

Mercer County SWCD Use Agreement  
**Root Plow**

I, the Renter and User of the Root Plow, agree to the following conditions:

**Rental Rate**

\$10/day

Payment is due one (1) day after root plow return and inspection for damages. An additional 1-1/2% will be charged if not paid within 30 days. After 90 days, future rental and cost-share will be denied until bill is paid.

**Assumption of Liability and Hold Harmless**

**I assume all risk for injury to myself, or damage to my property, as a result of my use of the root plow.**

**I will not hold the Mercer County Soil and Water Conservation District or the Natural Resource Conservation Service, their supervisors or employees liable, in any way, for any damages, injury, or losses that in some way result from the use of the root plow.**

**I accept all liability for injury to the others, or damage to the property of others, from my use of the root plow.**

**I agree to defend, pay on behalf of, and hold Mercer County SWCD, NRCS, its supervisors, employees or agents, harmless from all claims of whatsoever nature or kind arising out of any act, or failure to act, whether or not negligent, in connection with my use of the root plow, and my performance of the terms of this rental agreement.**

**I understand and agree to these conditions and will pay the charges requested by the Mercer County District.**

Agreed to by \_\_\_\_\_ Date \_\_\_\_\_ Phone \_\_\_\_\_

Estimated date of use \_\_\_\_\_

Inspected by \_\_\_\_\_ Date \_\_\_\_\_

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Days of Use \_\_\_\_\_

Total Fee \_\_\_\_\_

Estimated damages \_\_\_\_\_

Balance Due \_\_\_\_\_

Date Paid \_\_\_\_\_ Check Number \_\_\_\_\_ Received by \_\_\_\_\_

# Root Plowing

Hedgerows along cropfields produce relatively non-productive strips adjacent to the hedgerows. Generally, these strips occur because moisture is "sapped" from the field by lateral hedgerow roots. This sapping effect causes decreased yields in those affected areas of the field.

Research from several sources proves that during dry, windy growing seasons, crop yields increase because of protective windbreaks such as dense hedgerows. Windbreaks moderate wind, temperature and moisture conditions having direct impacts on crop yields. In one study, a 36-acre field protected by a 4-acre windbreak produced 23 percent more soybeans and 18 percent more wheat than a non-protected 40-acre field.

Hedgerows have been removed during the past few years because people simply were not aware of windbreaks and hedgerows. They did not know that windbreak protected acres could outproduce non-protected acres and the sapping effect of hedgerows was highly visible. Many farmers reluctantly removed their hedgerows because they were not aware of their value or alternatives to solve the sapping problem.

There is an alternative to hedgerow removal to prevent cropfield sapping. A technique long used in Kansas and other western states known as "root plowing" allows the farmer to keep his valuable hedgerows and simultaneously increase his crop yields.

Root plowing is accomplished with a 3-point hitch, tractor-mounted implement called a root plow. The root plow has a vertical cutting bar which is inserted into and pulled through the soil parallel to the hedgerow. This bar severs moisture-sapping tree roots projecting into the adjacent cropfield. This operation does not harm hedgerows. Generally, one root plowing is effective for 5-10 years.

## Using the Root Plow

1. A minimum of 70 h.p. tractor is required , and a tractor with a maximum of 100 h.p. should be used.
2. **Before plowing**, check for buried cables, pipes and other utilities.
3. If plowing a potentially erodible area, offset plow furrow every 100 feet.
4. Accomplish the plowing in two passes:
  - a. First pass should be 12-15 inches deep.
  - b. Second pass should be 20-22 inches in same furrow.
5. A charge of \_\_\_\_\_ will be collected when the Root Plow is picked up from the District.
6. A SLOW SPEED is Recommended.