Precision *Water* Control

Irrigation Saves The Day During Hot Summer Months

(Third Part Of A Four-Part Series On Triple G Farms Of Arlington, Ky., Operated By Darren Grogan, His Father, Bobby, And Younger Brother, Brian.)

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ARLINGTON, KY.

One very interesting facet of the operation of Triple G Farms is the center pivot irrigation system located in the very fields that have been tiled, as well as some upland fields.

"We put in our first irrigation pivot back in 2001 and we immediately saw the benefits of irrigation," said Darren. That first pivot, placed on rolling hills, covered a span of 135 acres. "We have two problems in our geographic area: We have an abundance of water but the water is deep; we also have a sand formation requiring special pumps to remove enough water per minute to satisfy an irrigation system. When you put that in you've got an expensive well. The other limiting factor is our field size and shape. We're looking at a well cost of around $40,000."

That cost is just to install the well. It doesn't matter how many acres are to be watered. When they dug the first well they considered just the minimum quarter section pivot which was a water machine for 135 acres. The pivot was 1,300 foot long, so it covered a 2,600 foot circle.

"In West Kentucky it's hard to find a field that doesn't have a telephone pole or road, some kind of barrier within that circle," he said. "So the next two or three years we put in two more pivots. Then we had three circles, and we never looked back from that point. We felt our irrigation was a key profit center of our operation. This last year we thought we had a couple of more possibilities for irrigation, but largely that was going to be about it. Then along came $6, $7 corn and $13 soybeans, so now the rules have changed. We're currently putting in four more systems. We would like to put in seven or eight, but we don't feel we can get the work done before spring. We will put in three, four, maybe five more next year."

This is the one project not done in house. An outside contractor is setting up the irrigation system. The irrigation is being put in the bottom fields that are already tiled. The tiling helps remove the moisture in early spring allowing for planting; and the irrigation adds moisture during the hot, dry months of July and August.

"Just like precision ag, it took us three or four years to get our management practices in place, to learn irrigation so we could get the most out of it," Darren said. "The first years with corn we were seeing probably a 40 to 50 bushel yield increase, and we were tickled to death with that. We have since learned how to do 80 bushel. When we first irrigated these hills we were looking at 190-200 bushel corn yields, which was very good. Dryland we were in the 140 bushel range. We have since started pumping nitrogen and fertigating through the pivot and we have adjusted our populations to get optimum yields. Now we are seeing 230 to 245 bushel yields on corn under irrigation."

On the fields that are tiled and irrigated, Darren sees little difference.

"I think there could be some, but irrigation seems to level the playing field," he said. "Some fields need to be drained and others don't, but once they're drained, the drained fields really are comparable to the fields that don't need to be drained."

The bottoms that are tiled will do 200 bushel dryland for the most part.

"This past year we had some dry ground," he explained. "We had a dry summer, it didn't get dry until later and we were still running 200 to 215 bushel on tiled bottoms. Under irrigation, we would have been looking at 235 to 245 bushel averages. We can see as high as 280 or 290 bushel averages in the tiled bottoms that are irrigated. The tile, without irrigation, does not do it alone."

Some may think a field can be over-tiled, and that will hurt the yield in a dry year. Grogan said that's not the case.

"Anything that is wet enough to be tiled, in this area with our summers the way they are, that doesn't eliminate the need for irrigation," he said.

Darren said when they first irrigated the hills they had 190-220 bushel corn yields. Since they started pumping nitrogen and fertigating through the pivot they are now seeing 230 to 245 bushel corn yield.

As the newest irrigation systems are installed, Triple G Farms will have seven systems in place, covering 1,000 acres. There also are future plans to add more, all center pivot.

All in all, Grogan said tiling is more important than irrigation in the wettest fields.

"Of the two, if a person had the need for tile and was considering irrigation, I would push them to tile," he said. "Tile makes more money than irrigation. It has a faster payout. It is less of an investment, you'll see a similar yield response if the ground does truly need to be tiled, and there is no operational cost."

Once the tile is installed there's some general maintenance on outlets, but no further big investments.

While the acres that have tiling and irrigation are being rotated, Grogan is thinking about going to continuous corn.

"We are considering it," he said. "The reason we haven't is it's going to be interesting to see what wheat does. We cannot add a tremendous amount of yield to an early soybean with irrigation. You can add some, but not enough to justify the cost of a pivot."

Darren feels he can be more efficient and achieve bigger yields in his operation with a corn crop.

"Absolutely! With one wrench in that. We can add a tremendous amount of yield to a double-crop soybean, that's why we have stayed with a corn/soybean rotation. We grow wheat under our pivots, then the double-crop soybeans make 60 bushels to the acre, whereas we would be looking at 35-bushel full-season beans." Δ

(Watch next week's paper for the fourth and final installment of this series.)

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