

### Strip-Till Success

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There are, unfortunately, no silver bullets when it comes to clamping the lid on ever-rising fuel, fertilizer and other crop input costs. But the May brothers believe they<sup>1</sup>ve found at least a partial answer on their east central Colorado farm: strip-till.

Brothers Tom, Jim, Dan and Steve, who operate 4-M Feeders south of Stratton, run a 12-row Orthman "1tRIPr" one-pass tillage tool across their corn and sunflower acreage. With sunflower, they sometimes take this seedbed preparation efficiency a big step further - using a planter attachment package to hook up their JD MaxEmerge behind the 1tRIPr in order to till and plant in a single pass. Along with conserving critical soil moisture, the system provides significant savings in fuel, tractor wear and manpower - and likewise optimizes fertilizer placement.

Like many High Plains producers, the Mays have been trending toward no-till across much of their Kit Carson County acreage - with added impetus delivered by the drought that has impacted the region the past several years. The moisture-conserving benefits of no-till are well documented; but they believed a strip-till program could be a way of improving seedbed quality and fertilizer placement while simultaneously retaining soil moisture and inter-row residue protection.

The Mays have been strip-tilling for five years, initially on ground going into corn. They<sup>1</sup>ve occasionally strip-tilled upcoming corn fields in the fall; however, the busy corn and sunflower harvest seasons, coupled with the demands of their cattle operation, don<sup>1</sup>t always leave adequate time to accomplish the task. More typically, they<sup>1</sup>ll run the 1tRIPr across the corn ground in early spring, about a month ahead of planting. On sunflower, since the crop is planted later in the spring when soils are warmer, "I can tie the 1tRIPr and planter together," Tom explains.

The 1tRIPr features depth band coulters followed by notched trash openers to manage crop residue. The tillage shank is flanked by adjustable wavy coulters that incorporate the residue and then firm and finish the seedbed. The worked zone width is about eight inches, Tom says. (Orthman also offers optional rolling baskets to break up any remaining clods and further firm the soil; but the Mays don<sup>1</sup>t employ baskets on their unit.)

The Mays utilize their 1tRIPr on both irrigated and dryland fields. Since there's less crop residue on dryland, Tom says he'll sometimes remove the trash openers and go with just the shank. "I usually run it four to six inches deep; but you can go pretty low if you want to break up some hardpan," he observes.

He has also, on occasion, placed the trash openers at the front of the planter. "It all depends on the ground conditions," he notes.

May pulls an anhydrous tank when operating the 1tRIPr on corn ground and irrigated sunflower fields. For dryland sunflower, he'll go with liquid nitrogen due to seed safety concerns. The seed row is offset slightly from the tillage/fertilizer shank.

His fertilizer blend includes some deep-placed phosphorus. Because he's banding, "we're able to get by with less fertilizer since it's placed in the best possible location - below the seed," Tom affirms. "With fertilizer prices the way they are, efficiency is huge. You have to put it where you can utilize every bit."

The strip-till approach has simplified sunflower production for the May brothers, Tom attests - all the while maintaining and even enhancing yields and quality. They currently raise only confection 'flowers, with about half the acreage under center pivots. "We shoot for a 2,500-pound yield on irrigated sunflower and have pushed above 3,000," Tom indicates. The moisture conservation aspect of strip tilling has helped them attain ton-plus dryland confections, though yields in the mid- to upper-teens are more typical.

The traditional May dryland rotation has been wheat-corn-sunflower; but given the multi-year drought impacting the area, Tom attests that "you just have to play the weather game" when it comes to cropping sequence. They'll commonly fallow acres coming out of dryland 'flowers. On irrigated ground, "we'll either go with corn behind the sunflower or take the 'flowers out and put in wheat."

Weed control in sunflower on the May farm consists of a preplant glyphosate burndown, followed by Spartan - and, if needed, a grass herbicide (sometimes tank-mixed with the Spartan). Though they obviously try to avoid in-season cultivation, "if you don't have good control once those 'flowers are up, you may as well get out the cultivator," Tom states. "We have had situations where moisture conditions didn't allow the Spartan to work."

Are there any problems associated with their strip-till program? Tom says he's experienced just one thus far, stemming from running the shanks in excessively wet soils. "When we first started strip-tilling, we had two 1tRIPs and ran three 12-row planters," he recalls. "We were in dryland stubble ground, and it was one of those years where it used to rain in the spring." Brother Steve was planting corn where the field had been strip-tilled previously, while Tom and Jim were tilling and planting simultaneously. "Steve was planting at least two days before we could run," Tom reports, since the shanks of the two 1tRIPs he and Jim were operating were pulling up muddy soil right ahead of their planters. Since then, as noted previously, they've gone to running the 1tRIP a few weeks ahead of the planter on corn ground.

"What I like about the 1tRIP is the seedbed preparation," May concludes. "It's a beautiful seedbed to plant into when [soil] conditions are ideal." Those 'ideal' conditions are, he adds, more likely to exist during the sunflower planting season compared to corn. "With sunflower tilling and planting being a bit later in the spring, I can usually get by and do a good job with 'flowers. And it's really ideal when the 1tRIPs and planter are tied together." - Don Lilleboe