

Tillage Trials

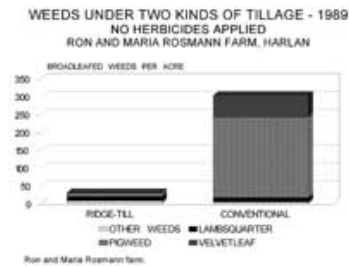


Figure 5. Broadleafed weeds in tillage comparison without herbicide.

Three cooperators compared different tillage systems in 1989. Each trial involved ridge tillage in some way. [Table 5](#) shows the data. **Todd Hartsock** found similar yields in ridge-till and conventional corn.

Ron Rosmann obtained significantly higher soybean yields in ridge-till, but stalk chopping and a preplant cultivation pass reduced the relative profitability of the ridge-till crop. **Dick Thompson** grew corn following meadow in strips that were moldboard plowed in the spring and in strips that had been disked and ridged the previous fall. The spring-plowed strips outyielded the others by a significant margin.

An interesting component of the Rosmann tillage comparison is the effect of the treatments on weeds. The study confirms that where herbicides are not used, the potential for most weeds is higher in conventional tillage than in ridge-till. The bar graph in Figure 5 compares per-acre rates of different broadleafed weeds in the two systems. Ridge-till was effective in controlling late-germinating plants like velvetleaf and pigweed. Ridge-till's problem weeds are the early ones, such as lambsquarter, which are already established by planting time.

COOPERATOR	CROP	TREATMENT "A"		TREATMENT "B"		TRT "B"	DIFFERENCE					COMMENT
		DESCRIPTION	YIELD (bu.)	DESCRIPTION		YIELD (bu.)	YIELD DIFF.	YLD LSD (bu.)	YLD SIG.	\$ BENEFIT OF TRT "A"		
DAVIDSON	SOYBEANS	PREPLANT DISK, 6 2/3" DRILL	43.3	PREPLANT DISK, 38" RIDGE TILLAGE		39.8	3.5	5.7.	N.S.	\$8.58	BOTH TRTS BROADCAST POST, WEEDS IN DRILLED AT ONE END	
LUBBEN	SOYBEANS	NO-TILL DRILL	42.9	PREPLANT DISK TILLAGE, ROW-PLANTED		41.4	1.4	2.7	N.S.	(\$11.25)	NO-TILL: PREPLANT BROADCAST, HIGHER SEEDING RATE	
LUBBEN	CORN	NO-TILL	150.6	DISK TILLAGE		149.6	1.0	7.8	N.S.	\$4.43	SOFT GROUND. BOTH TRTS BROADCAST, CULTIVATED ONCE	
LUBBEN	CORN	NO-TILL	149.4	DISK TILLAGE		171.6	-22.2	7.6	*	(38.38)	HARD GROUND. BOTH TRTS BROADCAST, CULTIVATED ONCE	
OLSON	SOYBEANS	NO-TILL DRILL	55.1	RIDGE TILLAGE		55.1	0.0	3.8	N.S.	(\$27.26)	NO-TILL EMERGED POORLY IN VALLEYS, SO SIMILAR STANDS	
REICHERTS	OATS	PREPLANT DISK TILLAGE	97.7	DRILLED OVER RIDGES		96.4	1.3	12.1	N.S.	(\$5.20)	RIDGES EITHER DISKED OR NOT	
MUGGE	SOYBEANS	BROADCAST 30+80+90 IN DECEMBER, 1990	49.2	DEEP BANDED 30+80+90 IN DECEMBER, 1990		48.5	0.7	1.8	N.S.	(\$0.08)	NO RESIDUAL EFFECT FROM 1990, NO EFFECT IN 1991 EITHER	
OLSON	SOYBEANS	78 LB/A PELL LIME BAND AT PLANTING	61.4	NO PELL LIME		65.3	-4.0	7.6	N.S.	(\$2.96)	FIELD WAS LAST LIMED IN 1989	
STONECYPHER	CORN	SURFACE BANDED N AT PLANTING	163.8	SUBSURFACE BANDED N AT PLANTING		161.3	2.5	4.4	N.S.	(\$0.00)	LATE SEASON STALK NITRATE N LESS THAN 300 PPM IN BOTH TRTS.	
BAUER	SOYBEANS	SEED SAVED, CLEANED	52.5	PURCHASED SEED		51.2	1.2	3.2	N.S.	\$3.93	131,000 SEEDS/ACRE, 49 LB/ACRE. \$1.50/BU SEED CLEANING COST	
FRANTZEN	CORN	FOLLOWING AMARANTH IN 1991	117.9	FOLLOWING SOYBEANS IN 1991		148.9	-31.0	10.8	*	(\$61.81)	CORN AFTER AMARANTH 6% WETTER, UNEVEN GROWTH	
CONRAD	CORN	SOIL INSECTICIDE AFTER '91 SOYBEANS	216.5	NO SOIL INSECTICIDE		197.5	19.0	8.3	*	\$22.45	HALF RATES LORSBAN & FORCE APPLIED WITH CONRAD BANDERS	
OLSON	CORN	SOIL INSECTICIDE AFTER CORN IN 1991	168.3	NO INSECTICIDE AFTER CORN		151.9	16.4	6.4	*	\$18.34	3-4 BEETLES/WEEK TRAPPED IN 1991, INDICATING LOW PRESSURE	