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Low-till agriculture gets its day in California

Area farmer says practice melds economy with soil conservation.

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Central Valley farmers are slowly getting hip to the idea that tilling land before planting seeds may not always be necessary.

Conservation tillage has long been in vogue in places such as the Midwest and South America. Now in California, leaving land undisturbed between planting and harvesting cycles has started to catch on.

Advocates say conservation tillage is an array of practices aimed not only at saving farmers money, but also enriching the soil and improving air quality.

In 2010, Valley farmers used conservation tillage practices on 14 percent of crops surveyed, according to a University of California study. That's up from about 10 percent in 2008.

Between 2008 and 2010, Central Valley farmers switched to conservation tillage on nearly 1 million acres used to grow row crops such as corn and wheat silage, according to Sustainable Conservation, a nonprofit located in the Central Valley. That's more than 1,500 square miles and represents nearly 15 percent of all row-crop acreage in California. From 2004 to 2010, conservation tillage practices rose 24 percent for all silage corn acreage in the San Joaquin Valley.

"There has been a definite trend towards greater use of these systems, especially for crops like corn that readily lends itself to these practices," said Jeff Mitchell, agricultural scientist with UC Davis.

For California farmers, the decision whether to adopt conservation tillage isn't always a clear one.

"The reason people did it back (East) is soil erosion," Mitchell said. "You can't tolerate soil loss where there are rolling hills."

Conservation tillage techniques that allow the previous year's stalks and roots to naturally decompose in the field, creating a hardy layer of topsoil that doesn't blow away in the wind.

But that's not as big of a concern in the relatively flat Central Valley. In California, traditional tillage practices that rip up and turn over land are a relatively inexpensive way to prepare soil for the planting season.

Michael Crowell, 69, said he was "skeptical" when a Bay Area company first offered its services to help him transition his corn and grain fields to conservation tillage. "But I said 'come in and do 20 acres and we'll just see what it looks like,' " he said.

Six years later, the 69-year-old dairy farmer in Turlock uses conservation tillage techniques on every acre of his farm. "It reduces the amount of equipment that you need to have to operate," he said. "It also reduces the amount of fuel required to plant a crop. And it requires less labor because you're not running as much equipment to get the job done."

Crowell said there are tradeoffs. For example, with conservation tillage, crops have to be dry when harvested -- otherwise the ground becomes too compacted and nutrient levels have to be measured closely.

However, he said conservation tillage not only saves him money, it also improves the health of his soil. He recently returned from a conservation tillage convention in St. Louis. He said many farmers he met there have been able to significantly reduce their use of nitrogen and other fertilizers because of the their soil quality.

"Once you start this, you don't want to destroy the ecology, the soil structure, the organization that's down there as far as bacteria and enzymes that are working in the soil," he said. "We look at this dirt and we just think we're standing on dirt. No. You go out in that field and that dirt is a living organism. It's just alive. There are earthworms everywhere. And on tilled fields show me that. You just don't see it."

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