

A photograph of a lush green organic farm field. The foreground and middle ground are filled with dense, healthy-looking leafy green plants, likely kale or collard greens, growing in distinct rows. The soil between the rows is dark brown and appears well-tended. In the background, more rows of similar greenery stretch across the landscape under a clear sky.

**A SELF SUPPORTING
MINISTRY**

ORGANIC FARMING

What is organic farming?

- A production system, which avoids or largely excludes the use of synthetically compounded fertilizers, pesticides, growth regulators and livestock feed additives. To the maximum extent feasible, organic farming system rely on crop rotations, crop residues, animal manures, legumes, green manures, off-farm organic waste, and aspects of biological pest control to maintain soil productivity and tilth, to supply plant nutrients and to control insects, weeds and other pests.

Advantages of organic farming.

- Sustainability: The soils capability to nature and sustain plant life is enhanced.
- Efficient use of soil nutrients.
- Self-reliance in production inputs.
- Use of pest management methods that do not seriously affect the environment or mankind.
- Elimination of pesticides related health problems.
- Improved family nutrition.

Cont.

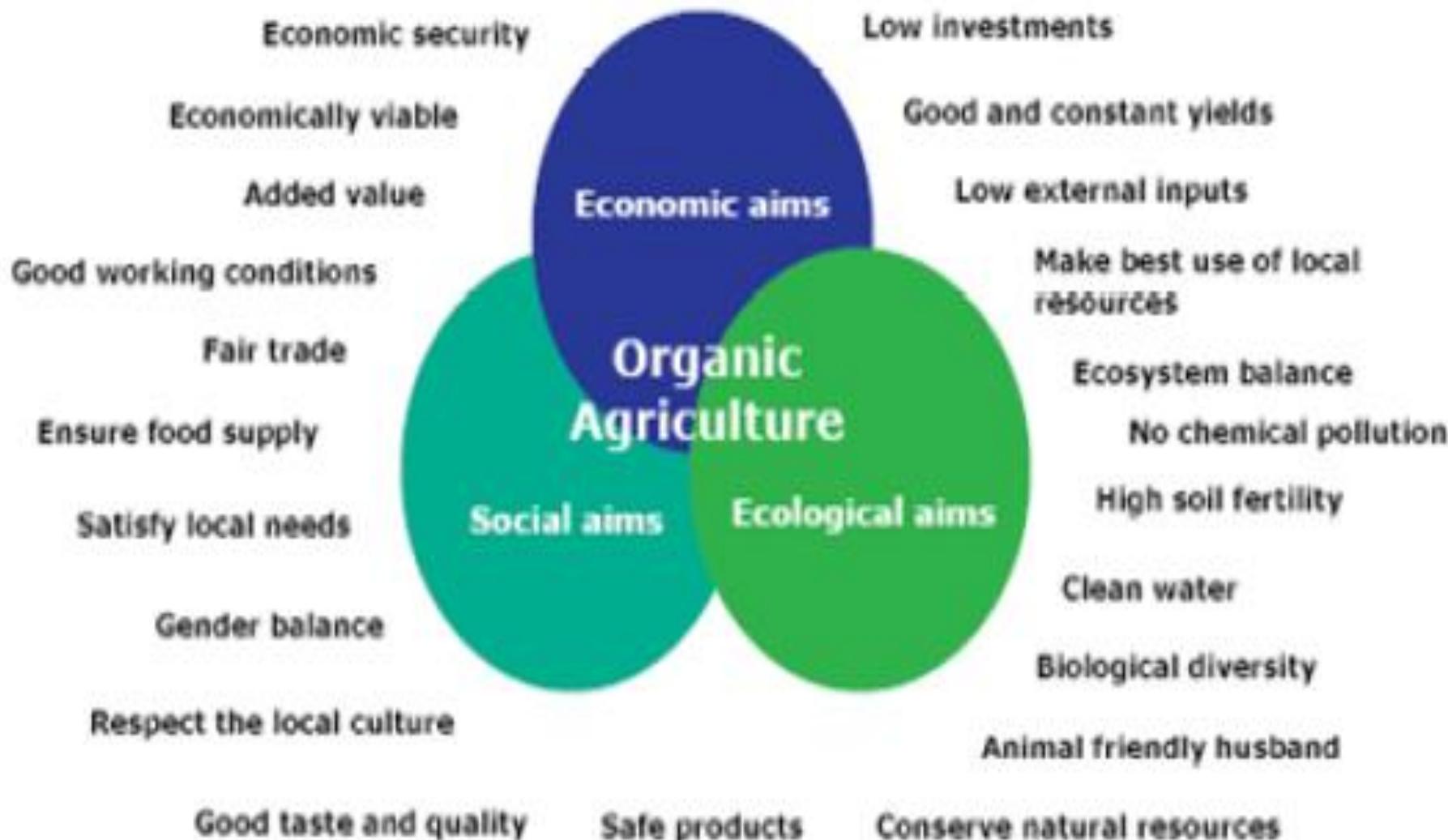
- Space intensive-ability to produce more food from a small area.
- Labour intensive rather than capital intensive.
- Water conservation.
- Conservation of plant genetic resource.
- Income generation.
- Risk free.
- Economically sound.

Organic farming and health

- Clean water-
- Respiratory complications-spraying
- Produce free of chemical residue
- Nutrition-produce with the right nutritional composition-Facts and figures-increasing fertilizer use with decreasing yields and also decreasing mineral composition.

Figure 1: Sustainability aims of organic farming

Sustainability Aims



Principles of organic farming.

- Diversity-both in animals and plants.
- Living soil.
- Cyclic flow
- Keeping animals according to their needs

Cropping systems.

Mono cropping



Mixed cropping.



Mixed cropping ensures balanced diet.





Organic Farming May 1942

“Healthy Soil = Healthy Food = Healthy People”

J.I.Rodale



The cover features a large title "ORGANIC FARMING and Gardening" in a bold, serif font. Below the title is a black and white illustration of a farm landscape with a barn, fields, and trees. The main content area includes a "TABLE OF CONTENTS" with several articles listed:

INTRODUCTION TO ORGANIC FARMING . . . BY J. I. RODALE	3
TOBACCO AND CHEMICAL FERTILIZERS	5
THE INDORE METHOD OF COMPOSTING BY SIR ALBERT HOWARD	6
INTRODUCTION TO THE BIO-DYNAMIC TECHNIQUES BY DR. ERNSTFRED PFEIFFER	8
VEGETABLE MOLD AND EARTHWORMS . BY CHARLES DARWIN	9
LETTERS FROM READERS	11

At the bottom left is the month "MAY 1942". In the center is a circular logo for "A RODALE PRESS Magazine". To the right is the price "10c". A final banner at the bottom right reads "BACK TO NATURE IN AGRICULTURE".



