



Deep Tillage

Conservation Practice Job Sheet

Natural Resources Conservation Service, Oregon

324 OR-JS

JANUARY 2011

Client: _____



Photo courtesy of NRCS

Definition

Performing tillage operations below the normal tillage depth to modify adverse physical or chemical properties of a soil.

Purposes

Deep tillage can be designed to accomplish one or more of the following conservation purposes:

- Fracture restrictive soil layers.
- Bury or mix soil deposits from wind or water erosion or flood overwash.
- Reduce concentration of soil contaminants which inhibit plant growth.

Where used

This practice applies to land having adverse soil conditions which inhibit plant growth, such as

- compacted layers formed by field operations,
- restrictive layers such as claypans, cemented hardpans (duripans), overwash or deposits from wind and water erosion or flooding; or
- contaminants in root zone.

This standard includes tillage operations commonly referred to as deep plowing, in-row subsoiling, strip-tillage, paratilling, subsoiling, ripping, or row-till, performed not as part of the normal tillage operations or at an altered depth.

Resource Management System

Deep tillage is normally used with other conservation practices as part of a resource management system. These practices may include conservation crop rotation, residue management, nutrient and pest management, and pasture and hay land planting.

Specifications

Site-specific requirements for deep tillage are listed on the 324 Oregon job sheet. Specifications are prepared in accordance with the NRCS Field Office Technical Guide and are designed to meet the resource needs and the producer's objectives.

Operation and maintenance

Deep tillage for reduction of soil compaction shall be performed whenever compaction reoccurs. When deep tillage has been performed to reduce the concentration of soil contaminants, the contaminate levels in the root zone shall be monitored to assist with determining when or if treatment will be reapplied.

DEEP TILLAGE JOB SHEET

Client _____ Farm/Tract _____

Location _____ County/SWCD _____

Prepared By _____ Date _____

DESIGN APPROVAL:

Practice Code No.	PRACTICE	LEAD DISCIPLINE	CONTROLLING FACTOR	UNITS	JOB CLASS				
					I	II	III	IV	V
324	Deep Tillage	BCSD-Agron	Area Soil Depth	Acres Inches	160 >59	320 40-59	640 21-39	All 20	All All

This practice is classified as Job Class: _____

Design Approved By: /s/ _____ Date: _____

Job Title: _____

CLIENTS ACKNOWLEDGEMENT STATEMENT:

The Client acknowledges that:

- a. They have received a copy of the specification and understand the contents and requirements.
- b. The following information must be provided to NRCS by the client before this practice can be certified as applied:
 - Site preparation performed, seeding depth and seeding method, plant species/cultivars used and amounts per acre.
 - Fertilizer(s) applied at or after planting, and weed and/or pest control performed.
- c. It shall be the responsibility of the client to obtain all necessary permits and/or rights, and to comply with all ordinances and laws pertaining to the application of this practice.

Accepted By: /s/ _____ Date: _____

CERTIFICATION:

I have completed a review of the information provided by the client and certify this practice has been applied.

Certification By: /s/ _____ Date: _____

Job Title: _____

DEEP TILLAGE JOB SHEET

Client _____ Date: _____

Purpose (check all that apply)

<input type="checkbox"/>	To fracture restrictive soil layers
<input type="checkbox"/>	To reduce concentration of soil contaminants which inhibit plant growth
<input type="checkbox"/>	To bury or mix soil deposits from wind or water erosion or flood overwash

Site Information

	Fields:	Fields:	Fields:
Measured Acres:			
Soil Texture:			
Map Unit Slope (%):			
Soil Moisture (% field capacity)			
Depth/Restrictive Layer:			
Depth of Soil Deposit			
Soil Loss Prediction (RUSLE):			
Contaminant (ID & Unit)			

Tillage Information

	Field 1	Field 2	Field 3
Equipment to be Used:			
Depth of Tillage:			
Chisel Point Spacing (in) Date/Timing of Tillage:			
Required Soil Moisture (% field capacity) Crop To Be Grown Expected Rooting Depth:			

Site Preparation and Additional Installation Information

Additional Requirements:

When mixing soil deposits from erosion of flooding, the deposits must be mixed a minimum of two times (2X) the depth of the soil deposit. This allows reaching the desired available water holding capacity and breaks the hydraulic barrier caused by the deposit layer.

DEEP TILLAGE JOB SHEET

Operation and Maintenance

If the purpose includes reduction of concentration of soil contaminants, contaminate levels in the root zone will be monitored to determine when or if treatment is re-applied.

If the purpose includes reduction of soil compaction, then deep tillage will be performed whenever compaction reoccurs.

Attached a map or aerial photo showing the location(s) of the Deep Tillage practice