Soil Quality, Profitability and Risk of Conventional and Organic Cropping Systems. (S06-allan092911-Oral)

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Abstract:

Long-term cropping systems trials at Lamberton, MN were established in 1989 to compare different management strategies (high purchased input (HPI), low purchased input (LPI), organic management (ORG) and minimum inputs (MIN)) and two crop rotations (corn-soybean and corn-soybean-oat/alfalfa-alfalfa). Although yields were not as high with the LPI and ORG systems, net returns for 4-yr ORG were not significantly different from 2-yr HPI and 4-yr LPI and HPI using conventional prices, and were significantly higher when historical organic premiums were included. The risk analysis of management system and crop rotation resulted in an outcome similar to the profitability analysis. Likewise, soil quality measures, including aggregate stability, microbial biomass carbon, and nutrient availability indicated that the highest levels of soil quality were obtained in the LPI and 4-yr ORG systems.

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