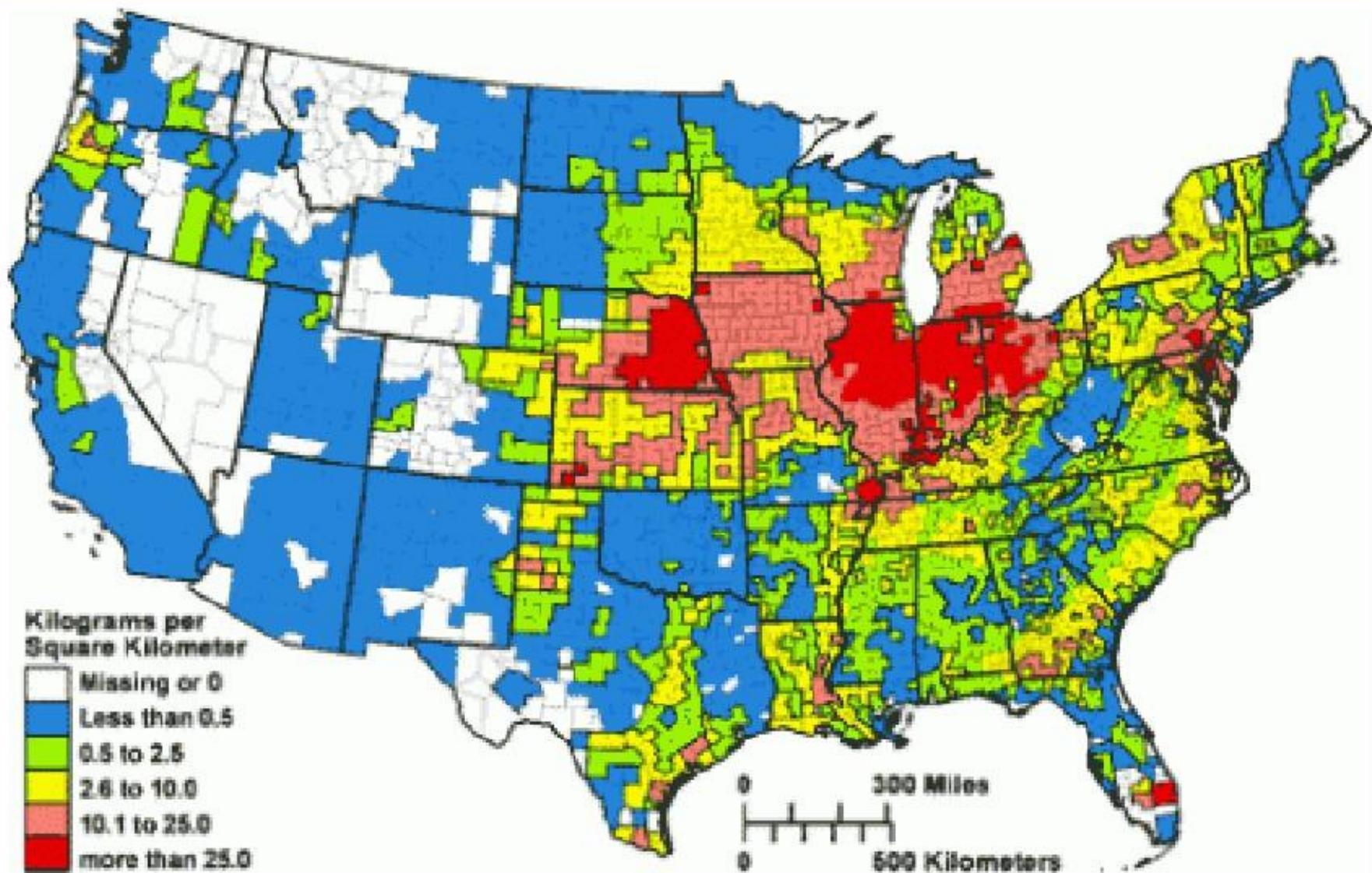
Our Broken Food System When Only Yields Are Considered





December 2010 by Atrazine contamination.

(Source: earthactually)





As autism rates rise in Canada, doctors search for answers

The number of children with autism has increased significantly in Canada and the United States, but the cause - whether it's environmental, genetic, or a result of better diagnostic tests - remains an elusive mystery.

The most comprehensive report on rising rates has come from the National Epidemiologic Database for the Study of Autism in Canada. Released last year, it found increases in autism diagnoses in **Prince Edward Island**, Newfoundland and Labrador and southeastern Ontario.

- The increases range from 39 to 204 per cent, depending on the region and age group

CTVNews.ca Staff

Published Thursday, May 2, 2013 8:16PM EDT



Pesticide exposure in pregnancy linked to autism risk in kids

CBS NEWS

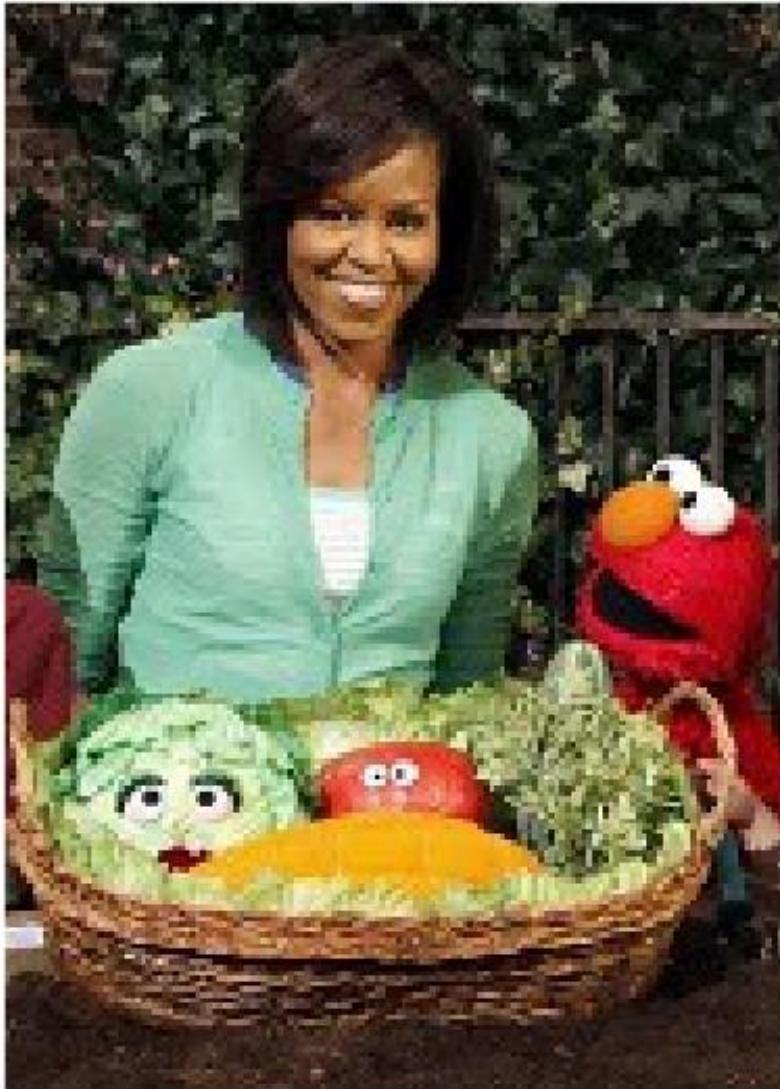
Pregnant women who live within a mile of spaces where commercial pesticides are applied appear to have an increased risk of having a child with autism, a new study suggests.

Brenda Goodman HealthDay, June 23, 2014, 9:57 AM

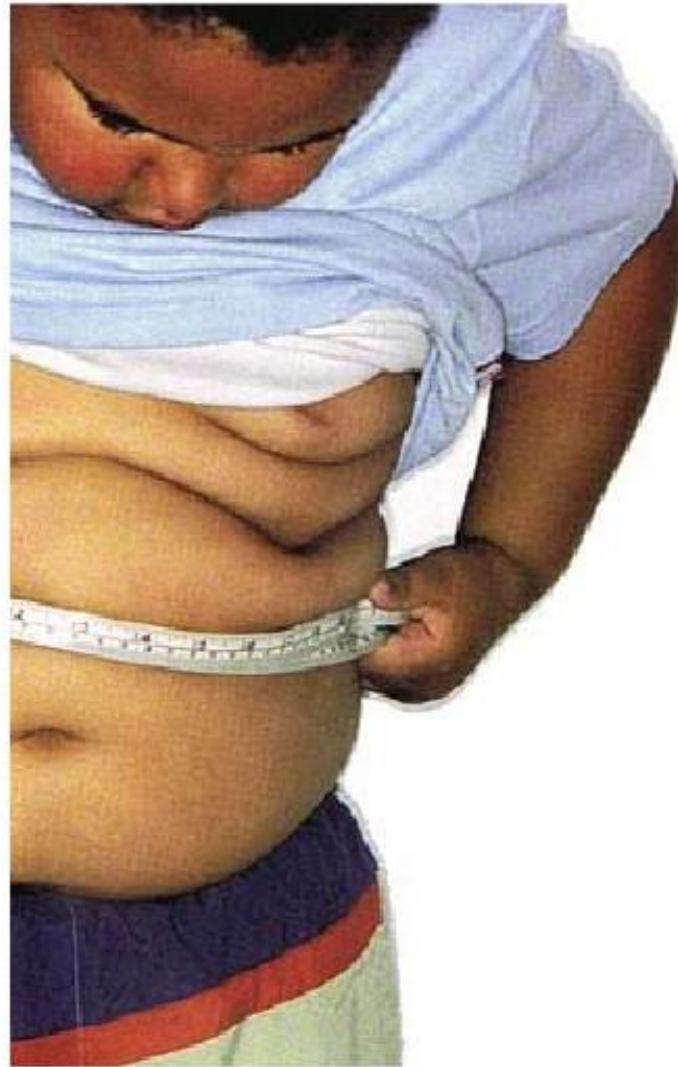


Childhood Obesity is Epidemic

High Yields of What?



