



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

Indiana
Conservation Tillage
Initiative
Technical
Note No.1

Nov, 2004

This is the First note
in a series of Soil
Agronomy-No-Till
Management technical
notes on the
Management
techniques for
successful adoption of
No-Till Cropping
systems. This
information is applicable
to most Indiana soils
and cropping conditions
and covers broad
application.

AGRONOMY

Technical Note No.1

No-Till Management- Entry Phase Management

Success at a No-Till System cannot be achieved merely by stopping tillage. Fields being planned for conversion to a no-till system should be carefully evaluated for conditions which will become inherent problems during the transition phase. The following is a checklist for a field's readiness for no-till.

- ☑ **Compaction-** Check each field at various locations for compacted layers and tillage layers with abrupt density changes. Don't assume winter freeze and thaw cycles will remove these layers. Use low surface disturbance, vertical tillage tools to fracture these layers. If the soil needs leveling prior to planting, a high residue, rotary harrow should be used. Do not use a finishing tool that re-creates horizontal tillage bands with shovels, sweeps or angled disks.
- ☑ **pH-** Check the pH by separating 6" cores into 1-3" and 3-6" soil samples. If pH is below 6.0 at both depths then lime should be incorporated with a chisel plow. If only the surface is low, then incorporation is unnecessary.
- ☑ **Soil Fertility-** Follow the same testing procedures as for pH. Low fertility in the 3-6" zone should be addressed through incorporation or preferably, by deep banding.
- ☑ **Leveling the field-** Ridges, ruts and gullies will not be corrected by merely switching to no-till. Coordinate corrective measures with above operations where possible.
- ☑ **Drainage-** Repair, replace, and install new tile systems. Few investments will return more than drainage.
- ☑ **Control perennial, biannual, and winter annual weeds-** Most of these weeds are best controlled with fall applied herbicides.
- ☑ **Consider Cover Crops-** Nearly every item on the above checklist can be complimented by the use of a cover crop. The ultimate economic incentive from a no-till system comes from improving soil quality. Cover crops can increase the rate at which this transformation occurs. Seed rye, wheat, or annual ryegrass immediately after completing harvest or a corrective measure mentioned previously.
- ☑ **Make plans to attend as many winter no-till workshops and roundtables as possible-** Farmer networks and alliances are born out of these kinds of meetings. Most of the successful long term no-tillers rely on networks.

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