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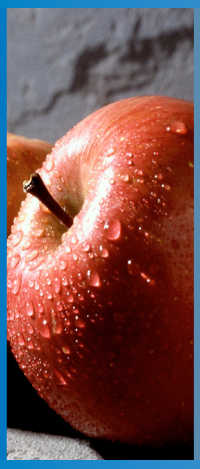

FARM BILL

WORKING LANDS CONSERVATION FUNDING

A PUBLIC HEALTH PRIORITY

JOHNS HOPKINS
CENTER *for* A LIVABLE FUTURE

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A PUBLIC HEALTH PRIORITY

Who We Are

Based within the Bloomberg School of Public Health, The Johns Hopkins Center for a Livable Future (CLF) is an academic center that conducts and promotes research and communicates information about the complex inter-relationships among food production, diet, environment and human health. The Center investigates these issues, and advocates on behalf of policies to protect the public's health and the environment, enhance food system sustainability, and increase food security. Improving the "Farm Bill" is a major priority for the CLF.

OUR POSITION:

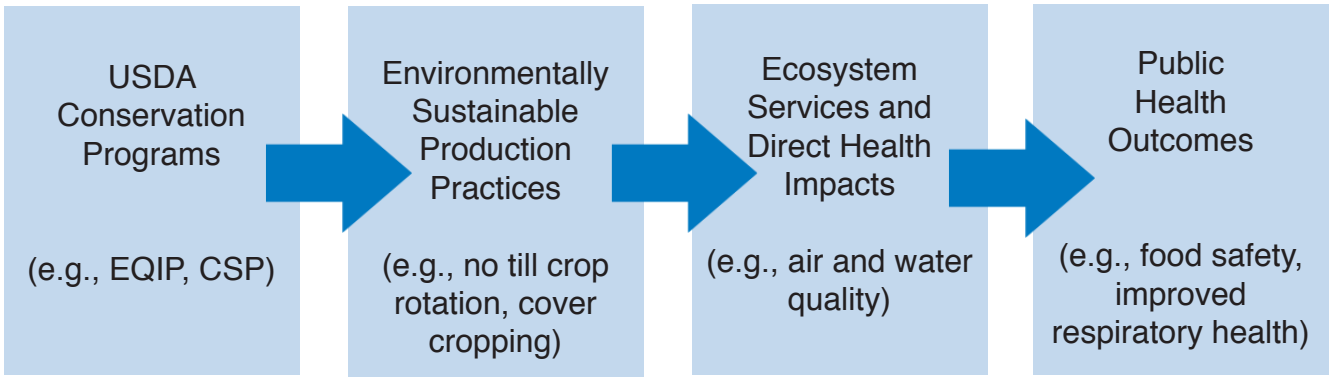
The Johns Hopkins Center for a Livable Future supports continued and increased funding for Farm Bill working lands conservation programs, and opposes setting aside funds in the EQIP program for livestock production.

Introduction

Farmers provide much more than just food for our plates. Agriculture is a key factor in what are known as "ecosystem services," which include water, air, and soil quality, pollination, carbon sequestration, nutrient cycling, and the conservation of biodiversity.[1] These services are vital to both the environment and human health, and have real economic value. Unfortunately, today's industrial agriculture is associated with many negative implications for both ecosystem services and the public's health.[2,3] When farmers engage in good stewardship and implement conservation and sustainable practices, they strengthen the capacity of their farms to provide ecosystem services.

Farm Bill conservation funding helps farmers adopt, expand, and continue conservation practices, often benefiting their farms' short and long-term productivity and providing ecosystem services for all. Preserving and expanding conservation funding is an important priority in protecting the public's health.

Public Health Implications of Conservation Programs and Sustainable Production Practices



What Are Working Lands Conservation Programs and How Do They Operate?

Conservation programs address various environmental goals, ranging from watershed and wetlands preservation to wildlife, soil, water, and air quality management. These environmental goals have significant implications for public health. Conservation programs may also target land that is particularly vulnerable or all the land on a farm. Unlike with commodity programs, farmers enrolled in conservation programs do not need to be producing a specific type of crop to enroll.[4] In fact, in 2001 only half of participants enrolled in conservation programs were producing farm commodities[5] (the most common commodity crops include corn, rice, wheat, soy, and cotton.) Instead of receiving financial support for growing specific crops, farmers are rewarded for good land stewardship.

