

9.04
1755

AN ECONOMIC COMPARISON OF ALTERNATIVE TILLAGE SYSTEMS

Machinery, Labor, and Herbicide Costs

Resources and Guidelines for Educational Meetings

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BASIC ASSUMPTIONS

1. **1500 Acres of C land**

off 06328

2. **Rotation**

ann 3064

40% Corn

40% Beans

20% Wheat

3. **All New Equipment**

85% of List Price

4. **Pure Systems**

5. **Constants**

**Chemicals
Fertilizer**

**Combining
Hauling**

**Table 1. Alternative Tillage Systems
Practice Assumptions**

	No Till	Ridge Till	Min. Till	Conv. Till
F. Cultivate	---	---	x (100%)	x (200%)
Plant	x (C)	x (B/C)	x (C)	x (C)
Drill	x (B/W)	x (W)	x (B/W)	x (B/W)
Spot Spray	x (10%)	---	---	---
R. Cultivate	---	x (200% B/C)	x (50% C)	x (100% C)
Chisel	---	---	x (C/W)	x (B)
Plow	---	---	---	x (C/W)

**Table 2. Alternative Tillage Systems
Equipment Assumptions**

	No Till	Ridge Till	Min. Till	Conv. Till
Tractor HP	60 120	120 120	120 225 4W	160 275 4W
Chisel	---	---	20'	20'
Plow	---	---	---	9-18
Planter	8-30 (C)	8-30 (C/B)	8-30 (C)	8-30 (C)
Drill	14' (B/W)	14' (W)	28' (B/W)	28' (B/W)
Field Cultivator	---	---	28'	37'
Row Cultivator	---	8-30 8-30	8-30 ---	8-30 ---

**Table 3. Alternative Tillage Systems
Fixed Costs**

	No Till	Ridge Till	Min. Till	Conv. Till
	\$	\$	\$	\$
<u>Fixed Costs</u>				
Tractors	5,901	8,110	11,094	14,835
Tillage	0	0	1,801	3,689
Planting	3,223	3,729	4,607	4,502
Cultivation	0	1,606	451	451
Total	9,124	13,445	17,953	23,477
Per Acre*	6	9	12	16

*Rounded to nearest \$

**Table 4. Alternative Tillage Systems
Variable Costs**

	No Till	Ridge Till	Min. Till	Conv. Till
	\$	\$	\$	\$
<u>Variable Costs</u>				
Operating	4,439	12,066	11,949	17,817
Labor	1,960	4,193	3,157	3,892
Total	6,399	16,259	15,106	21,709
Per Acre*	4	11	10	14

*Rounded to nearest \$

**Table 5. Alternative Tillage Systems
Total Costs**

	No Till	Ridge Till	Min. Till	Conv. Till
	\$	\$	\$	\$
Fixed	9,124	13,445	17,953	23,477
Variable	6,399	16,259	15,106	21,709
Total	15,523	29,704	33,059	45,186
Per Acre*	10	20	22	30

***Rounded to nearest \$**

**Table 6. Alternative Tillage Systems
Assumption Changes**

Assumptions	No Till	Ridge Till	Min. Till	Conv. Till
Herbicides	+ 1/3	- 2/3	- 2/3	- 2/3
Cultivation	---	---	C/B (200%)	C/B (200%)
Cultivator	---	---	+ 8-30	+ 8-30

Table 7.

Alternative Tillage Systems Assumption Changes: Herbicide*

Costs Per Acre**

	No Till	Ridge Till	Min. Till	Conv. Till
	\$/A	\$/A	\$/A	\$/A
Fixed	6	9	12	16
Operating/Labor	4	11	10	14
Herbicide	23	6	17	17
Total	33	26	39	47

* Ridge Till and No Till only.

** Rounded to nearest \$

Table 8.

Alternative Tillage Systems
Assumption Changes: Herbicide, Practice, Equipment*
Costs Per Acre**

	No Till	Ridge Till	Min. Till	Conv. Till
	\$/A	\$/A	\$/A	\$/A
Fixed	6	9	12	16
Operating/Labor	4	11	12	17
Herbicide	23	6	6	6
Total	33	26	30	39

* Herbicide for all systems
Practice and Equipment for Min. and Conv. Till only

** Rounded to nearest \$