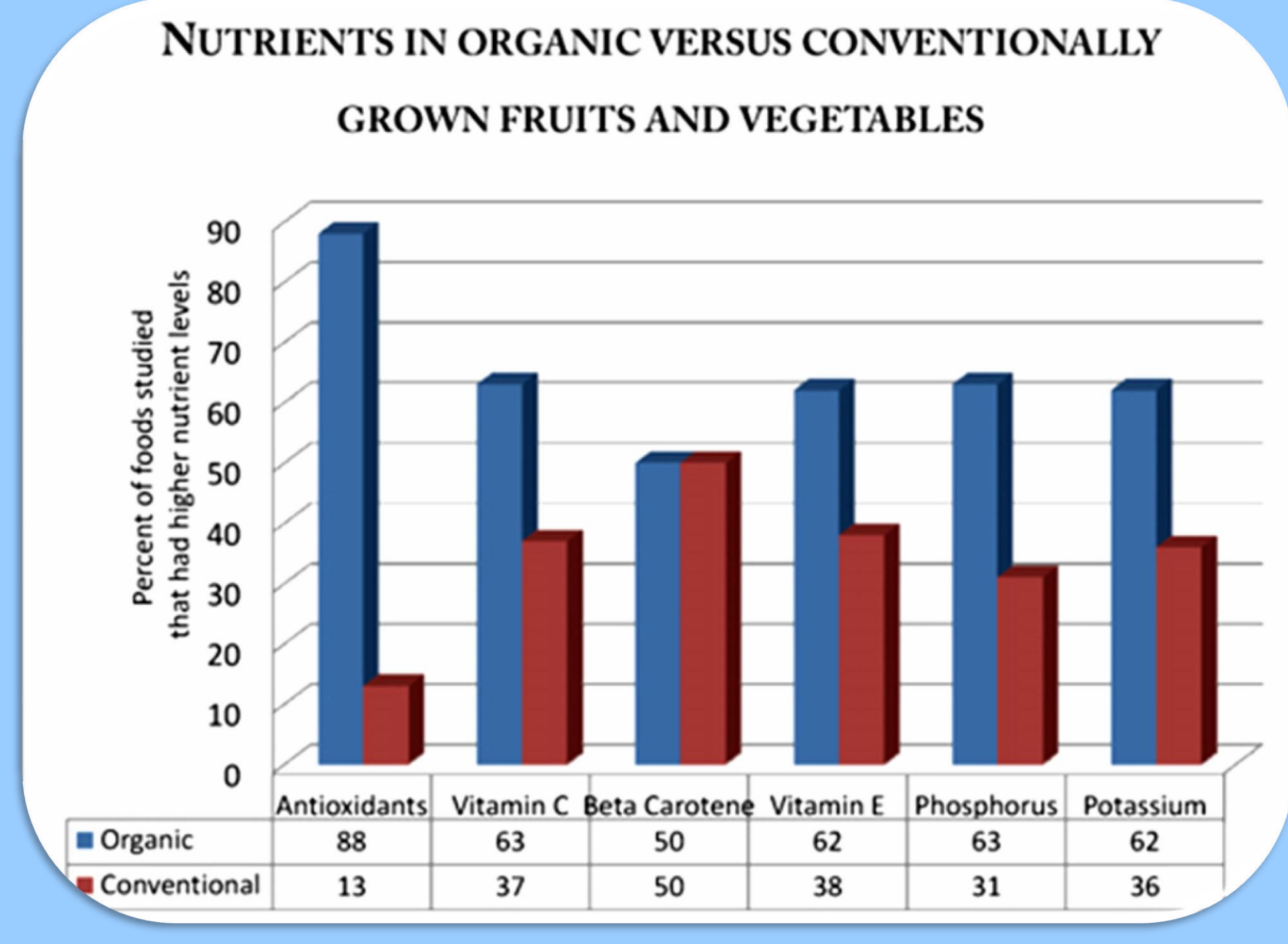


Fig. 4. Vitamin and mineral concentrations tend to be higher in organically grown foods.

