

**Comparative Performance of Wheat Varieties in
No-Till and Conventional-Till Trials
Charles Tutt, Dave Van Sanford, and Sandy Swanson
Department of Agronomy**

Research Objective:

To determine whether wheat varieties that are superior under conventional tillage are also superior under no-tillage.

Methods:

Location:	Logan County	Shelby County
Cooperator:	Walnut Grove Farms	W. & D. Ellis Farms
Previous Crop:	Corn	Corn
Conventional Tillage:	Disk-ripper, Disk, Cultipacker	Chisel Plow, Disk
Stubble Condition (no-till):	Mowed	Standing stubble
Planting Date:	October 8, 1997	October 1, 1997

Entries consisted of 46 commercial and public soft red winter wheat varieties available to Kentucky's wheat farmers. There were 4 replications of each variety at each location. Conventional tests were planted with a 6-row cone seeder with double-disc openers and a row spacing of 7". No-till plots were seeded with a 7-row cone seeder equipped with John Deere 750 openers and a row spacing of 7.5". Seeding rates were approximately 325 seeds/sq.yd. for conventional tillage and 365 seeds/sq. yd. for no-till plots. Inputs were similar to those used by the cooperating farmers on their commercial wheat fields.

Results:

Variety yield means and rankings are presented in the following two tables.

Conclusion:

The correlation of rankings at each location was almost identical: 0.62 at Shelby Co. and 0.61 at Logan Co. In general, varieties that performed well under conventional tillage also fared well under no-till. If there was perfect agreement between conventional and no-till, this value would be 1.0. There were cases, however, where the agreement between the two

systems was poor. In Logan Co., Pioneer Brand 25W33 ranked 5th under conventional, 21st under no-till. Glory ranked 7th under conventional, 31st under no-till, and Pioneer Brand 2552 which ranked 24th under conventional, was 3rd under no-till. At Shelby Co., there was less dramatic disagreement between the two systems, but there were exceptions like NK Coker 9704: 40th under conventional, 14th under no-till. The jury is still out on the role of variety in adopting a no-till wheat production system. This report should be considered an update, and not the final word.

Logan County No-Till, Conventional Variety Trial

Variety	Yield:conv. Bu/a	Yield:no-till bu/a	Rank:conv	Rank: no-till
2540	58.9	46.5	1	1
KAS JUSTICE	56.3	38.3	2	7
AGRIPRO PATTON	53.1	35.8	3	12
Hytest W9850	52.7	41.0	4	4
25W33	48.5	32.3	5	21
COKER 9663	48.1	46.5	6	2
GLORY	47.8	29.5	7	31
TERRA Exp 215	46.6	33.8	8	16
2568	45.8	34.5	9	15
DB 555W	44.7	32.1	10	22
Exsegen Ruth	44.5	34.9	11	13
PATTERSON	44.2	29.1	12	33
AGRIPRO MASON	44.2	40.0	13	5
Beck 103	43.8	36.3	14	11
COKER 9474	43.8	39.4	15	6
FFR 558	43.3	28.3	16	35
25R57	43.1	37.3	17	9
VERNE	42.8	31.9	18	24
AGRIPRO ELKHART	42.6	34.5	19	14
DB 494W	42.4	31.8	20	25
TERRA Exp 216	42.0	28.1	21	36
FFR-exp 332	41.6	37.3	22	8
WAKEFIELD	41.3	26.4	23	37
2552	41.2	41.8	24	3
AGRIPRO FOSTER+GAUCHO	41.1	29.7	25	30
CALDWELL	40.6	25.1	26	42
25R26	40.3	29.3	27	32

Variety	Yield:conv. Bu/a	Yield:no-till bu/a	Rank:conv	Rank: no-till
KAS PATRIOT	40.0	30.3	28	28
TERRA SR 211	39.6	32.8	29	18
Exsegen Esther	37.6	29.9	30	29
ERNIE	37.5	32.4	31	20
FFR-exp 1606	37.0	33.1	32	17
AGRIPRO FOSTER	36.4	26.2	33	39
CLARK	35.8	25.4	34	40
FFR 522	35.7	32.6	35	19
TERRA SR 204	35.3	28.7	36	34
COKER 9543	34.7	26.2	37	38
MADISON	34.1	31.2	38	26
JACKSON	33.7	30.7	39	27
KY86C-61-8	32.7	25.3	40	41
POCAHONTAS	32.4	23.3	41	43
BECKER	31.2	15.6	42	46
COKER 9803	30.3	36.6	43	10
	30.3	32	44	23
FFR 555	26.5	21.6	45	45
FFR 523	24.3	21.7	46	44
CV	16.6	13.5		
LSD (0.05)	8.0	5.8		

Shelby County No-Till, Conventional Variety Trial

Variety	Yield:conv. Bu/a	Yield:no-till bu/a	Rank:conv	Rank: no-till
2552	65.1	64.2	1	1
AGRIPRO PATTON	62.3	59.0	2	4
25W33	61.8	56.3	3	9
2540	61.6	63.5	4	2
25R26	57.4	56.0	5	10
GLORY	57.2	60.5	6	3
VERNE	53.8	57.9	7	5
Hyttest W9850	53.4	57.9	8	6
AGRIPRO MASON	53.1	49.6	9	18
COKER 9663	52.2	57.4	10	8
2568	51.9	55.7	11	11
FFR-exp 332	51.7	57.5	12	7

Variety	Yield:conv. Bu/a	Yield:no-till bu/a	Rank:conv	Rank: no-till
KY86C-61-8	48.8	50.6	13	16
DB 494W	48.7	44.6	14	28
CLARK	48.5	40.6	15	42
PATTERSON	48.4	45.7	16	25
TERRA SR 204	48.4	46.2	17	24
MADISON	47.8	54.3	18	12
Beck 103	46.6	45.7	19	26
TERRA Exp 215	46.3	41.8	20	37
COKER 9474	46.2	41.1	21	40
25R57	46.0	38.6	22	43
KAS PATRIOT	45.9	41.7	23	38
TERRA SR 211	45.9	41.9	24	36
FFR 522	45.8	42.1	25	35
AGRIPRO ELKHART	45.8	44.5	26	30
KAS JUSTICE	45.2	49.5	27	19
FFR 558	44.6	50.0	28	17
FFR-exp 1606	44.3	42.3	29	34
Exsegen Esther	43.6	35.8	30	44
Exsegen Ruth	43.6	43.2	31	31
AGRIPRO FOSTER+GAUCHO	43.5	50.7	32	15
AGRIPRO FOSTER	43.2	46.7	33	22
COKER 9803	42.4	51.5	34	13
FFR 555	42.1	47.9	35	20
BECKER	41.9	47.1	36	21
COKER 9543	41.3	44.6	37	29
DB 555W	41.0	46.4	38	23
JACKSON	40.7	42.6	39	32
COKER 9704	40.5	51.3	40	14
TERRA Exp 216	39.4	41.5	41	39
FFR 523	39.2	40.7	42	41
POCAHONTAS	37.4	35.1	43	45
WAKEFIELD	36.6	42.5	44	33
CALDWELL	34.1	29.7	45	46
ERNIE	31.9	45.3	46	27
CV	8.9	12		
LSD (0.05)	4.9	6.7		