Economic Comarison of Alternative Agricultural Systems for Soil Quality. (S06-klonsky172802-Oral)

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Abstract:

Results from the 12 year research trial, the Sustainable Agriculture Farming Systems project at the University of California, are compared looking at the costs and resource use of alternative management systems for soils in annual rotations. The four-year rotation is processing tomatoes, safflower, corn, and winter grain and beans double cropped. Organic and low input systems include annual oat/vetch cover crops grown during the fall, winter and spring preceding planting. Manure is added to the tomato crop in the organic system. Two conventional systems rely on synthetic fertilizers and leave the ground fallow in the fall and winter. The costs of soil management, labor hours, fuel and materials use are compared for each crop and each system. For all crops the cover crop systems are higher users of labor and fuel than the conventional systems. Soil management costs vary significantly by crop. For tomatoes, the cost of the cover crop is comparable to the cost of synthetic fertilizer. For corn, the cost of using synthetic fertilizer is higher than growing a cover crop and for safflower the cost of fertilization for the conventional systems is lower than for the cover crop systems.

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