

### Thompson Cropping System Analysis

**Richard and Sharon Thompson**, near Boone, also use a five-year rotation, but unlike Jeff Klinge and Deb Tidwell, they do not sell organic crops. They rely on above-average yields and the integration of the cropping and livestock enterprises to achieve consistently greater profitability than the cash-grain, corn-soybean rotation typical of central Iowa. This integration includes the "sale," at market prices, of significant amounts of crop residue, stubble, and straw to the swine and cattle enterprises. The following is excerpted from the Thompson Research Report, published annually by Dick and Sharon Thompson.

"The 5-year rotation advantage over the 2-year rotation is shown in Figure 6. We use the Boone county 2-year rotation dollar-per-acre net returns to tell us if we are making any progress. During the first five years, our advantage was \$119 per acre, and the last 5 years' returns have increased by \$74, to \$193 per acre. The dip in returns in 1990 was from low oat prices; the dip in 1991 was caused by corn yield of 10 bushel below county average and only a 65 bushels-per-acre oat yield; the 1995 dip was from oat yield of only 5 bushel over the county average and only 9,000 lbs hay per acre; the 1997 dip was a poor, 8,000-lb hay yield; the 1999 dip was from corn yields 17 bushels below county average and oat yield 5 bushels below the county yield. The record spread in 2002 was from 116-bushel oats at \$1.80, over 5,000 lbs oat straw and stubble hay; hay yield was over 14,000 lbs per acre also."

"The five-year rotation is the standard rotation used on the Thompson farm. It was used by Dick's father from 1918 to 1958, and then readopted by us ten years after we took over the farm. One adjustment was made, to include ridge tillage during the row crop years. This has greatly increased the overall profitability."

"Hay has been the leading money maker in this rotation. The labor and management return for hay is \$150.46 per acre, oats return is \$106.60 per acre, ridge-till soybean return is \$95.68, ridge-till corn following soybeans has a \$112.54 return, and corn following moldboard plowed hay is \$102.26 (Figure 7). The labor and management return for the oats, hay combination was \$128.53 per acre and the C-SB-C row crop part of the rotation was \$103.51, while Boone County C-SB return is a negative \$41.79 per acre" (before govt. payments)."

As the records from the Thompsons and from Jeff Klinge and Deb Tidwell show, there are profitable alternatives to the corn-soybean rotation. Livestock are important sources of fertility and may also use crop products that otherwise might be difficult to commercialize. Organic grain prices offer significant rewards to intensive management, but the integration of the livestock and cropping is basic to profitability.

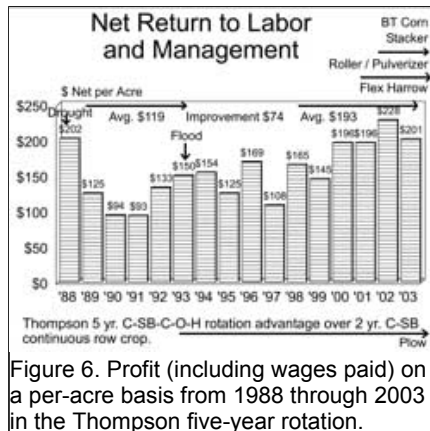


Figure 6. Profit (including wages paid) on a per-acre basis from 1988 through 2003 in the Thompson five-year rotation.

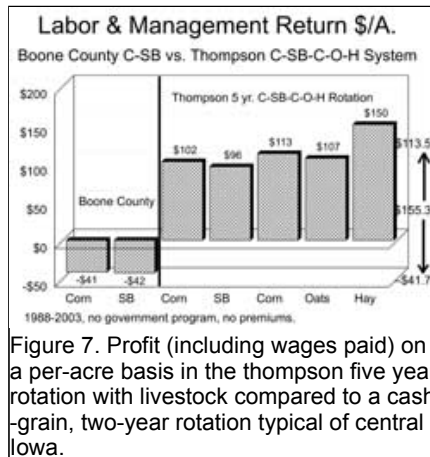


Figure 7. Profit (including wages paid) on a per-acre basis in the thompson five year rotation with livestock compared to a cash-grain, two-year rotation typical of central Iowa.

Table 2. Open-Pollinated, Synthetic, and Hybrid Corn Evaluation									Open-Pollinated, Synthetic, and Hybrid Corn Evaluation										
COOPERATOR	CROP	PREVIOUS CROP	YIELD SIGNIF- CANCE	TREATMENT "A"					TREATMENT "B"					TREATMENT "C"					
				DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	\$ BENEFIT	DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	\$ BENEFIT	DESCRIPTION	YIELD (bu. or T)	STAT.	TRT COSTS	\$ BENEFIT	OVERALL COMMENTS
ADAMS	CORN			BS21(R)C7 x BS22(R)C7	99.2	a			FARMER'S CHOICE	96.9	a			BS55(R)C14 x BSCB1(R)C14	113.1	a			
				MBS1236 x TRS322	103.3	a			NOKOMIS GOLD	78.3	a								
BRUNK	CORN			BS21(R)C7 x BS22(R)C7	109.2	c			FARMER'S CHOICE	177.0	a			BS55(R)C14 x BSCB1(R)C14	139.0	b			
				MBS1236 x TRS322	151.9	b			NOKOMIS GOLD	94.8	c								
HOMAN	CORN			BS21(R)C7 x BS22(R)C7	127.1	d			FARMER'S CHOICE	206.9	a			BS55(R)C14 x BSCB1(R)C14	143.8	c			
				MBS1236 x TRS322	166.1	b			NOKOMIS GOLD	139.6	c								
MUGGE	CORN			BS21(R)C7 x BS22(R)C7	58.1	b			FARMER'S CHOICE	87.4	a			BS55(R)C14 x BSCB1(R)C14	70.3	b			VIKING WAS DRIER, BS55 WAS WETTER THAN MOST VARIETIES
				MBS1236 x TRS322	91.2	a			NOKOMIS GOLD	45.0	c								
NEELY-KINYON	CORN			BS21(R)C7 x BS22(R)C7	85.7	bc			FARMER'S CHOICE	123.9	a			BS55(R)C14 x BSCB1(R)C14	108.8	ab			
				MBS1236 x TRS322	94.5	bc			NOKOMIS GOLD	76.3	c								