MY EXPERIENCE WITH THE ECONOMICS OF SKIP-ROW Keith Morton, Producer Tippah County, Mississippi

<u>Abstract</u>

There is nothing about skip-row cotton I do not like. Skip-row cotton has made my cotton farm more profitable.

I started farming in 1990. My current age is 33. My wife, Beth, and I operate Morton Farms, Inc. near Falkner in Northeast Mississippi. Falkner is in Tippah County and is about ten miles north of the county seat, Ripley. We grow 1,000 acres of non-irrigated cotton and soybeans. Our maximum cotton acreage since the shift to skip-row cotton was 550. Our 2004 cotton acreage was 340 because of the price of soybeans relative to the price of cotton (all acreage and yield numbers in this paper are on a land acre basis).

Our yield in 1995, the tobacco budworm year, was 164 pounds of lint per acre. We went ultra-conservative in 1996, cutting back on practically all inputs, and Mother Nature tricked us with a yield of 854. Similar production practices resulted in yields of 605, 507, and 360 in 1997-1999. We were experiencing severe financial problems that had to be solved or we were "out of farming." For the first time we seriously turned to Mississippi State University for help. We obtained assistance from Mississippi Agricultural and Forestry Experiment Station researchers and specialists from the Mississippi Cooperative Extension Service. Both groups pointed out that considerable expertise was also available from other farmers and representatives of the various companies that supply inputs to farmers. All agreed that we must improve the profitability of our farming operation.

It was noted that harvest was our most costly operation. We learned that a skip-row planting pattern would reduce harvest cost per acre. We learned that (on average) the direct cost of an $8R-38" \ 2 \ x \ 1$ system of production was \$422.09 per acre versus \$485.09 for an 8R-38" solid production system, a saving of \$63.54 per acre or 13%. Fixed cost (8R-38" solid versus $8R-38" \ 2 \ x \ 1$) was reduced by \$19.88 per acre, from \$83.91 to \$64.03 or 24%. We also learned that fixed costs per acre are based on many assumptions (like annual hours of use) and that calculated fixed cost savings per acre are difficult to capture unless farm size is increased (acres are added).

We learned that the direct cost of an 8R no-till system of production was \$455.03 per acre, a savings of \$30.06 or 6% over a production system based on conventional tillage practices. Fixed cost (8R no-till versus 8R conventional tillage) was reduced by \$21.66 or 26%.

Unfortunately we were to learn that there was no silver bullet or no quick fix to our economic difficulties. My MSU economist pointed out that if there was a silver bullet all cotton growers would produce 2+ bales per acre and the price of cotton lint would be less than \$0.30 per pound of lint. We were encouraged to select a system of production based on wider equipment and fewer trips-over-the-field. We learned that the SYSTEM was the solution. We also learned that the solution to our economic problems was not simply a less expensive system of production based on wider equipment (faster and cheaper per acre) and fewer trips-over-the-field. We were taught that we had to learn to be more timely with our herbicide, insecticide, and defoliation materials. We learned that plant growth regulators can be used to enhance yield and not simply to correct for past early season mistakes. We learned we could improve our lime and fertility programs. We were encouraged to turn our marketing over to Staplcotn and concentrate on production practices. The bottom line is that we changed our planting pattern, modified the spacing between our picker headers and much, much more. We began to understand that while the system is the solution, profits require careful and timely attention to all details. We settled on a no-till system of production based on 38" 2 x 1 narrow skip (64" skip instead of a full skip of 76") for the 2000 season. This reduced our direct costs per acre for harvest from an estimated \$19.11 to \$13.37, a savings of \$5.74 or 30%. An acre of 38" solid has 13,756 linear feet of row per acre. An acre of 38" 2 x 1 narrow skip has 10,052 – a reduction of 27%. The costs of all inputs applied down the row were reduced by 27%. Harvesting costs were reduced by more than 27% since all skips are not covered by the picker or "harvested."

We converted our four-row picker from 38" solid to $38" 2 \times 1$ narrow-skip. Lack of funds limited our immediate shift to an 8R-38" 2x1 planter (8 rows planted). Our eight-row planter was converted to plant only six rows of the new pattern. Therefore, the picker was further modified so that one pair of heads could be adjusted from the picker cab up to eight inches (four inches to the left or right).

In 2000, our cotton yield was 780 pounds of lint per acre and improved to 850, 909, and 914 in 2001-2003.

Basically our production practices are:

- 1. Custom fertilize in fall or spring.
- 2. Burndown (tractor mounted sprayer or by air, if ground application is not timely).
- 3. Plant with Temik and fungicide and Cotoran applied broadcast.
- 4. At third leaf, Roundup plus $\frac{1}{2}$ rate or 0.6 ounces of Staple with 60' boom.
- 5. At first square Orthene for plant bugs.
- 6. Hooded sprayer MSMA plus Caparol.
- 7. Defoliate.
- 8. Harvest.

I scout for weed and insect pests. My current approach to both types of pests is to plan to treat and scout for a reason not to treat. Occasionally individual fields (or parts of fields) require additional herbicide or insecticide applications. Since I do all of my spraying, treating part of my fields and only selected portions of certain fields is no big deal. We noticed that fuel expenses were reduced much more than 27% due to fewer trips-over-the-field and repairs and maintenance were reduced considerably more than 27% because of fewer hours of annual use per power unit. We dropped our full-time help. Previously we used a full-time employee plus part-time help at planting and at harvest. Currently we have no full-time help and employ one part-time worker only at harvest.

Excluding ginning costs (which have increased with yield) direct cost per acre has been reduced an average of more than \$85 per acre over the past four crops. We have reduced the number of tractors from three to two, and one is devoted to spraying until it is needed at harvest. Our cotton harvest requires two tractors to support the boll buggy and module builder.

We added variable rate lime this fall and plan to add variable rate fertilizer this spring. We plan to add corn to our rotation. We will expand the planter from six rows planted to eight, ten, or 12 rows planted after we settle on a row spacing which will allow the tractors, picker, and combine to utilize the same traffic rows and will not reduce profitability. I lean to 50", 54", or 60" solid planted cotton, but am concerned with the yield risk. My researcher leans toward 30" 2×1 full-skip because of his experience with Jimmy Hargett in West Tennessee and Ricky Lee in the South Mississippi Delta and the cotton yield increase due to the corn rotation.

The seed industry decision to price cotton planting seed by the seed and not by the pound and the high price associated with the elite lines of genetically modified cotton planting seed means that we must replace our current planter. We need a modern planter that will produce a uniform seed drop rate at a low number of seed per foot.

Before the switch to skip-row and real profitability, we had 27 landlords, were spread (north to south) 35 miles with 28 highway miles and had to deal with a railroad underpass in Ripley that would not accommodate most of our equipment. With profitability, all our current acreage is north of Ripley, the number of landlords has been reduced to nine, and the north-south spread is now eight miles with less than four highway miles. Before profitability we owned (were making payments on) only 100 acres of land, with profitability we have added 569 acres of cropland so that currently less than 50% of our acreage is rented.

Summary: To date there is nothing about skip-row cotton I do not like. Unless it is the difficulty of selecting a row spacing for the rotation crops and we will become more efficient in that area. Skip-row cotton has made my cotton farm more profitable. Clearly some of the improvement is due to an improved level of management and some to Monsanto's genetically modified seed technology. Both are parts of my skip-row production system [Although the variety that has proven to be the most successful on my farm is FiberMax 966 conventional]. We now know that while the **SYSTEM** is the solution, profits require careful and timely attention to **ALL** the details after the flexible system has been identified.