

Toward Healthy Food and Farms

HOW SCIENCE-BASED POLICIES CAN TRANSFORM AGRICULTURE

Ever wonder why it costs less to fill up your grocery cart with corn chips and sugary drinks than carrots and squash? In large part, it's because government policies make the wrong foods cheaper and more abundant by providing billions of dollars in subsidies for processed food ingredients like corn syrup. These ill-conceived subsidies give processed foods an unfair advantage over fruits, vegetables, pasture-raised meats, and other healthy foods.

And the same thing is happening with farming practices: federal policies subsidize agricultural operations that use millions of tons of toxic chemicals, damaging the soil, water, and air—along with our health in the process. Precious taxpayer dollars also fund research that maintains and expands this industrial system.

Instead of subsidizing processed food and pollution, we need to support healthy food and farms, and that will require forward-thinking farm and food policies. Every five years or so, Congress renews what is commonly referred to as the Farm Bill, a package of federal

legislation that includes subsidies for various crops and farming practices, low-income food programs, incentives for farmers to protect and conserve their soil and water, investments in agricultural research, and more. The Farm Bill offers a unique opportunity to change what the nation's farmers grow—and how they grow it—for years to come.

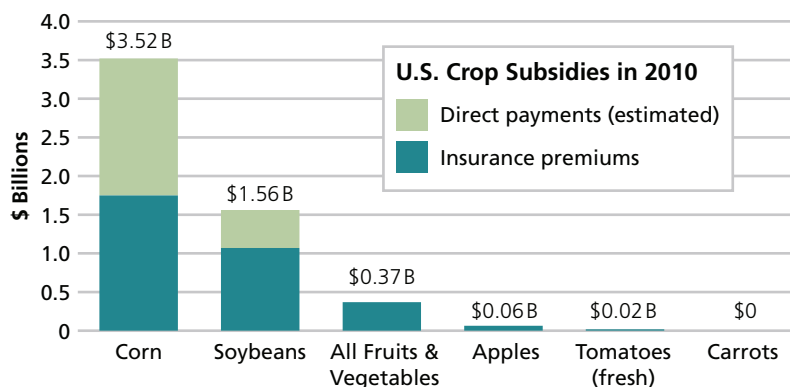
The Problem of Industrial Agriculture

In today's food system, short-term productivity and big corporate profits win out over our health and environment. Decades of shortsighted farm bills have led to an agriculture designed to produce massive quantities of a few crops. In 2010, the U.S. Department of Agriculture (USDA) paid out more than \$5 billion in subsidies for just two processed-food and animal-feed crops: corn and soybeans.¹

And while the USDA urges Americans to eat more fruits and vegetables, farmers receive few incentives to grow them. Subsidies for all fruits



It's time to change federal subsidies that favor processed foods and industrial farming practices.



U.S. federal subsidies to corn and soybean growers—both direct payments and subsidized crop insurance premiums—account for more than 10 times the subsidies to all fruit and vegetable growers combined. Sources: Federal Crop Insurance Corporation 2012; Environmental Working Group 2011.



and vegetables amount to only about 7 percent of what corn and soy receive (see the figure on p. 1).² Nutritious, environmentally friendly pasture-raised meats—which, unlike meats produced in highly polluting CAFOs (confined animal feeding operations), do not rely on subsidized feed crops—get almost no support.

Large-scale, chemical-intensive methods of food production damage the natural resources on which we depend. According to the U.S. Environmental Protection Agency, agriculture is the leading source of water pollution in the nation's rivers and streams, and a major contributor to the contamination of lakes, reservoirs, and

groundwater supplies.³ The industry's practices poison fish and shellfish; expose farm workers, consumers, and wildlife to toxic pesticides; degrade the soil for future generations of farmers. Our industrialized, highly processed food system also drains the nation's energy resources, accounting for nearly 16 percent of all the energy used in the United States.⁴

Today's farm and food policy incentives are skewed toward this harmful industrial model, but they don't have to be. We can—and must—transition to a system that helps farmers profit by producing affordable, nutritious foods while minimizing energy use and pollution.