©2008 Rodale institute





Parkinson's disease and exposure to agricultural work and pesticide chemicals

Karen M. Semchuk, PhD; Edgar J. Love, MD, PhD; and Robert G. Lee, MD, FRCP(C)

Article abstract—This population-based case-control study of 130 Calgary residents with neurologist-confirmed idiopathic Parkinson's disease (PD) and 260 randomly selected age- and sex-matched community controls attempted to determine whether agricultural work or the occupational use of pesticide chemicals is associated with an increased risk for PD. We obtained by personal interviews lifetime occupational histories, including chemical exposure data, and analyzed the data using conditional logistic regression for matched sets. In the univariate analysis, a history of field crop farming, grain farming, herbicide use, or insecticide use resulted in a significantly increased crude estimate of the PD risk, and the data suggested a dose-response relation between the PD risk and the cumulative lifetime exposure to field crop farming and to grain farming. However, in the multivariate analysis, which controlled for potential confounding or interaction between the exposure variables, previous occupational herbicide use was consistently the only significant predictor of PD risk. These results support the hypothesis that the occupational use of herbicides is associated with an increased risk for PD.

NEUROLOGY 1992;42:1328-1335



Effects of a Broken Food System

AVERAGE PUBERTY AGE FOR GIRLS

1800
1960
Now

18
14
11

Source: American Academy of Pediatrics

April 12th 2011

AMERICAN
MORNING

EARLY PUBERTY IN GIRLS

| Lady Gaga falls during Houston concert

CNN

7:31 AM ET



And Then 50 % The Food We Produce Is Wasted





We Have A Compass To Point Us In The Right Direction





Start By Asking The Right Questions

As Farmers & Consumers

- What are our goals? What resources do we have access to? Tools?, Ideas?, Dollars?, Time?
- What do we want our food system to do?
- Keep people Healthy? Improve the resource base?,
- What is our starting point? Where do we want to end up?, How will we get there?



Nature. 2012 May 10;485(7397):229-32

Head Line Reads:

“overall, organic yields are typically lower than conventional yields. But...”

Comparing the yields of organic and conventional agriculture

Seufert V, Ramankutty N, Foley JA

- Department of Geography and Global Environmental and Climate Change Center, McGill University, Montreal, Quebec H2T 3A3, Canada. verena.seufert@mail.mcgill.ca

Abstract

Numerous reports have emphasized the need for major changes in the global food system: agriculture must meet the twin challenge of feeding a growing population, with rising demand for meat and high-calorie diets, while simultaneously minimizing its global environmental impacts. Organic farming—a system aimed at producing food with minimal harm to ecosystems, animals or humans—is often proposed as a solution. However, critics argue that organic agriculture may have lower yields and would therefore need more land to produce the same amount of food as conventional farms, resulting in more widespread deforestation and biodiversity loss, and thus undermining the environmental benefits of organic practices. Here we use a comprehensive meta-analysis to examine the relative yield performance of organic and conventional farming systems globally. Our analysis of available data shows that, overall, organic yields are typically lower than conventional yields. **But** these yield differences are highly contextual, depending on system and site characteristics, and range from 5% lower organic yields (rain-fed legumes and perennials on weak-acidic to weak-alkaline soils), 13% lower yields (when best organic practices are used), to 34% lower yields (when the conventional and organic systems are most comparable). **Under certain conditions—that is, with good management practices, particular crop types and growing conditions—organic systems can thus nearly match conventional yields**, whereas under others it at present cannot. To establish organic agriculture as an important tool in sustainable food production, the factors limiting organic yields need to be more fully understood, alongside assessments of the many social, environmental and economic benefits of organic farming systems.

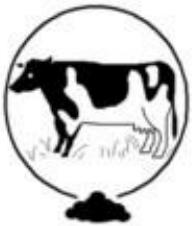


Head Line Could Have Read: **Stanford Scientists Report:**

- Two studies show significantly lower urinary pesticide levels among children consuming organic versus conventional diets
- The risk for contamination with detectable pesticide residues was lower among organic than conventional produce
 - The risk for isolating bacteria resistant to antibiotics was higher in conventional than in organic chicken and pork



Main cropping systems



Organic-manure based

Tilled manure system

No-till manure system (added in 2008)



Organic-legume based

Tilled legume system

No-till legume system (added in 2008)



Conventional-chemically based

Tilled conventional system

No-till conventional system (added in 2008)



Areas of research

- Yields
- Soil health
- Water quality and quantity
- Energy analysis
- Economics





Soil Research Result



Soils of the organic systems have a more active soil biological community
à higher levels of glomalin (a glycoprotein that acts like 'glue', binding organic matter to mineral particles),
à greater populations of mycorrhizae (a fungus that forms a symbiotic relationship with its host plant:
the fungus receives carbohydrates from the plant, which in return gains access to water and nutrients).

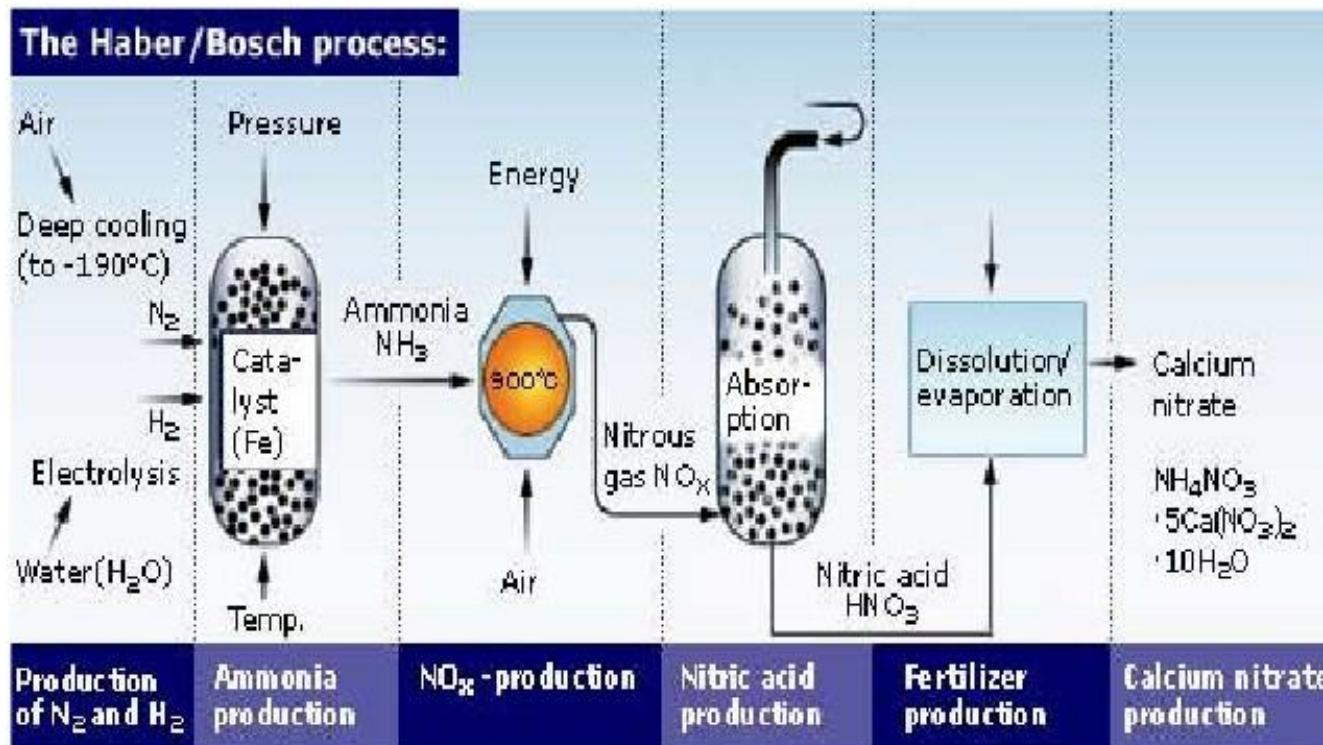
This leads to improved soil structure and enhanced carbon sequestration.



