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How sustainable agriculture can address the environmental and human health harms of industrial agriculture.

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Abstract

The industrial agriculture system consumes fossil fuel, water, and topsoil at unsustainable rates. It contributes to numerous forms of environmental degradation, including air and water pollution, soil depletion, diminishing biodiversity, and fish die-offs. Meat production contributes disproportionately to these problems, in part because feeding grain to livestock to produce meat--instead of feeding it directly to humans--involves a large energy loss, making animal agriculture more resource intensive than other forms of food production. The proliferation of factory-style animal agriculture creates environmental and public health concerns, including pollution from the high concentration of animal wastes and the extensive use of antibiotics, which may compromise their effectiveness in medical use. At the consumption end, animal fat is implicated in many of the chronic degenerative diseases that afflict industrial and newly industrializing societies, particularly cardiovascular disease and some cancers. In terms of human health, both affluent and poor countries could benefit from policies that more equitably distribute high-protein foods. The pesticides used heavily in industrial agriculture are associated with elevated cancer risks for workers and consumers and are coming under greater scrutiny for their links to endocrine disruption and reproductive dysfunction. In this article we outline the environmental and human health problems associated with current food production practices and discuss how these systems could be made more sustainable.

Keywords: sustainable agriculture, industrial agriculture, environmental degradation, human health, animal agr

Full text

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