WHAT A HEALTHY—AND PROSPEROUS—FOOD AND FARM SYSTEM LOOKS LIKE

IMAGINE AN AGRICULTURAL LANDSCAPE made up of farms of all types and sizes, producing a diverse array of livestock and crops—fruits and vegetables as well as grains. Farmers employ sophisticated, modern methods that require few chemical inputs and minimize pollution. The soil is rich, streams and rivers run clean, and fish, birds, bees, and other beneficial organisms abound.

Farming and food production provide employment for vibrant local communities, and farmers markets serve as gathering places for neighbors and as magnets for other businesses. Most importantly, everyone has access to abundant, fresh, nutritious, unprocessed, and affordable foods produced nearby, which benefits public health and lessens the food system's energy use and impact on our climate.

Today, more and more consumers are demonstrating (through their food purchases) that they want a food system resembling this ideal vision. Organic food sales, for example, are growing at nearly eight times the rate of the U.S. food market overall, and now total almost \$29 billion annually.⁵ The number of farmers markets nationwide has more than doubled since 2002,⁶ and the USDA recently calculated that locally grown and sold foods are a

nearly \$5 billion-a-year boon to local economies.⁷ Our own economic analysis has shown that even modest investments in local, sustainable agriculture can create thousands of jobs and support local economic development.⁸

To achieve our ultimate vision of a healthy, prosperous food and farm system, we must begin shifting existing farm subsidies from processed foods and industrialized agriculture to healthy food and farming practices.



The Science of Sustainable Agriculture

The Union of Concerned Scientists (UCS) has a science-based vision for the U.S. farming and food system in which farms are not factories, and do not rely heavily on fossil fuels, harmful pesticides, and synthetic fertilizers to produce huge quantities of just a few crops. Instead, farmers and policy makers aim to produce a wide variety of nutritious foods while taking the long-term environmental and health impacts of production methods into account.

This vision of a truly sustainable agriculture employs the science of **agroecology**, which utilizes knowledge from the biological sciences and views farms as ecosystems that comprise interacting elements including soil, plants, insects, water, and animals. Each element in this system can be modified to solve problems, maximize yields, and conserve resources.

Farms managed using agroecological principles may use a variety of sophisticated practices including:

- Longer crop rotations and a wider variety of crops, which help maintain soil fertility and keep pest populations down so farmers need fewer pesticides;
- Raising crops and livestock in close proximity, which supplies feed (forage crops as well as grains) for the animals and nutrients (in the form of manure) for the soil, maintaining productivity while reducing waste, pollution, and transportation costs;
- Cover cropping, in which an off-season crop helps protect soil from erosion and reduces the need for added fertilizer, minimizing pollution.

© 2012 Plant Cover Crops



In this field, soybeans are growing up through the stubble of a rye cover crop. Cover crops like this one protect and improve the soil, suppress weeds, and capture excess fertilizer, reducing pollution.

Organic agriculture in particular borrows heavily from the agroecological approach. In place of chemical pesticides and fertilizers, certified organic farmers must rely on healthier soil and more-diverse ecosystems to produce safe, abundant food. These methods have been refined through scientific investigation of the interactions within ecosystems, and sometimes use cutting-edge technologies to achieve results.

The Farm Bill offers a unique chance to change what the nation's farmers grow—and how they grow it—for years to come.

Agricultural researchers have indicated that organic and agroecological systems can meet the world's food needs while protecting and enhancing the environment. But according to a three-year global assessment involving hundreds of experts, this will entail a radical transformation of existing food and farming systems.⁹ A 2010 United Nations report urges all countries to quickly expand the scale of sustainable farming systems.¹⁰

Policies for Real Food and Healthy Farms

The U.S. food and farm landscape will not be transformed overnight. But we *can* take significant steps forward by adopting and expanding innovative policies grounded in the latest science and economics.

In particular, UCS supports farm policies that will:

Expand the production and accessibility of healthy food. Appropriate tools include:

- Increased investment in local and regional food systems—including farmers markets, community-supported agriculture (CSA) arrangements, and food hubs—that will increase access for consumers across all income levels;
- New incentives for farmers to produce more organic, sustainable, and healthy food, especially fruits and vegetables; and
- A “safety net” of credit and risk management tools to support farmers who adopt sustainable and diversified practices.