Energy “Required” ?

Chemical Synthetic N Fertilizer

The production of **1 kg (2.2lbs)** of chemical N fertilizer, using the industrial Haber-Bosch process burns the equivalent of **1 L (1.05 Qt.)** of oil and **17.6 cubic feet** of natural gas, releasing a great deal of carbon and other greenhouse gasses into the atmosphere





Animals Belong On Farms



Not in Feed Lots



- So could we make do without the chemical plants? Inspired by a field trip to a nearby organic farm where the farmer reported that he raised an amazing 27 tons of vegetables on six-tenths of a hectare in a relatively short growing season, **a team of scientists from the University of Michigan tried to estimate how much food could be raised following a global shift to organic farming.** The team combed through the literature for any and all studies comparing crop yields on organic farms with those on nonorganic farms. Based on 293 examples, they assumed that every farm regardless of location would get only the lower developed-country yields. The second applied the yield ratio for the developed world to wealthy nations and the yield ratio for the developing world to those countries.
- "We were all surprised by what we found," said **Catherine Badgley, a Michigan paleoecologist** who was one of the lead researchers. **The first model yielded 2,641 kilocalories ("calories") per person per day, just under the world's current production of 2,786 calories but significantly higher than the average caloric requirement for a healthy person of between 2,200 and 2,500. The second model yielded 4,381 calories per person per day, 75 percent greater than current availability-and a quantity that could theoretically sustain a much larger human population than is currently supported on the world's farmland.** (It also laid to rest another concern about organic agriculture.)

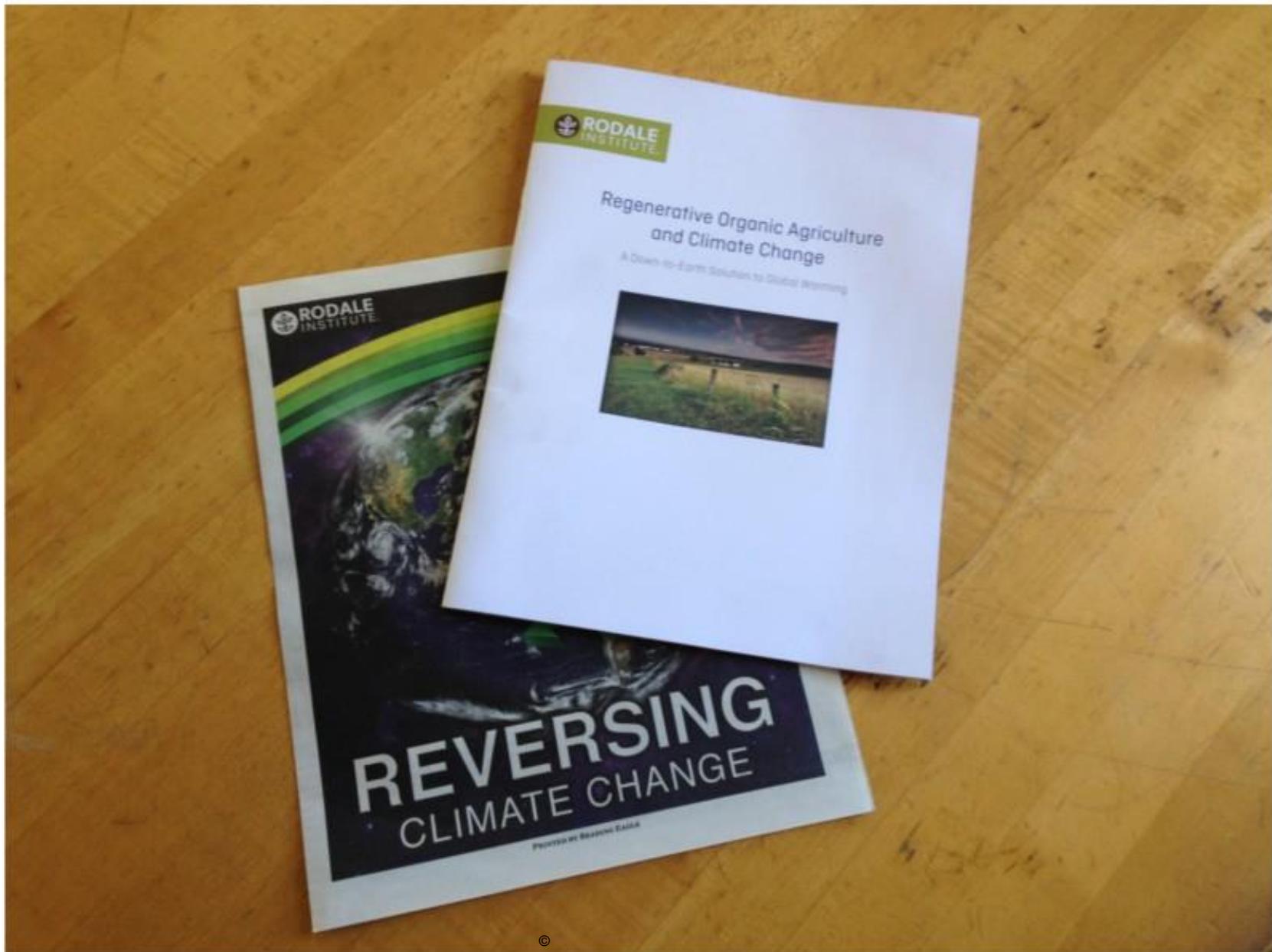


Changing The Way People Think





How We Produce Food Does Make A Difference





While the farmer holds the title to the land,
actually it belongs to all the people because
civilization itself rests upon the soil.”

Thomas Jefferson



ORGANIC FARMING

First Lady Michelle Obama at the White House Organic Kitchen Garden



Michelle Obama has begun digging an organic kitchen garden at the White House which will supply the first family with vegetables for many of their meals.

ORGANIC FARMING

First Lady Michelle Obama at the White House Organic Kitchen Garden



With help from a group of Washington primary school students, the first lady began work on the project that will provide the raw material for many of the Obama family's meals.

ORGANIC FARMING

First Lady Michelle Obama at the White House
Organic Kitchen Garden



Chefs of the White House making meals from
Organic Kitchen Garden product to Obama family's meals.

