

Comparison of Conventional Tillage with Strip-tillage, Twin-Row, Ultra-narrow and No-till Cotton Seeding, UC-Davis West Side Research and Extension Center, Five Points, CA (Ongoing)

In an 8-acre replicated field study at the UC West Side Research and Extension Center in Five Points, CA, we are evaluating a number of CT approaches within cotton – tomato rotation. Yields of the strip-till established cotton in 2005 and 2007 were statistically not different from those of the conventionally-tilled system (Table 1). In the strip-till system, the only tractor operations that were employed following tomato harvest were a winter herbicide spray and the strip-tillage pass prior to cotton seeding. In the conventional system, three passes of a minimum tillage bed conditioning implement were used prior to cotton seeding. This study represents the first site in CA where strip-till cotton has been evaluated and attempted. It demonstrates the ability to effectively establish and produce cotton using strip-tillage within a 60” bed configuration, however, when this is done, the strip-tillage implement tends to degrade or break down the bed shoulders and put soil into the furrow areas which can present problems under furrow irrigation. Unfortunately, due to water shortages in 2009, we were not able to plant cotton in that season. We expect to restart this study in 2010 pending water availability. Bottom line: Strip-till cotton is possible and potentially cheaper than conventional tillage cotton production. To date, however, other than one attempt in 2008 in Corcoran, CA that we helped with and that the Orthman 1-tRIPr was used, there has been no commercialization of strip-till cotton underway in the Central Valley. This demonstration in Corcoran, however, was a success with the farmer achieving satisfactory yields.



Figure 1. Cotton near Five Points, Calif. Strip-tilled with Orthman 1tRIPr

Tillage System	Lbs lint cotton / ac (2005)	Lbs lint cotton / ac (2007)
Standard tillage	1432	1864
Narrow row twin seeding	1360	1861
No-tillage	1415	1881
Strip-tillage	1400	1814
Ultra Narrow row	1361	---