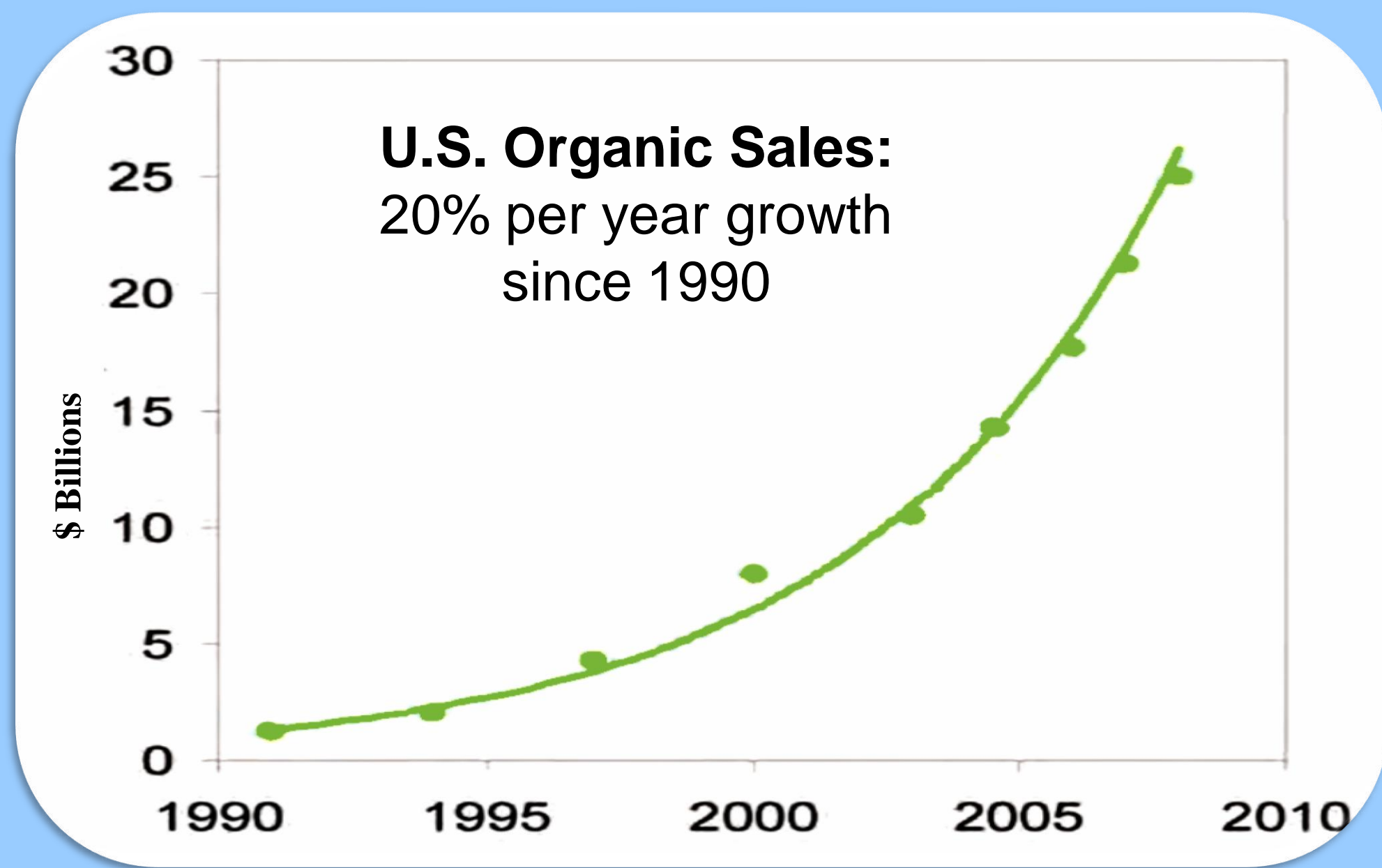


Fig. 5. Sales of organic goods have grown 20% per year since 1990 – yet it represents only 3.5% of the market.

Measures	U.S. / Conventional	Organic	Per Person
Farmland Acres	800 million acres	4 million acres (0.5%)	0.013 organic acres
Organic Market Share	\$703 billion	\$24.6 billion (3.5%)	\$81.73 spent
Pesticides Used	1.2 billion lbs in U.S.	none	4 lbs per person
CO₂ Sequestration (1 ton CO ₂ = 2.33 Barrels of Oil Equivalents (Cboe))	55 barrels of oil equivalent of CO ₂ emitted per person	1 acre can store 34 barrels of oil equiv. (1.7/yr for 20 years)	32 organic acres can offset the CO ₂ for a person for 20 years
Food Miles	1,494 miles	56 miles (local food)	
Profitability and ROI	5% ROI	15% ROI	

3 Barriers to Conversion

Only 0.5% of U.S. farmland is certified organic. Farmers face barriers of cost, knowledge, time, and effort in converting from conventional to organic:

- Three-year transition & certification process
- Costs and risk shifting to new way of farming
- Lack of organic farming system knowledge
- Lack of marketing and infrastructure
- Lack of scale to capture marketing economies
- High existing debt levels
- Farmer's age / proximity to retirement, and
- Higher on- and off-farm labor inputs

