

Mulching

WV Conservation Practice Job Sheet

Code 484



Definition

Applying plant residues, by-products or other suitable materials produced off site, to the land surface.

Purpose

- Conserve soil moisture
- Moderate soil temperature
- Provide erosion control
- Suppress weed growth
- Establish vegetative cover
- Improve soil condition and increase soil fertility

Conditions Where Practice Applies

This practice applies to all lands where mulches are needed. This practice may be used alone or in combination with other practices.

Criteria

Mulch materials should consist of natural and/or artificial materials such as plant residue, wood bark or chips, by-products, gravel, plastic or other equivalent materials of sufficient dimension (depth or thickness) and durability to achieve the intended purpose for the required time period.

Mulching is generally performed after grading, soil surface preparation and seeding and plantings are complete.

The mulch material should be evenly applied and anchored to the soil. Tackifiers, emulsions, pinning, netting, crimping or other acceptable methods of anchoring should be used if needed to hold the mulch in place.

Apply manufactured mulches in accordance with the manufacturer's specifications.

Mulching operations must comply with any federal, state and/or local laws and regulations during the installation, operation and maintenance of this practice.

Make sure that the mulch material is free of disease, noxious weed seeds, and other pests and pathogens.

Small grain straw is the recommended choice as a mulching material on most conventionally seeded sites. Small grain straw consists of wheat, oat or rye straw. Generally, cellulose fiber is the recommended type of mulch to include in the slurry mix when hydroseeding.

Depending on the site conditions, additional or substitute protective measures may be deemed necessary. Examples include jute mesh, silt fences, straw/hay bale barriers, and soil stabilization blankets or erosion mats. Refer to the *West Virginia Sediment and Erosion Control*

Handbook for Developing Areas for information regarding these measures.

Moisture Conservation

To conserve soil moisture, apply mulch materials to the soil surface to provide at least 60 percent cover to reduce evaporation.

The mulch material should be applied prior to any moisture loss. Prior to mulching, ensure that the soil under shallow rooted crops is moist, as these crops require a constant supply of moisture.

Soil Temperature Moderation

The mulch materials should be selected and applied to obtain 100 percent coverage over the area treated. The thickness of the material should persist for the period required for the temperature modification.

Erosion Control

When mulching with cereal grain straw or grass hay, apply it in sufficient amounts to provide at least 70 percent ground cover. When mulching with wood products such as wood chips, bark, or shavings or other wood materials, apply to a 2-inch thickness if the soil is not well-drained and to a 3- to 4-inch thickness if drainage is good. More finely textured mulches, which allow less oxygen penetration than coarser materials, should be no thicker than 1 or 2 inches. The mulch material must provide no greater than 80 percent ground cover in order to ensure adequate air circulation.

Apply gravel or other inorganic material approximately 2 inches thick consisting of pieces $\frac{3}{4}$ to 2 inches in diameter. The mulch material should provide no more than 90 percent ground cover in order to ensure adequate air circulation.

Suppress Weed Growth

The thickness of mulch will be determined by the size of the plant being mulched. Small plants must not be smothered. Mulches should be kept clear of the stems of plants where disease is likely to occur. Mulches applied around growing plants or prior to weed development should have 100 percent ground cover. The thickness of the mulch must be adequate to prevent emergence of targeted weeds. Plastic mulches may also be used.

Establish Vegetative Cover

Mulch should be applied at a rate that achieves 50 percent ground cover to provide protection from erosion and runoff and yet allow adequate light and air penetration to the seedbed allowing germination, emergence, and disease suppression.

Improve Soil Condition And Increase Soil Fertility

To increase soil fertility, apply mulch materials with a carbon to nitrogen ratio (C:N) less than 30 to 1 such as animal manure, bio-solids, food processing wastes, or similar materials. Other practices may need to be applied such as contour buffer strips; filter strips or riparian forest buffers to assure that runoff from the mulched areas will not transport mulching materials to sensitive waterbodies. Do not apply mulch with C:N less than 20:1 to the area of flow in watercourses.



Operation and Maintenance

Mulched areas will be periodically inspected, and mulch should be reinstalled or repaired as needed to accomplish the intended purpose.

Removal, incorporation, bio- or photo-degradation of mulch and associated materials must be consistent with the intended purpose and site conditions.

Operation of equipment near and on the site must not compromise the intended purpose of the mulch.

Prevent or repair any fire damage to the mulch material.

Properly collect and dispose of artificial mulch material after intended use.

Monitor and control undesirable weeds in mulched areas.

Specifications

Site-specific requirements are listed on the following pages of this job sheet. Specifications are prepared in accordance with the WV NRCS Field Office Technical Guide.

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Client:	Farm #:
Field(s):	Tract #:
Designed By:	Date:

Purpose (check all that apply)	
<input type="checkbox"/> Improve soil condition and increase soil fertility	<input type="checkbox"/> Moderate soil temperature
<input type="checkbox"/> Provide erosion control	<input type="checkbox"/> Establish vegetative cover
<input type="checkbox"/> Suppress weed growth	<input type="checkbox"/> Conserve soil moisture

Layout	Field _____	Field _____	Field _____
Total Area (acres)			
Mulch Type ¹			
Rate (amount per appropriate unit)			
Percent Cover and/or Thickness ² (% or inches)			
Application Date			
Tackifier Required			
Method/Type of Anchoring ³ (if applicable)			
Additional Protective Measures ⁴ (if applicable)			
Livestock Exclusion is Required ⁵			

¹ List the type of mulch to be utilized. Mulch types include: **Hay or Straw, Compost, Manure, Wood Chips, Wood Shavings, Sawdust, Peat Moss, Gravel, Crushed Stone, Plastic, Wood Fiber Cellulose, Excelsior Fiber Mat** or **Other**. If other, specify in the "Additional Specifications and Notes" section of this document.

² List the percent cover or desired thickness of the applied mulch over the area.

³ List any anchoring necessary to hold the much in place. Types include: **Peg or Twine, Mulch Netting, Asphalt Emulsion, Chemical or Disking**. If none, list as **N/A**

⁴ List any additional protective measures needed in addition to mulching. Examples include: **jute mesh, silt fences, straw/hay bale barriers, and soil stabilization blankets** or **erosion mats** Refer to the *West Virginia Erosion and Sediment Control Handbook for Developing Areas* for further information.

⁵ If livestock exclusion is necessary, refer to (472) Use Exclusion and/or (382) Fence for more information.

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If needed, an aerial view, map or a sketch of the practice can be shown below. Other relevant information, complementary practices and measures, and additional specifications may be included.

Additional Specifications and Notes: (i.e. additional notes, operation and maintenance specifics, etc.)

Questions regarding the operation, harvest schedule or establishment of this practice should be directed to:
 _____ at _____

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