

Conclusion. The three studies we reviewed of the macro-economic consequences of wholesale adoption of alternative agriculture agreed that production costs would rise and set off a variety of other unfavorable economic consequences, except for farmers as a group. The studies disagreed, however, about the severity of the cost increase and the related consequences, Oelhaf (1978) estimating a smaller increase than Olson et al (1982) and CAST (1980). An important reason for Oelhaf's lower estimate is that he expects alternative agriculture to impose a lower yield penalty. Our reading of the literature suggests that Oelhaf's estimate of the penalty is closer to the mark than the estimates of CAST and, especially, Olson et al.

The inelasticity of supply of organic sources of nitrogen, and other nutrients, might contribute to the yield penalty, although this is unclear. Even without a nutrient deficiency yield effect, however, wholesale substitution of organic sources for fertilizer almost surely would tend to sharply increase nutrient costs, with a consequent increase in total production costs. The three studies agreed that conversion to alternative agriculture would increase the amount of land devoted to production. At the time the studies were done there was a general expectation that over the coming several decades demand for cropland would rise, even without a shift to alternative agriculture (e.g. Crosson and Brubaker, 1982). Under those circumstances, the additional demand for cropland implied by such a shift would appear troublesome, both because of increased upward pressure on land prices and because of the likelihood that the additional land would be more erosive. The CAST report did in fact express these concerns.

Current thinking, however, is that over the next 50 years the demand for cropland will decline, perhaps sharply, as the growth of crop yields outpaces the growth of crop demand (USDA, 1987). These yield projections do not reflect a large scale shift to alternative agriculture. If such a shift were