Olson, Kent D., James Langley, and Earl O. Heady. 1982. "Widespread Adoption of Organic Farming Practices: Estimated Impacts on U.S. Agriculture," Journal of Soil and Water Conservation, vol. 37, no. 1, January-February.

According to a national, interregional linear programming model, widespread adoption of organic farming methods in the United States would increase national net farm income and satisfy domestic demand for agricultural products. However, consumer food costs would increase, export levels would decline, regional shifts in production would occur, and the large reserve of potential crop production would disappear.

Papendick, Robert I., Lloyd F. Elliott, and Robert B. Dahlgren. 1986. "Environmental Consequences of Modern Production Agriculture: How Can Alternative Agriculture Address These Concerns?" American Journal of Alternative Agriculture, vol. 1, no. 1, Winter.

Alternative farming practices, in most cases, will reduce soil loss below the soil loss tolerance value (through cultural practices, such as crop rotation and mulch tillage). Reduced or non-use of manufactured chemicals greatly reduces environmental hazards.

Risch, Stephen J. 1983. "Alternatives to Pesticides: Impediments to Faster Development and Implementation," in Agriculture, Change, and Human Values, R. Haynes and R. Lanier (eds.), University of Florida, Gainesville, vol. 2.

Explores three different issues: (1) the cost-effectiveness of alternative pest control strategies versus chemical techniques, (2) the impact of political economy on research and development of pest control techniques, and (3) the impact of social structure and philosophical framework on the implementation of pest control technologies.

The author concludes that while alternatives to chemicals have been shown to be cost-effective and to yield few environmental and social externalities, he agrees that some pest problems, at least in the short run, must be handled with chemical pesticides. But Risch points out that the number and nature of the cases that are inherently not amenable to alternative solutions cannot be known due to institutional constraints on research and development and implementation.

Thomas, Grant W. 1985. "Environmental Significance of Minimum Tillage," invited paper, Agricultural Chemicals of the Future symposium May 16-19, 1983, Beltsville, Maryland, Rowman and Allanheld: Totowa, New Jersey.

Abstract: Conservation tillage reduces erosion and conserves some water usually lost by evaporation. Its effect on runoff is variable, but at least there is no more runoff, on the average. More herbicides are used as tillage is reduced, but most of these are bound on soil particles. If erosion is reduced, then herbicide loss is reduced as well. The same is true for phosphorus and for total nitrogen, but not for inorganic nitrogen. Nitrate suffers a perceptibly greater loss with reduced