Increase farmers' adoption of sustainable agriculture and conservation practices that protect soil, water, human health, and ecosystems. This can be done through:

- Greater financial incentives for farmers who implement conservation measures and adopt science-based sustainable, organic, and integrated crop or livestock production practices and systems;
- New rules that ensure farmers receiving federal subsidies employ at least a minimum level of conservation and limit their use of environmentally destructive practices.

Increase publicly funded research to improve and expand modern, sustainable food and farm systems.

This research should seek to:

- Increase understanding of the ecosystems that support farming and the impacts of various management systems, practices, and technologies;
- Develop and refine innovative systems for sustainable, organic, and

diversified food production, and ease farmers' transitions to them;

- Foster the expansion of local and regional food systems, and better document their economic benefits;
- Increase the diversity of our agriculture system and promote resilience in the face of environmental challenges, through public crop and livestock breeding programs and other efforts.

You and UCS: Partners for a Healthy Future

Now is the time for new policies that will level the playing field for sustainable farms and produce better, healthier food for consumers. The Union of Concerned Scientists is working to bring the best scientific and economic analysis to bear on these important policy debates, and you can help. Join our campaign and help us transform U.S. agricultural policy in ways that will ensure the growth and success of sustainable, healthy, economically robust farms.

ENDNOTES

- 1 Environmental Working Group. 2011. 2011 farm subsidy database. Online at <http://farm.ewg.org/region.php?fips=0000&progcode=total&yr=2010>, accessed January 28, 2012.
- 2 Federal Crop Insurance Corporation. 2012. Crop year statistics for 2010, nationwide summary—by crop. Washington, DC: U.S. Department of Agriculture. Online at http://www3.rma.usda.gov/apps/sob/current_week/crop2010.pdf, accessed January 30, 2012.
- 3 U.S. Environmental Protection Agency. No date. Watershed assessment, tracking, and environmental results. National summary of state information. Online at http://iaspub.epa.gov/waters10/attains_nation_cy.control, accessed January 28, 2012.
- 4 Canning, P., et al. 2010. *Energy use in the U.S. food system*. Washington, DC: U.S. Department of Agriculture. Online at <http://www.ers.usda.gov/Publications/err94/err94.pdf>, accessed January 30, 2012.
- 5 Organic Trade Association. 2011. U.S. organic industry valued at nearly \$29 billion in 2010. Press release, April 21. Brattleboro, VT. Online at http://www.organicnewsroom.com/2011/04/us_organic_industry_valued_at.html, accessed January 29, 2012.
- 6 Agricultural Marketing Service. 2011. Farmers market growth: 1994–2011. Washington, DC: U.S. Department of Agriculture. Online at <http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateS&navID=WholesaleandFarmersMarkets&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&acct=frmdirmkt>, accessed January 29, 2012.
- 7 Economic Research Service. 2011. *Direct and intermediated marketing of local foods in the United States*. Washington, DC: U.S. Department of Agriculture. Online at <http://www.ers.usda.gov/Publications/ERR128>, accessed January 29, 2012.
- 8 O'Hara, J. 2011. *Market forces: Creating jobs through public investment in local and regional food systems*. Cambridge, MA: Union of Concerned Scientists. Online at http://www.ucsusa.org/food_and_agriculture/solutions/big_picture_solutions/market-forces.html, accessed January 29, 2012.
- 9 International Assessment of Agricultural Knowledge, Science and Technology for Development. 2009. *Agriculture at a crossroads*. Online at http://www.agassessment.org/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Global%20Report%20%28English%29.pdf, accessed January 28, 2012.
- 10 United Nations General Assembly. 2010. Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter. Online at http://www.srfood.org/images/stories/pdf/officialreports/20110308_a-hrc-16-49_agroecology_en.pdf, accessed January 29, 2012.

The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world.



Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

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For more information about our campaign to transform U.S. farm policy, and to get involved, go to www.ucsusa.org/foodandfarmpolicy.

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