




I S S U E

INFORMATION FLIER – A PUBLICATION OF THE ORGANIC TRADE ASSOCIATION

19

This newsletter is published by the Organic Trade Association, the North American trade association committed to the promotion of organic products in the marketplace, and the protection of the integrity of organic standards. Its membership includes more than 1,200 producers, processors, distributors and retailers of organic foods, fibers, farm and garden supplies, and health and beauty products. The OTA is your leading resource for information about this industry.

PHONE:  
(413) 774-7511

FAX:  
(413) 774-6432

E-MAIL:  
info@ota.com

WEB SITE:  
www.ota.com

OR WRITE:  
P.O. Box 547  
Greenfield, MA  
01302



## Organic agriculture: implementing ecology-based practices

Because organic production is based on a system of farming that maintains and replenishes soil fertility in an ecological way, it may grow in importance in the U.S. agricultural scheme as the Bush administration undertakes a new vision for U.S. agricultural policies.

On Sept. 19, the U.S. Department of Agriculture (USDA) released "Food and Agricultural Policy: Taking Stock for the New Century," outlining the Bush Administration's blueprint for future farm legislation. The 112-page report, posted on USDA's web site ([www.usda.gov](http://www.usda.gov)), envisions market-oriented and environmentally friendly policies as high priorities for U.S. agriculture.

Chapter 5 is of particular relevance to organic agriculture. Entitled "Conservation and the Environment," it cites various important ecological issues. The following presents selections from that chapter

(shown in boldface type), along with evidence that organic agriculture is already providing viable solutions to these issues. In short, organic agriculture is a

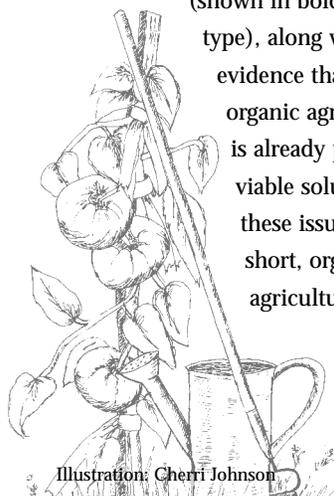


Illustration: Cherri Johnson

proven solution that reduces nutrient runoff, improves soil structure, sequesters carbon, conserves water, reduces pesticide use, and provides other environmental benefits.

**"Many emerging agri-environmental problems can be addressed only by changing management practices on working land. In particular, reducing nutrient runoff from fertilizer and animal waste may require widespread changes in the management of nutrients, as well as strategically placed conservation buffers." (Page 73)**

**"Although soil erosion has declined by 40 percent over the past 15 years, farms are still losing 1.9 billion tons of soil every year, which impairs water quality and fish habitat, reduces water storage capacity in reservoirs, imposes costs on municipal and industrial water users, and reduces future soil productivity." (Page 76)**

**Emerging environmental challenges include: "diminishing open space; nutrient management; pesticide use and runoff; greenhouse gas emissions and carbon sequestration; water conservation and flood mitigation; air quality; energy production and conservation; non-nutrient animal waste**

**concerns, such as waterborne pathogens and antibiotic-resistant bacteria; and lack of access to natural forestland." (Page 77)**

**"Increasing the organic content of soils can improve the soils' water-holding capacity, reduce erosion, and improve fertility." (Page 78)**

Organic refers to the way agricultural products — food and fiber — are grown and processed. According to the definition of "organic" adopted by the National Organic Standards Board in April 1995, "Organic agriculture is an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain and enhance ecological harmony."

Organic methods are as efficient, economical and financially competitive as conventional methods, and better for the soil and the environment, according to a report documenting findings from The Rodale Institute's long-term Farming Systems Trial.™ Funded by The Rodale Institute in cooperation with USDA's Agricultural Research Service, the experiment covers 12 acres and compares highly productive, intensive corn/soybean systems

Continued on page 2



## Organic: implementing ecology-based practices

Continued from page 1

under conventional and organic management. Results show that after a transitional period of about four years, crops grown under organic systems yield as well as, and sometimes better than, those grown conventionally. In years of drought, organic systems can actually out-produce conventional systems.

“Organically managed soils achieve better physical structure. Soils in the organic systems gradually became looser and more porous, and absorbed and held water better than conventionally managed soils,” Cass Petersen, Laurie E. Drinkwater, and Peggy Wagoner wrote in a report documenting findings during the trial’s first 15 years. “These improvements in soil quality directly affected yields, helping the organic systems maintain high production even in drought years.” In addition, the organic soils “had reduced levels of nitrate leaching compared to the conventional soils and were more effective as a carbon sink.”