ORGANIC FARMING

First Lady Michelle Obama at the White House
Organic Kitchen Garden

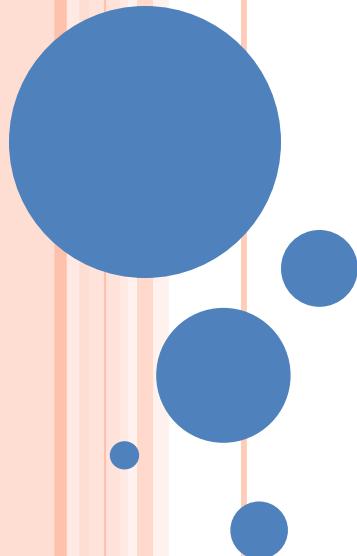


Journalists Visited the White House Organic Kitchen Garden

ORGANIC FARMING

Political Agenda

Promoting nutritious local food and cooking, bringing attention to a practical energy crisis remedy, and proving that organic gardening methods have a place even on the country's loftiest lawn.



ORGANIC FARMING

WHAT IS ORGANIC FARMING

Organic farming is the form of agriculture that relies on techniques such as crop rotation, green manure, compost and biological pest control to maintain soil productivity and control pests on a farm.

Wikipedia- Encyclopedia

ORGANIC FARMING

WHAT IS ORGANIC FARMING

Organic farming excludes or strictly limits the use of manufactured fertilizers, pesticides (which include herbicides, insecticides and fungicides), plant growth regulators such as hormones, livestock antibiotics, food additives, and genetically modified organisms

[Wikipedia- Encyclopedia](#)

ORGANIC FARMING

WHAT IS ORGANIC FARMING

"Organic agriculture is a **production system** that sustains the **health of soils, ecosystems** and people. It relies on **ecological processes, biodiversity** and cycles adapted to **local conditions**, rather than the use of inputs with **adverse effects.**"

[International Federation of Organic Agriculture Movements](#)

ORGANIC FARMING

WHAT IS ORGANIC FARMING

Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.."

ORGANIC FARMING

3 Nonminerals Necessary Elements

Hydrogen, Oxygen and Carbon draw from air and water !!!

ORGANIC FARMING

3 Primary Elements

Plants need large qty. of Nitrogen, Phosphorous and Potassium !!! That is why they called “primary” or macronutrients.

ORGANIC FARMING

Function of 3 Primary Elements

Nitrogen (N)

Basic component of proteins and chlorophyll (the pigment that gives plants their green colour). Plays an essential role in plant growth. Also feeds microorganisms in the soil.

Phosphorous (P)

Plays an important role in root growth and promotes the establishment of young plants, flowering, fruiting and ripening, photosynthesis, respiration and overall plant growth.

Potassium (K)

Moves through the plant. Promotes the movement of sugars, turgor and stem rigidity. Also increases the plant's overall resistance to cold, diseases, insect pests, etc. Promotes the formation of flower buds, the hardening-off of woody plants and fruiting.

ORGANIC FARMING

3 Secondary Elements

Less of these elements i.e. **Calcium, Magnesium and Sulphur** are required than primary elements

ORGANIC FARMING

Function or 3 Secondary or micronutrients Elements

Calcium (Ca)

Plays a vital role in plant structure, because it is part of cell walls and holds them together. Promotes the development of the root system and the ripening of fruit and seeds. Found in the growing parts of plants (apex and buds).

Magnesium (Mg)

An important part of chlorophyll. Helps fruit ripen and seeds germinate. Reinforces cell walls and promotes the absorption of phosphorous, nitrogen and sulphur by plants.

Sulphur (S)

A component of several proteins, enzymes and vitamins. Contributes to chlorophyll production. Helps plants absorb potassium, calcium and magnesium.

ORGANIC FARMING

7 Minor Elements

Minor elements (micronutrients)

Although only small quantities of these elements are required, they are essential to plant growth. They are

**Iron, Boron, Manganese, Molybdenum, Chlorine,
Copper and Zinc**

ORGANIC FARMING

Function of 7 Minor Elements

Iron (Fe)

Essential to chlorophyll production. Also contributes to the formation of some enzymes and amino acids.

Boron (B)

**Essential to overall plant health and tissue growth.
Promotes the formation of fruit and the absorption of water.**

Manganese (Mn)

**Promotes seed germination and speeds plant maturity.
Plans an important role in photosynthesis by contributing to chlorophyll production. Essential for nitrogen assimilation and protein formation.**

ORGANIC FARMING

7 Minor Elements

Molybdenum (Mo)

Essential for nitrogen assimilation by plants and nitrogen fixation by bacteria. This means that it is needed for the production of nitrogen-based proteins.

Chlorine (Cl)

Stimulates photosynthesis.

Copper (Cu)

Activates various enzymes. Also plays a role in chlorophyll production.

Zinc (Zn)

Plays an important role in the synthesis of proteins, enzymes and growth hormones.

ORGANIC FARMING

5 Beneficial Micro nutrients Elements

Sodium, Silicon, Cobalt, Nikel and Selenium are beneficial to plants. They draw from soil.

ORGANIC FARMING

Harmful Effects of Chemical Fertilizers

Waterway Pollution

The use of chemical fertilizers on crops can have adverse effects on waterways caused by chemical run off of the excess fertilizer. The over-abundance of nutrients in the water reduces the amount of oxygen. The existing organisms living in the water use up the oxygen that is left. The result is oxygen depletion causing the fish to die.

ORGANIC FARMING

Harmful Effects of Chemical Fertilizers

Chemical Burn

Chemical fertilizers are high in nutrient content such as nitrogen. Over-application of chemical fertilizer to plants may cause the leaves to turn yellow or brown, damaging the plant and reducing crop yield. This condition is known as chemical leaf scorch. Leaf scorch can cause the leaves of the plant to wither and may cause the plant to die.

ORGANIC FARMING

Harmful Effects of Chemical Fertilizers

Increased Air Pollution

Excess nitrogen used in crop fertilization can contribute to the release of greenhouse gases such as carbon dioxide and nitrous oxide into the atmosphere. This effect is caused by using a greater amount of chemical fertilizer than the plants can readily absorb. According to the National Oceanic and Atmospheric Administration (NOAA) Climate Monitoring and Diagnostics Lab, excess greenhouse gases trapped in the atmosphere may be contributing to the increase of land and ocean surface temperatures.

ORGANIC FARMING

Harmful Effects of Chemical Fertilizers

Soil Acidification

The over-use of chemical fertilizers can lead to soil acidification because of a decrease in organic matter in the soil. Nitrogen applied to fields in large amounts over time damages topsoil, resulting in reduced crop yields. Sandy soils are much more prone to soil acidification than are clay soils. Clay soils have an ability to buffer the effects of excess chemical fertilization.

ORGANIC FARMING

Harmful Effects of Chemical Fertilizers

Mineral Depletion

There is an increasing concern that continuous use of chemical fertilizers on soil depletes the soil of essential nutrients. As a result, the food produced in these soils have less vitamin and mineral content.

According to data produced by the U.S. Department of Agriculture Nutrient Data Laboratory, foods grown in soils that were chemically fertilized were found to have less magnesium, potassium and calcium content.

ORGANIC FARMING

Effects of Pesticides

- **Pesticides Can Cause Hazard Conditions In water**
- **Pesticides Are Harmful To Your Health**
- **Risks Are Higher For Children**
- **Pets Can Also Have Major Health Problems**
- **Pesticides Weaken the Earths Atmospheric Layers**

ORGANIC FARMING

Health Effects of Pesticides

Asthma

Researchers found an association between asthma and use of pesticides by male farmers. (SenthilSelvan et al, 1992) Although this study involved adults, it raises concerns about children's exposures to pesticides used in the home or residues brought home on parents' clothes or equipment.

ORGANIC FARMING

Health Effects of Pesticides

Birth Defects

The commonly used pesticide, chlorpyrifos (brand name Dursban) caused severe birth defects in four children exposed in utero. Chlorpyrifos is used widely as an agricultural chemical, but is also the most common pesticide used indoors to kill termites, fleas, roaches and in pest control strips. (Sherman, JD. 1996 Chlorpyrifos (Dursban)-associated birth defects: report of four cases. Arch. Env .Health 51(1): 5-8)

ORGANIC FARMING

Health Effects of Pesticides

Neurological Effects

Pesticides can be potent neurotoxins. When people are exposed to neurotoxins they may feel dizzy, lightheaded, confused and may have reduced coordination and ability to think. These are the short-term effects, while long term exposure can result in reduced IQ and learning disability, associated with permanent brain damage. In spite of wide reporting of adverse symptoms, until recently, few studies could link permanent brain damage to such exposures. There is new evidence that prolonged exposure to pesticides in areas where they are used routinely may cause permanent brain damage to children who live in these areas.

