

Proceedings of the

21st Annual Southern
Conservation Tillage Conference
for Sustainable Agriculture

North Little Rock, Arkansas
July 15-17, 1998

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Foreword

Conservation tillage, especially no-till, gained greater acceptance during the decades of the 1960s and 1970s. This acceptance coincided with the availability of herbicides that could substitute for mechanical cultivation for weed control. Highly erodible locations were usually the first to implement conservation practices.

Conservation tillage generally reduces erosion, conserves energy costs associated with tillage operations and modifies soil-water relationships. Conservation tillage often requires greater herbicide use to obtain acceptable weed control. Under reduced tillage scenarios, applied lime and fertilizer tend to concentrate in the surface few inches of soil. Greater capture of rainfall and fast transmission of water via large pores to greater depths may pose an increased potential for ground water contamination with pesticides and nitrates. In some cases, continual cropping without mechanical tillage has resulted in increased surface soil compaction.

Conservation tillage issues that evolved during the 1980s included effective herbicide and fertilizer use, proper soil sampling techniques, insect and disease management, crop residue management, soil-water relations, surface and ground water protection and profitability of crop production. Numerous production problems have been addressed, and various solutions are being tested. As conservation technology improves, its acceptance continues to increase.

During the 1990s, as much as 35% of the crop land in the United States is being farmed with some kind of conservation tillage practice. The advent of bioengineering of herbicide-resistant crops has made weed control in conservation tillage easier. With adaptation of conservation tillage, equipment that addresses various problems that occur when using conservation tillage has been developed in farm shops and then been offered commercially by equipment companies.

The 1998 conference theme, "MEETING THE CHALLENGES" was chosen for its focus on removing the barriers of further adaptation of conservation tillage while sustaining that which is in place. To be sustainable requires that a balance among profitable agriculture production, socially acceptable practices and environmentally sound practices be achieved. The 1998 conservation tillage conference continues to provide a communication link among various agencies and personnel interested in improved natural resource management. We here at the University of Arkansas appreciate the opportunity to host this annual conference and to facilitate the adaptation of conservation tillage technology.

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