Implications of Conservation Weed Management Practices on Soil Characteristics, Weed Control, and Crop Production. (S06-locke162948-Oral)

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Abstract:

Field studies assessed the effects of conservation tillage, cover crops, and rotation in the Mississippi Delta on soil properties, weed management and yield in cotton, soybean, and corn. These studies show that under reduced tillage, organic matter and microbial activity increased in the soil surface, and nitrate levels increased under leguminous cover crops. Rotation of cotton with corn under reduced tillage enhanced yield of both crops as compared with mono-crop systems. In field trials established on a growers farm, plots with reseeding balansa clover provided some weed control, but only marginal yield benefit in cotton production. In studies assessing effects of cover crops on soybean, weed control and yield from crimson clover plots showed greater weed pressure and lower yields compared to plots with no cover crop. Cotton and soybean yields under dryland no-tillage management tended to be either equal to or lower than in conventional tillage, but lower yields may be offset by fewer inputs for tillage operations. Conservation tillage has potential for establishment of perennial weeds and may require a higher level of weed management.

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