



Current Report

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EVALUATION OF LO-TILL DEMONSTRATIONS

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Interest in reducing tillage is gaining interest among wheat producers. Herbicide applications have aided in obtaining weed control during the summer fallow period. While no one system is best for all circumstances, several basic programs appear to be suitable for most areas of the state.

To observe these systems, six Lo-Till Field Demonstrations were established during the spring of 1982. These were used to evaluate herbicide and minimum tillage combinations for weed control, moisture conservation and stand re-establishment. Treatments used on the $\frac{1}{4}$ to $\frac{1}{2}$ acre plots included:

- 1) Surflan 1# + Glean $\frac{1}{2}$ oz,
- 2) Glean $\frac{1}{2}$ oz,
- 3) Bladex 3# + Paraquat $\frac{1}{2}$ #,
- 4) tillage + Bladex 3#,
- 5) Igran $2\frac{1}{2}$ # + Paraquat,
- 6) tillage + Igran $2\frac{1}{2}$ #.

Surflan and Glean applications were made between Mar. 26-April 26. All other treatments were made post-harvest between June 20 and July 17. The lateness of the application were due to abnormal wet season that delayed harvest. After harvest tillage was either a tandem disc, sweep or blade plow. No other tillage was made on any plots until shortly before planting in the fall. Weed control was evaluated on 8/1 and 9/15.

All treatments resulted in good to excellent weed control. Glean only is not included in the ratings since it was not used at several locations. It gave no grass control of species at the sites

where it was used and control of carpetweed and prostrate spurge was very poor. Alone or tank mixed with Surflan, Glean provided excellent broadleaf control of kochia, pigweed and sunflowers to the point of making harvest much easier. Crabgrass and volunteer wheat appeared in these plots late in the season due to the early application and herbicide breakdown. These were easily controlled with the sweep-anhydrous application or one preplant tillage. Where Texas Panicum was a problem, Surflan gave better control than any after harvest treatment where Paraquat was used, as established plants were very difficult to kill.

Post-harvest treatments also gave acceptable weed control, with only minor differences between locations. Bladex and Igran applied after a sweep or disc gave better weed control than when applied with paraquat without tillage. The poorer result is partly due to the late wheat harvest and the size of the existing weeds. Bladex gave slightly better weed and volunteer control than Igran. Igran controlled pigweed better but species of purslane were somewhat resistant to the herbicide. A complete evaluation is shown in Table 1.

Soil moisture at planting time varied greatly at the locations due to rainfall occurrences in parts of the state in early fall. All locations had soil moisture suitable to germinate seed at depths over 3 inches. However, no-till plots receiving no rain all summer were too hard to plant or to

sweep and apply anhydrous ammonia.

All plots were planted back to wheat using a Tye Pasture-Pleaser Drill using 60# of TAM 101 and 100# 18-46-0 fertilizer placed with the seed. Four of the locations had established stands by November 1; with two locations having growth suitable for grazing by December 1.

Much of this growth was due to stored soil moisture from less tillage and good weed control. Two locations were planted into dry soil. These did not germinate until after Nov. 24 rains. Even with very dry summer conditions, no residual herbicide carryover was observed that resulted in weakened stands.

Table 1. Lo-Till Weed Control Evaluation

LOCATION	SEASON	TREATMENT RATING				
		Surflan + Glean	Bladex + Paraquat	Bladex + Tillage	Igran + Paraquat	Igran + Tillage
Jimmy Stover Cotton Co.	Mid Late	9* 8	7 5	9 8	8 5	8 5
Kenneth Kirby Greer Co.	Mid Late	9 7	9 7	9 8	8 6	8 7
Ed Schutten Grady Co.	Mid Late	9 8	10 9	10 9	10 8	9 8
Dennis Slagell Blaine Co.	Mid Late	8 5	8 6	9 7	9 5	9 7
Ray Schroeder Major Co.	Mid Late	6 4	7 4	- -	8 4	- -
Clifford Norman Woodward Co.	Mid Late	9 8	9 9	- -	9 9	- -

* Rating 0-10 (10 Complete Weed Control)