USDA conservation programs work primarily through three avenues, depending on the program:

1) Providing cost-sharing and payments to farmers who adopt conservation practices on their working farmland.
2) Providing technical assistance to farmers seeking to adopt these practices.
3) Providing incentives to farmers to take environmentally sensitive farmland out of production, also known as "retiring" the land.[4]

Working lands conservation programs focus on the first and second of these strategies, improving agricultural practices on lands currently being farmed. While it is difficult to quantify the overall environmental impacts of the USDA's working lands conservation programs, the USDA's **Conservation Effects Assessment Project (CEAP)** has been working toward providing that data. Current regional reports indicate that conservation programs have successfully reduced nitrogen runoff, as well as sediment, phosphorus and pesticide loss from fields.6.7 Still, there has been a clear indication that a further increase in conservation practices would yield even greater benefits.

Farm Bill Working Lands Conservation Programs

Working lands conservation programs address various environmental goals, ranging from watershed and wetlands preservation to wildlife, soil, water, and air quality management. Programs may either target land that is particularly vulnerable or all land on a farm. Here are three programs of interest:

The Environmental Quality Incentives Program (EQIP)* is the largest voluntary conservation program in the Farm Bill. It provides technical assistance and also allows farmers to create contracts with USDA's Natural Resources Conservation Service to be reimbursed for a portion of the costs of conservation practices. EQIP seeks to address water quality, water conservation, air quality, soil erosion, and wildlife habitat.[8]

The EQIP Organic Initiative was created in the 2008 Farm Bill to help certified organic farmers and farmers transitioning to organic production. Like EQIP overall, the Organic Initiative provides both technical and financial assistance for adopting sustainable practices. Organic production can produce notable public health benefits due to restrictions on the use of synthetic fertilizers, pesticides, and hormones and antibiotics for livestock.[9]

The Conservation Stewardship Program (CSP) goes a step further than EQIP, because rather than reimbursing farmers for a percentage of the estimated cost of installing a practice, it also reimburses them based on actual conservation performance. The CSP provides farmers with financial and technical assistance for new conservation practices, as well as for improving, maintaining, and managing their current practices.[10] It seeks to address soil quality, soil erosion, water quality, water quantity, air quality, plant resources, and animal resources.[11] Additionally, farmers have to enroll all of the eligible acres that they operate into the program, thus preventing farmers from ignoring certain fields while receiving payments for beneficial practices implemented on others.[10,12]

Additionally, the Farm Bill requires farmers receiving funds under other Farm Bill programs to comply with conservation requirements. These protections, which currently cover much of U.S. cropland in commodity production, are threatened if Congress phases out Direct Payments and does not require conservation compliance in order to receive crop insurance. See CLF's brief on **Protecting Environmental Compliance Programs** for further information.

*As currently operated, EQIP can also lead to significant environmental harms. The 2008 Farm Bill orders that EQIP set aside 60% of funds for livestock operations. Often these funds are used to help industrial food animal production facilities comply with environmental regulations while growing even larger.[13] As such, the program allows these facilities to avoid paying the true costs of their environmental impacts. Even if the funds result in facilities complying with regulations they otherwise might evade, they also enable the continued operation and expansion of these facilities, leading to other environmental and public health harms that are not currently regulated.[14]

How Do Agricultural Practices Impact Ecosystem Services and Public Health?

Water is used to excess and inefficiently for irrigation and livestock.

Agriculture accounts for 80 percent of U.S. water use, and over 90 percent in many Western states.[15] Given that at least 36 states are expecting local, regional, or statewide water shortages by 2013, this level of water use for agriculture is quickly becoming unsustainable.[16] Excess water use poses a distinct threat to both farmers and many communities, as well as to future food security – particularly given the prediction that climate change may cause more frequent droughts.[17] Given this, agricultural practices that conserve water serve an important public health function.

Fertilizers, manure, and other agricultural contaminants pollute U.S. rivers, lakes, and groundwater.

Agriculture is the number one source of impairment to streams and rivers,[18] with U.S. farmers using over 20 million tons of fertilizer each year.[19] Agricultural runoff, exacerbated by excess use of these inputs, has been linked to both toxic algal blooms, which can cause serious instances of seafood poisoning,[20] and elevated nitrate in drinking water, which is associated with cancer.[21] Utilizing conservation practices that monitor nutrient levels in the soil and reduce the need for these inputs can improve water quality and in turn help protect the health of aquatic ecosystems and humans alike.

Pesticide use poses direct public health threats to farm workers and consumers.

Every year in the U.S. an estimated 1.1 billion pounds of pesticide active ingredients are used and agricultural workers suffer between 10,000 to 20,000 physician-diagnosed pesticide poisonings.[22] Pesticide exposure has been associated with several types of cancer, as well as neurologic and reproductive health issues.[23,24] Pesticide residues on produce[25,26,27] and pesticide runoff into ground and surface water[28,29,30] can also create sources of exposure, with children being particularly susceptible to negative health effects. Conservation practices that reduce the need for pesticides can also reduce the chance of harmful exposures for both workers and consumers.