ORGANIC FARMING

Health Effects of Pesticides

Cancer

National trends indicate that rates of childhood cancer have been increasing. Researchers at MDH concluded that these increases were also evident in Minnesota. (A. Swenson and S. Bushhouse, "Childhood Cancer Incidence and Trends in Minnesota, 1988-1994". Minnesota Medicine, vol. 81, December 1998.) Between 1973 and 1991, all cancers combined increased an average of 1% per year and brain cancer increased 2% per year. Specifically:

ORGANIC FARMING

Health Effects of Pesticides

Hormone Disruption

While some substances cause physical birth defects, others can cause subtle hormonal effects on the developing fetus or affect a child's functional capacities. Hormone disruptors have been linked to many health problems including reproductive cancers. The drug DES, which was given to pregnant women to prevent miscarriage between 1941-1971, worked as an endocrine disrupting chemical on the developing fetus. Decades later, many of these DES exposed daughters developed cervical cancer. Twenty-four pesticides still on the market, including 2,4-D, lindane and atrazine, are known endocrine-disrupters. Aside from increases in reproductive cancers, increasing rates of the following conditions are reported. Animal studies link many of these conditions with prenatal exposure to hormone disrupting substances.

ORGANIC FARMING

Health Effects of Pesticides

Endometriosis, a disease in which the uterine tissue grows outside the uterus, and a common cause of infertility was virtually unheard of twenty years ago. It now affects 5.5 million women in the U.S. and Canada, about 10-20% of women of childbearing age. The National Institute of Child Health and Human Development noted that only 20 cases were reported in the medical literature prior to 1921. (Colburn, Dumanoski, & Myers, (1996) Our Stolen Future)

Hypospadias, a condition in which the urethra is near the base of the penis, not the end as it should be, has doubled in the last 10 years.

Undescended testicles, which is linked with later risk of testicular cancer, is increasing. Researchers reported a doubling in cases between 1962 and 1982 in England and Wales. (Colburn and others, 1996)

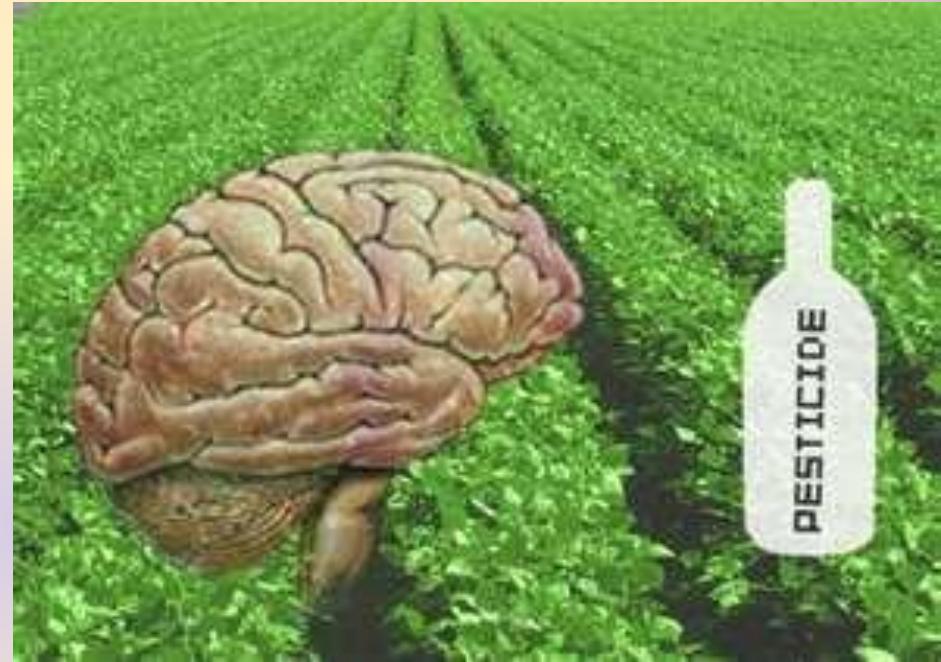
Precocious puberty in girls is now common. A study of 17,077 girls in the US found that the onset of puberty for white girls was 6-12 months earlier than expected and African-American girls experienced puberty 12-28 months earlier than whites. (Herman-Giddens and others, 1997)

Reduced sperm counts are documented. Between 1938 and 1990, sperm counts dropped 1.5% each year for American men and 3.1% per year for European men. There was no decrease in men from non-western countries. Low sperm count is a marker for testicular cancer. (Swan and others, 1997)

Fertility Problems are becoming more common and now affect more than two million couples in the U.S.

