

Conservation tillage processing tomato and cotton production in California's San Joaquin Valley. (A08-mitchell165909-Oral)

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Abstract:

While conservation tillage (CT) is currently not widely used in California, several studies are now underway throughout the State to explore cropping systems options for reducing tillage. In the fall of 1999, we established a 3.2 hectare field experiment comparing CT and standard tillage (ST) cotton and tomato production systems with and without winter cover crops in Five Points, CA. Data from the second year of the study indicate that tomato yields in the CT with and without cover crop systems were similar to those in the ST plots, with an elimination of six operations following the previous year's cotton crop in the CT plots relative to the ST systems. 2001 cotton yields, however, were reduced 11% and 18% in the CT - cover crop and CT + cover crop systems, respectively, relative to the ST control system, however, there was an elimination of 8 or 9 tillage operations in the CT systems relative to the ST approach following the 2002 tomato crop. This study is the first of its kind in California to systematically compare tillage system alternatives through a crop rotation.

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