

Twin Row Success

Research Shows Yield, Other Benefits In Twin Row Soybeans

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“I’m convinced twin row in soybeans is just the way to go,” said George Rea Walker Jr., Mississippi farmer whose grandfather started the Stoneville Pedigree Seed Company in 1922. “We just know we’re getting a minimum of 5 bushels increase on twin-row soybeans vs a single row.”

Walker began experimenting with twin row in soybeans about nine year ago.

“Since all of our land is mostly sandy soils – what we call furrow irrigation, land leveled – we know that we need a 38-inch row to irrigate,” he explained. “If we start to get it too narrow, we can’t irrigate it, and we knew that we needed to narrow the row; so the only way you can plant a 30-inch row in sandy soils and use furrow irrigation is to go two rows on one, and that’s why we began doing it.”

After trying it with soybeans he decided to try it with corn. He noticed a few more problems with corn.

“You have to have the row just right because you’ve got to have a real uniform stand of corn,” he said. “These rows want to wash off a little bit on the sides and if you don’t have a real flat row then you lose the effect of the double row. We’ve had a lot of mixed results with twin row corn vs single row corn, yield wise.”

He pointed to a field that included a test on two different varieties. One variety showed an increase and one variety didn’t, twin row vs single, and there’s been a lot of mixed results with it.

“I’m not convinced in my mind today that it’s making us a lot of money,” Walker said. “We do know it is a money maker for soybeans, but then when you get into changing from corn to soybeans and having different planters the situation changes.”

Walker works closely with the people at the experiment station on other trials.

“Wayne Ebelhar is the fertilizer man, and we’ve had this replicated test on the farm,” he said. “The test is in its fourth year looking at different plant populations and different fertilizer amounts.”

Ebelhar wants three years of data on the test, but one year the test was lost because the hurricane laid it all down.

“We weren’t able to harvest it,” Walker explained. “Ebelhar’s published data will include different plant populations, and different fertilizer amounts with the different plant populations. We feel pretty sure what is best, but on this thing of double vs single row we think it really is going to be varietal. We know certain varieties and different plant populations can do better than others under double row.”

One thing already learned is populations of 34,000 to 37,000 plants are needed to get maximum yields.

“We plant maybe five percent more than that,” he said. “We like to think that if we want 36,000 plants we need to plant 37,000 seeds. If we can keep the plant population up and not have it lodge, that is better. When we start getting over 32,000 plants single row we get more lodging. Last year in our test the double row stood up while the single row fell down so the double row yielded more.”

With twin row, planting is on beds, with furrows 38” apart to allow for irrigating every row. The furrow every 38” allows for the water to run through between the beds. The furrows are not very wide as planting is done 9 inches apart. Then several inches are needed on either side of that. So there’s probably 15, 16 inches of flat ground and then back down and up. One problem is the sandy soils wash together so much.

“The edges seem to wash off,” Walker added. “If you plant on the side of the row, then you’re going to lose stand and then you negated the effects of the double twin row. Then either you have to roll this land or run an additional implement to flatten it out so it’s uniform and flat and firm to be able to get the right stands with double row.”

To further illustrate, the corn is planted in twin rows 9 inches apart, then as much space as possible is needed because there has to be room so the planter does not weave, even a little. It has to stay up on the flat part of that row.

“We’re trying to keep a minimum of 2 to 4 inches,” Walker said. “It’s hard to get much more than that when you have four 20” tractor tires pushing down the sides of it. That’s another problem, so we’re only dealing with about that much room before the tractor tire pushes the side off.”

Walker used an eight row Monosem planter, however next year he plans to go to 12-row.

“I guess we’re the first ones to have Monosem planters in this area and they’ve really sold a lot of them because nobody else is making a planter to do what that planter will do,” he said. “We try to stagger the plants on that double row.”

The plants are staggered, with plants nine inches apart in each row, but the parallel row plants are planted in between those nine inches.

Inputs for the two systems are basically the same except for the extra preparation. With a

single row you can harrow it and planting is simple, but with double row you must have the row flat or you will lose your stand.

“Twin row does require one more application of some ground machine for us,” Walker said. “Just a regular harrow will not get that row flat enough and firm enough for us to plant.”

On Walker’s 5,000 acres he tries to plant a 50/50 rotation between corn and soybeans.

“I like to think it’s 50/50, we may skew that a little bit depending on prices, make it 60/40, but yes the best is that 50/50 rotation,” he said.

“It’s little things like these metal shields that make a difference. With twin row, if you don’t put metal shields inside of the row dividers on the corn header it will absolutely eat them up in two weeks time.”



Experimenting with twin row in soybeans began for Walker about nine years ago who knows they are getting a minimum of 5 bushels increase. Photo By John LaRose

Walker pointed to the shields he made and fastened on his corn header to protect the equipment from the abrasive sandy soil. “With double-row corn if you don’t put those on there it’ll wear that plastic out in just three or four days,” he says. He made the shields out of a piece of thin hardened metal. “It’s not expensive, but it’s something you have to do, as our sandy soils are very abrasive. Down next to the ground is a lot of soil material and grit left on that stalk and it’ll just absolutely eat up metal or plastic. We get more wear than the average farmer in some parts of the world, even with changing everything on the cornheader, because of the sand.”

Walker has been farming all his life in Stoneville on the banks of Deer Creek which is famous for some of the best soils in the world. Though he’s in cotton country, Walker took cotton out of the rotation because of economics.

As a seed man himself, he is quick to point out that some varieties are good and some varieties aren’t.

“I grew up when we didn’t release varieties unless they had been tested for three years,” he said. “Most seed companies nowadays are throwing out varieties that hadn’t been tested and letting the farmers test them, and as a result you have to do your own testing on a small scale to decide what’s best for you.”

Walker uses an even split between Pioneer and DeKalb varieties.

“We may be a little bit high on Asgrow varieties which is owned by Monsanto vs Pioneer on soybeans, but we’re higher on Pioneer varieties of corn,” he said. “There’s some others that we grow but those are generally the main ones.”

His five-year running average on yields is 75 bushels of soybeans and 200-plus bushels of corn on the sandiest soils. That represents an increase of 50 bushels in corn and 60 in soybeans since he began farming.

“We have seen our yields constantly climb over the years, because we’ve seen organic matter content go up in this soil about .1 percent every three years,” he noted. “That’s in these fields where we were previously just cotton, cotton, cotton wearing the soil out. A lot of our sandy soils organic matter was .4 percent, .5 percent, .6 percent when we raised cotton. Now our lowest is about .6 or .7 up to .8, .9, so this has increased the organic matter .2 percent or .3 percent. Really it’s been the big advantage on non-irrigated lands.

“We have reduced our total phosphorus and potassium level needs by one-half by variable rate application. That has been a big, big thing to us. By leveling out these phosphorus, potassium levels and increasing organic matter, that is just constantly pushing the yields up and this is not a short term thing. We see it as a long term situation that’s really paying off.” Δ