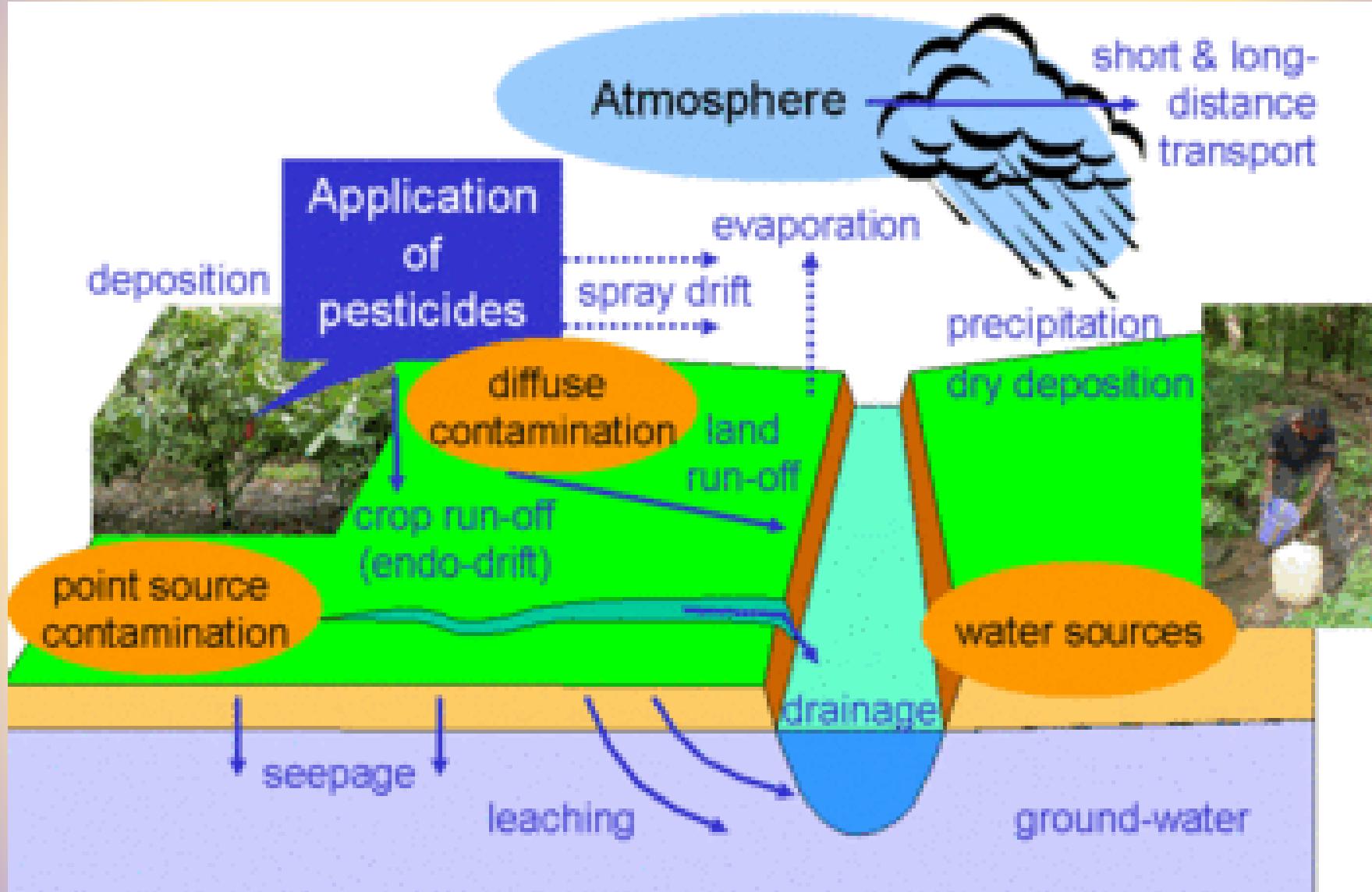
ORGANIC FARMING

PESTICIDE EFFECTS



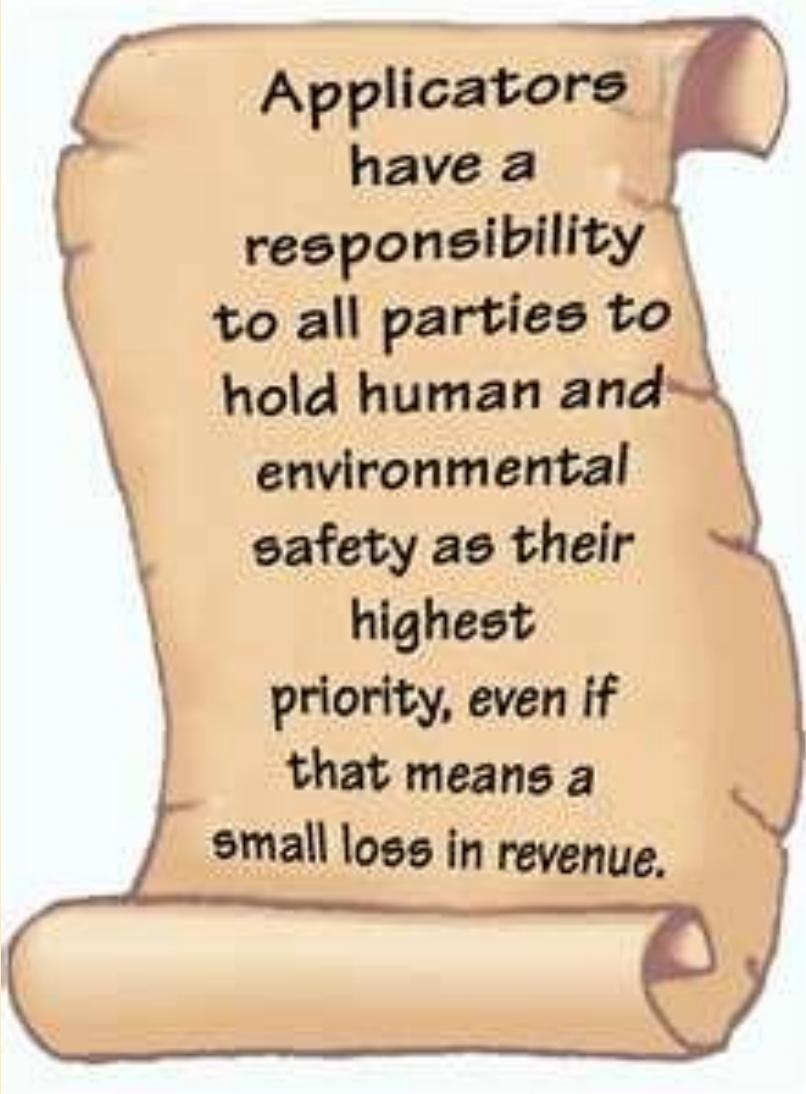
ORGANIC FARMING

PESTICIDE EFFECTS



ORGANIC FARMING

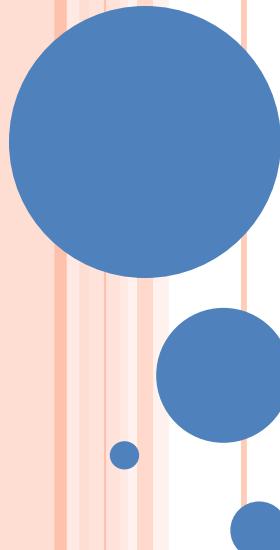
ALERT TO THE PESTICIDE USER



Applicators
have a
responsibility
to all parties to
hold human and
environmental
safety as their
highest
priority, even if
that means a
small loss in revenue.

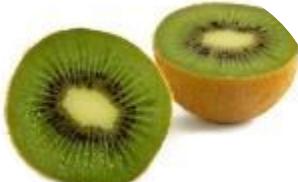
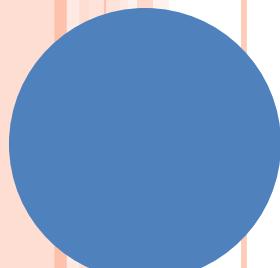
ORGANIC FARMING

Dirty Dozen High Pesticide Food



ORGANIC FARMING

Clean Dozen Less Pesticide Food



ORGANIC FARMING

Why Organic Food Is Better Than Conventional Food

Organic farming is better for wildlife

Organic farming is better for the soil

Organic food is better for animal reproduction

Organic food helps fight cancer, stroke and heart problems

Organic food contains more nutrients

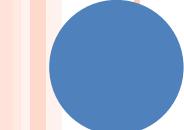
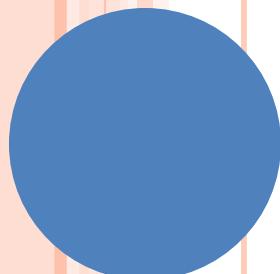
Organic apples are just better!

Organic farming can feed the world

Organic farming protects the climate

Organic farming produces higher yields in drought Conditions

Organic food is safer



ORGANIC FARMING

Business OF ORGANIC FARMING

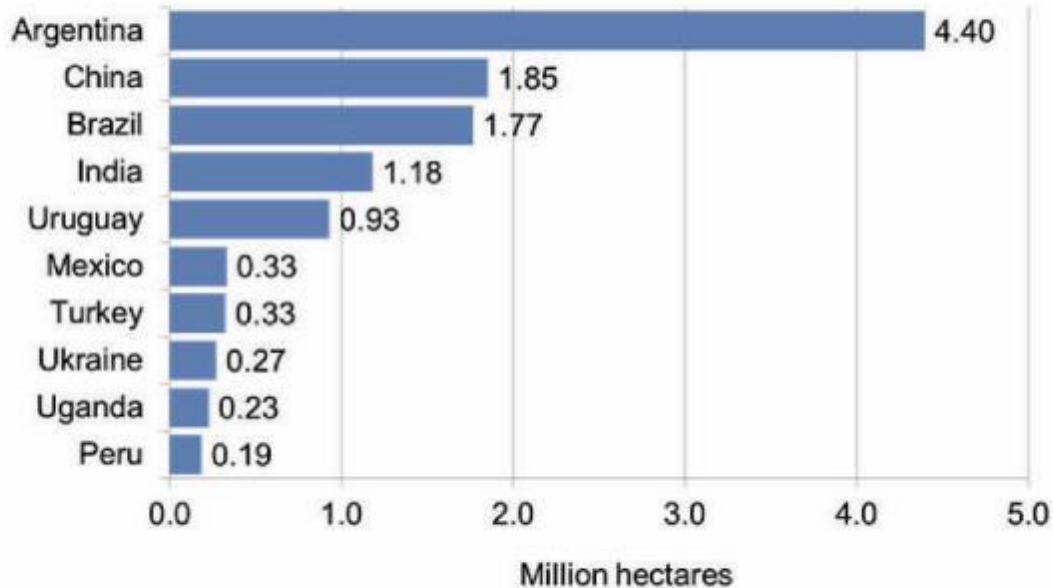
- In 1990 the world wide business is zero
- In 2009 the world wide business is \$55B
- United States alone \$23B in 2002 \$40B in 2006