Industrial food animal production facilities (IFAP) pollute air and water.

These facilities have been found to emit pollutants such as hydrogen sulfide, ammonia, and volatile organic compounds.[31] Neighbors of these facilities have reported issues with respiratory health, as well as headaches, nausea, and mood disorders.[32,33,34,35] Manure from these facilities can also pollute water and spread contaminants like nitrates, pathogens, and hormones.[36,37] Further, the continued practice of adding low-levels of antibiotics to livestock feed has been linked to the increase in antibiotic resistant bacteria worldwide.[38,39,40] Given the clear negative impacts of IFAP, public health would benefit from more sustainable livestock rearing practices.

Intensive agricultural practices contribute to soil erosion.

Soil erosion– the loss of topsoil due to exposure to wind and water– reduces the productivity of farmland and can degrade water quality from sediment.[41] This decreased productivity and sometimes even loss of farmland pose a significant concern for public health given rising global food insecurity.[42] By one estimate, 30 percent of U.S. farmland has been abandoned over the past 200 years due to soil quality issues.[43] Often farmers will seek to offset lost nutrients through the use of fertilizers.[42] However, as mentioned above, this strategy has public health implications of its own. Conservation practices have a significant impact on the degree of soil erosion that takes place, with practices such as conservation-tilling and cover cropping protecting land from erosion. Accordingly, these practices also hold great importance for food security and public health.

Current practices emit greenhouse gases and use fossil fuel heavily.

According to the EPA, agriculture was responsible for 6.3 percent of total U.S. greenhouse gas emissions in 2009. While that number may seem modest, fertilizer application and other cropping practices accounted for 69 percent of U.S. emissions of nitrous oxide, a powerful greenhouse gas.[44] The U.S. food production system also accounts for 17 percent of the country's fossil fuel use,[2] which is problematic with respect to both climate change and peak oil.[45] With growing evidence of the impacts of climate change on public health,[46,47] conservation practices that reduce emissions from inputs and machinery help preserve both U.S. and global public health.

As illustrated above, poor agricultural practices can negatively impact public health both directly and through their impacts on ecosystem services. Thankfully, sustainable farming practices such as those promoted by USDA conservation programs can help mitigate these threats, among others. For example, practices like crop rotation, cover cropping, no-till and low-till farming, rotational grazing, agroforestry, and nutrient and soil management can help reduce the need for synthetic pesticides and fertilizers, as well as limit water use and greenhouse gas emissions, and preserve healthy soils.[2,3] Additionally, shifts from large industrial animal facilities to more sustainable methods of food animal production can mitigate a variety of environmental threats.

Why Are Farm Bill Working Lands Conservation Programs Needed?

With clear public health and environmental benefits from conservation practices, adoption of conservation programs may seem obvious. Many farmers value the benefits to the environment and to future generations that good stewardship of their lands can provide.[48] However, change can be both challenging and costly.

Some changes to farm practices can yield both environmental benefits and profitability without significant conversion costs, such as crop rotation, conservation tillage, and insect-resistant or herbicide-tolerant plants.[5] In these cases, technical assistance can play an important role in

in encouraging shifts and disseminating best practices.

In other cases, however, the benefits of sustainable practices take some time to manifest. Additionally, some sustainable production practices offer significant benefits to the population as a whole, but provide only minimal economic benefits to an individual farmer because they are expensive or complicated to implement.[3] For example, a farmer looking to switch from more traditional forms of irrigation to subsurface drip irrigation may face upfront costs that are prohibitive.[49] Finally, in certain instances there may be no direct economic benefit to an individual farmer at all.[5]

Given these challenges, Farm Bill conservation program incentives help farmers learn about opportunities and strategies, and meet costs that may be preventing the adoption of more sustainable practices with direct and indirect benefits for the public's health. They also help place real value on ecosystem services that benefit the public's health, the environment, and Americans more generally. The high demand for conservation programs further demonstrates their benefit; several have significant backlogs of applications.[50] The evidence thus suggests that more funding would lead to more conservation, and ultimately better results for the environment and public health.

Conclusion

The public health benefits of USDA conservation programs are clear and should be highlighted in discussions related to the continued funding and direction of programs such as the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP). When successfully implemented, these programs can work to address critical public health concerns ranging from food security[42] and respiratory health[34] to preventable cancers.[21,24] Further, USDA working lands conservation programs have supported thousands of farmers and helped improve millions of acres of land.[51] With the value of these programs so clear to farmers and the public alike, continued support for them should be a priority for both policymakers and public health advocates.

Based on the public health evidence, CLF supports continued and increased funding for Farm Bill working lands conservation programs, and opposes setting aside funds in the EQIP program for livestock production.

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