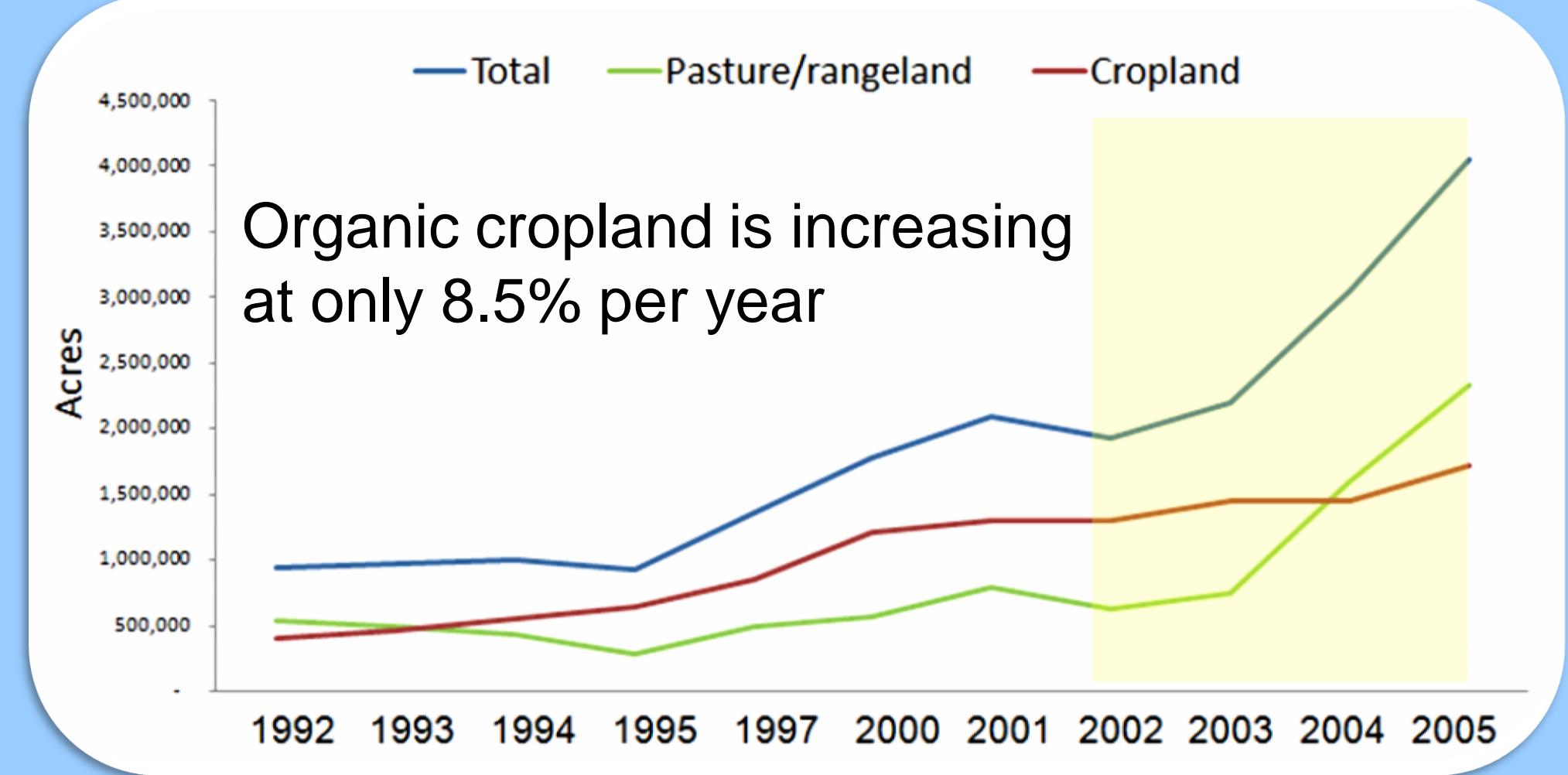


Fig. 6. The conversion rate to organic cropland needs to triple just to not fall further behind the organic food and feed market. Organic sales are supply-limited.

4 What We Do

We accelerate the conversion to sustainable agriculture. We:

1. **Acquire** and manage farmland
2. **Convert** conventional farmland into high-value organic farmland
3. **Consolidate** farmland acreage to enhance economies of scale
4. **Enable** the highest long-term land productivity by utilizing sustainability best-practice crop and animal rotations
5. **Maximize** cash returns by renting, risk sharing, or directly operating the land
6. **Participate** in the development of local and regional food systems
7. **Create** "Farmsteads", where feasible, by subdividing and selling properly-sized high-income farms with new homes, matching onsite ownership and management with the higher labor inputs required for organic vegetable or livestock farming

5 What You Can Do

- Go organic
- Buy local and seasonal
- Eat less meat
- Join a CSA