Strip-Till and No-Till Demonstrations In North Alabama, 1985 to 1988

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Abstract

Cotton has been successfully grown with conservation tillage in small-plot research in North Alabama, however, farmer adoption of this practice has been slow. This may be due in –part to traditional attitudes about clean-farming and previous failed attempts by some innovators. In 1985, an intensive program of reduced-tillage cotton demonstrations was begun to: 1) Demonstrate application of successful small-plot results to producers on a field-sized (5-20 A) basis, and 2) Test and refine emerging technology for practical on-farm use. Thirty-three on-farm demonstrations utilizing several types of residue and planting techniques were conducted from 1985 to 1988. Generally, demonstrations on "red-land" (deep clay-loam soils), have met with limited success. Economical weed control has been difficult to attain on many of these fields because of limited rotation, and resulting buildup of weeds resistant to the limited selection of herbicides available. Surface compaction, seedling diseases, and problems with applying any corrective in-row tillage have all contributed to a lack of clear benefit, and some yield reductions from conservation tillage on these soils. Results on "Sand Mountain" soils (shallow sandy-loam), have been much more promising. Increased moisture conservation and availability on these soils (with low inherent moisture-holding capacities), resulting from the use of in-row subsoiling and other minimum-till methods, has consistently resulted in better late-summer growth, and production of 50-150 #/A more lint over conventional tillage. Areas still needing to be addressed include consistent and economical weed control, the need for deep tillage and cultivation on particular soils, and seedling disease control.

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