Data Source :International Federation of Organic Agriculture Movements

ORGANIC FARMING

International Data

Developing/transition countries and emerging markets*: The ten countries with the largest areas of organic agricultural land 2009

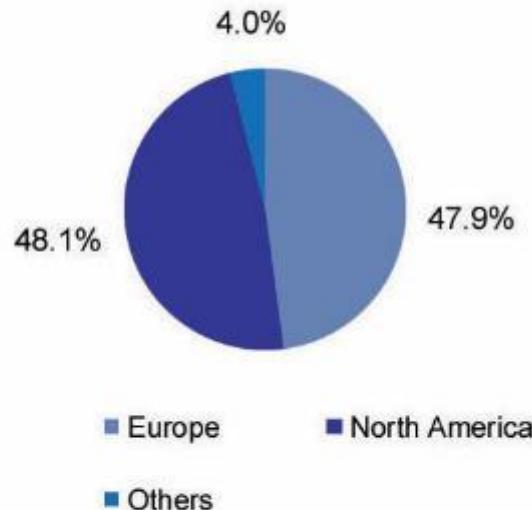


FIBL/IFOAM Survey 2011, based on data from governments, the private organic sector and certifiers
*=countries on the DAC list, see
http://www.oecd.org/document/45/0,3746,en_2649_34447_2093101_1_1_1_1.00.html

ORGANIC FARMING

International Data

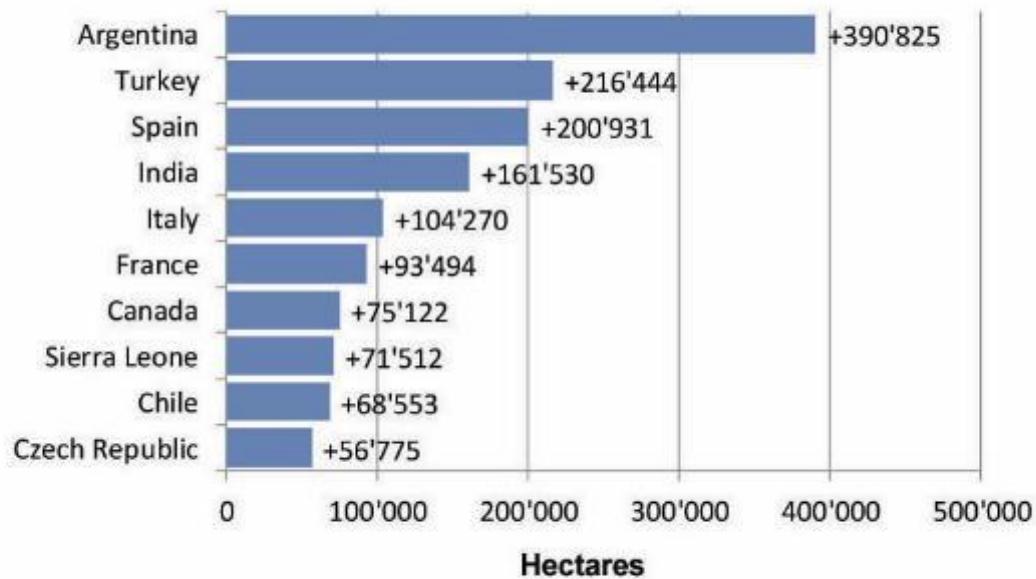
Distribution of organic food sales by region
2009



ORGANIC FARMING

International Data

The ten countries with the highest INCREASE of organic agricultural land 2008-2009

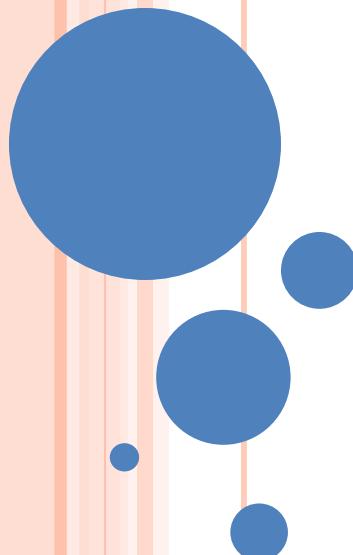


ORGANIC FARMING

International Data

Organic agricultural land by region 2009

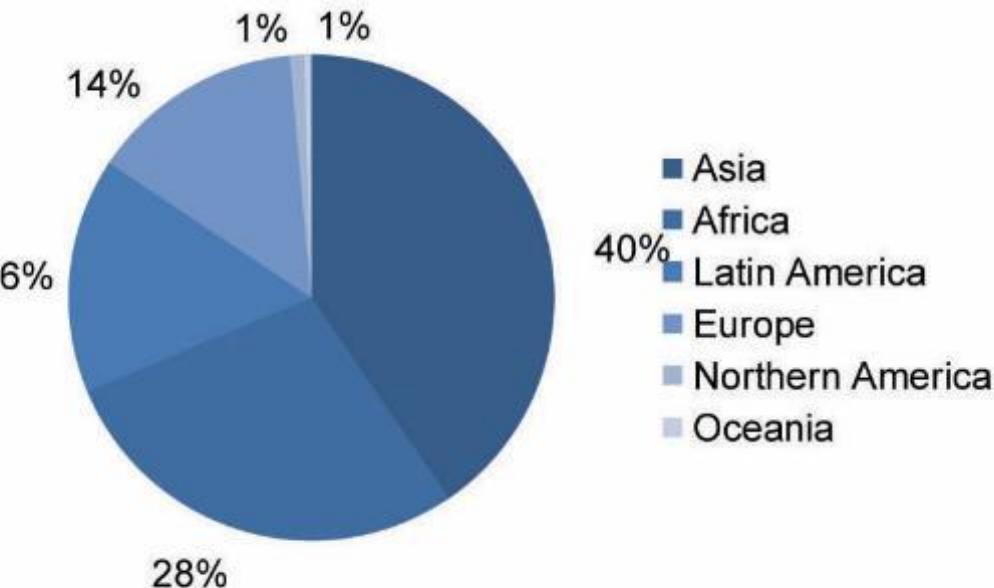
- › Currently 37.2 million hectares are under organic agricultural management (end of 2009 for most data).
- › The region with the most organic agricultural land is
 - › Oceania, with 12.15 million hectares, followed by
 - › Europe with almost 9.3 million hectares,
 - › Latin America (8.6 million hectares),
 - › Asia (3.6 million hectares),
 - › North America (2.7 million hectares), and
 - › Africa (more than 1 million hectares).
- › Oceania has almost one-third of the global organic agricultural land, but its relative importance is decreasing. Europe, a region that has had a very constant growth of organic land over the years, has one quarter of the world's organic agricultural land. The share of Latin America is slightly lower than that of Europe (23 percent).
- › In addition to the agricultural land, there are 41.9 million hectares of non-agricultural areas, mainly wild-collection.



ORGANIC FARMING

International Data

Organic producers by geographical region 2009
(total: 1.8 million)



ORGANIC FARMING

International Data

Key data/indicators on organic agriculture world-wide 2009

- › 160 countries have data on organic agriculture (up from 154).
- › 37.2 million hectares of agricultural land are organic (including conversion areas).
- › The organic agricultural land increased by 2 million hectares or six percent.
- › 7 countries have more than ten percent organic agricultural land, 17 countries have between 5 and 10 percent.
- › There are 41.9 million hectares of further, non agricultural areas (up from 31.1 million hectares)
- › 1.8 million producers were reported (up from 1.4 million)