### Other findings:

- “Water is able to percolate into the organically managed soils at a faster rate. During rain storms, more water will be absorbed into the soil and less will run over the surface and out of the field.”
- “As measured by soil respiration rates and available or potentially available nitrogen levels, both of the organic systems indicate higher levels of microbial activity than the conventional system. Potentially more significant, the organic and conventional systems have differences in the species composition of microorganisms.”
- “Both organic systems showed significant ability to absorb and retain carbon, raising the possibility that agricultural practices might play a role in reducing the impact

of global warming.”

The study predicted that if organic fertilizer were used in the major U.S. corn and soybean growing regions, annual carbon dioxide in the atmosphere could be reduced by an estimated 2 percent. The study also found that organic farming uses 50 percent less energy than conventional farming methods.

**“While excess erosion has been reduced...soil degradation is not just the loss of soil through soil erosion. Processes can be interrupted even while the soil stays in place, as through compaction, crusting, salinization, or loss of organic matter. The challenge is to develop strategies to maintain the Nation’s soils...” (Page 79)**

Reiterating the value of organic agriculture, a report from the July 2000 FAO Regional Conference for Europe predicted that more widespread use of organic agriculture could reduce environmental degradation. It recognized that organic farming enhances genetic biodiversity, including organisms living in the soil, wild life, wild flora, and cultivated crops. It noted that organic farming can help reduce ground and surface water contamination and can safeguard drinking water supplies.

Meanwhile, a 21-year field trial initiated by the Research Institute of Organic Agriculture (FiBL) in Switzerland has demonstrated organic farming enhances soil fertility and biodiversity. Begun in 1978 in Therwil, Switzerland, the DOK trial compares the consequences of organic, biodynamic, and conventional farming systems in a randomized plot trial. Highlights from the 16-page field trial report, available from FiBL (E-mail: admin@fibl.ch) and

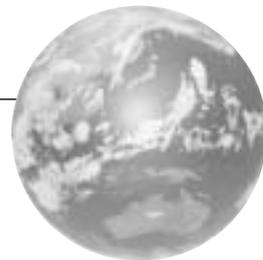
published in August 2000:

- “Organically grown crops use less fossil energy than conventional crops.”
- “Fertilization in organic systems has a positive effect on the content of organic matter and helps to avoid soil acidification.”
- “Organic soil management improves soil structure by increasing soil activity, thus reducing the risk of erosion.”
- “Organic management promotes the development of earthworms and above ground arthropods, thus improving the growth conditions of the crop. More abundant predators help to control harmful organisms (pests).”
- “Organic crops profit from root symbioses and are better able to exploit the soil.”
- “Organic fields accommodate a greater variety of plants, animals and microorganisms.”

In addition, the Soil Association of the United Kingdom in May 2000 published a report entitled “The Biodiversity Benefits of Organic Farming.” Some of the findings from nine biodiversity studies comparing organic farming in the lowlands to conventional farming systems showed that organic farms had:

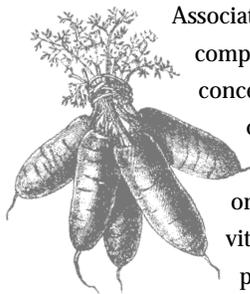
- five times as many wild plants in arable fields and 57 per cent more species. In addition, several rare and declining wild arable species were found only on the organic farms.
- 25 percent more birds at the field edge, 44 percent more in-field in autumn and winter, and 2.2 times as many breeding skylarks and higher skylark breeding rates.
- 1.6 times as many of the invertebrate arthropods that make up bird food, three

# A World of News



## Organic-related news

- > An 87-page report, "Organic Farming, Food Quality and Human Health," prepared for the Soil Association looks at 400 published papers comparing organic and non-organic foods concerning food safety, nutritional content and observed health effects.



Although there are indications organic crops may be higher in vitamin C, essential minerals and phytonutrients, the report said further studies are needed.

- > British public health experts testing 3,200 uncooked organic vegetables for potential contamination found no trace of four key organisms — *Listeria monocytogenes*, *Salmonella*, *Campylobacter*, and *E. Coli* 0157 — that can cause disease in humans. The Public Health Laboratory Service and the Local Authorities Coordinated Body on Food and Trading Standards conducted the survey on vegetables sold in supermarkets, health food stores, and farm shops across the United Kingdom.
- > A Roper Starch Worldwide survey conducted for Walnut Acres found 63 percent of the 1,000 adults polled reported purchasing organic foods or beverages at least sometimes when grocery shopping. Forty percent said organic products would be an increasing part of their family's diet within the next year, and 50 percent intend to use more organic products within the next five years.
- > Brookfield Zoo in Brookfield, IL, near Chicago, has created an Eco Café refreshment stand featuring natural and organic food choices.

## Environmental news

- > A report, "Waste Lands: The Threat of Toxic Fertilizer," from the U.S. Public Interest Research Group said many commercial fertilizers contain toxic metals. An analysis of 29 fertilizers found that each contained 22 different heavy metals. In 20 of the products, levels exceeded the limits set on wastes sent to public landfills, with disturbing quantities of arsenic, lead, mercury, cadmium, chromium, and dioxin.

- > A global shortage of bees and other insects that pollinate plants is destroying crops around the world and could lead to far higher prices for fruits and vegetables, according researchers at the University of Guelph in Canada. Pollinator populations have been hit hard by increased pesticide use, and much of their natural habitat has been destroyed to make room for farmland [[www.consecol.org/vol5/iss1/art8](http://www.consecol.org/vol5/iss1/art8)].
- > Findings from a wide-ranging ecological study of 14 grassland sites in eight countries published in the July 5 issue of *Nature* verified that plant communities fare better when consisting of complementary teams of species rather than being dominated by a single group. A separate study [April 12 issue of *Nature*] showed that diversity boosts plant growth.

## International news

- > Poland has adopted the Organic Farming Act requiring all organic products to have a certificate of compliance for production and trade within Poland, effective October 2001.
- > The Canadian government has announced \$854,700 in federal funding for a national Organic Agriculture Center of Canada, to be based at the Nova Scotia Agricultural College in Truro.
- > Statistics from Stiftung Ökologie & Landbau show that more than 3.6 million hectares in the European Union are managed organically by over 130,000 enterprises. One third of the organic area is in Italy, where more than a million hectares are managed organically.
- > The Chilean government has announced a proposal to convert the entire agricultural industry in its far southern region to organic farming.
- > The Swiss government has raised state financing for organic research at the Forschungsinstitut für Biologischen Landbau from 3 to 5 million Swiss Francs annually. Nearly ten per cent of Swiss agricultural land is managed organically.
- > The Organic Trade Association has published a multi-language brochure, "Buying Organic Products from the United States," to help promote international sales of U.S. organic products. ❖

## Quote of Note

"Both sustainable and organic farming are better for the farmer's bottom line. The challenge now is to convince Congress to support policies that encourage farmers to embrace sustainable practices, not avoid them."

TIMOTHY BOWSER  
of Fires of Hope,  
in *Sustainable  
Agriculture: Making  
Money, Making Sense*,  
The Institute of  
Agriculture  
and Trade Policy,  
March 2001





## Organic agriculture: implementing ecology-based practices (see Page 1)

Illustration: Richard DiMatteo

# Organic: implementing ecology-based practices

*Continued from page 2*

times as many non-pest butterflies in the crop areas, one to five times as many spider numbers, and one to two times as many spider species.

- a significant decrease in aphid numbers.

**“Increasingly diverse farms — rural residence farms, intermediate farms, and commercial farms, including those farms that have not been served by traditional agricultural programs — all play a role in conservation efforts.” (Page 73)**

Organic farms already come in all sizes, from small and medium to large. Moreover, most organic farming practices have been developed and refined by the growers themselves, without government assistance. Organic farming has had little research support from the government. In fact, the amount of USDA's research budget dedicated to assisting organic farmers has been no more than 0.1 percent.

In recognition of the organic industry's activities to protect natural resources, the Organic Trade Association (OTA) and USDA's Natural Resources Conservation Service (NRCS) in September signed a five-year Memorandum of Understanding to cooperate on programs concerning conservation of natural resources specifically related to organic farming. Under the agreement, OTA and NRCS have pledged to cooperate in developing and implementing conservation farm plans for organic crop production. One approach will be to encourage the use of demonstrations and field days with organic field operations to showcase conservation and organic production. Another will be to share training opportunities.

Organic production, now proven to be a viable form of agriculture, is one concrete direction that can be taken to implement the goals USDA is seeking for farms working in harmony with the environment. ❖

Questions about organic? Visit OTA at [www.ota.com](http://www.ota.com).