

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

GRAZING LAND MECHANICAL TREATMENT

**(Acre)
Code 548**

DEFINITION

Modifying physical soil and/or plant conditions with mechanical tools by treatments such as pitting, contour furrowing, and ripping or subsoiling.

PURPOSE

- Fracture compacted soil layers and improve soil permeability
- Reduce water runoff and increase infiltration
- Break up sod-bound conditions and thatch to increase plant vigor
- Renovate and stimulate plant community for greater productivity and yield

CONDITIONS WHERE PRACTICE APPLIES

This standard may be applied on pastureland, rangeland, grazed forest, and native pastures where the slopes are less than 30 percent.

CRITERIA

General Criteria Applicable to All Purposes

Mechanical treatments such as contour furrowing, pitting, ripping or subsoiling shall be designed and applied in a manner to accomplish the desired objectives and address the natural resource concerns. These treatments shall be limited to soils and slopes where surface disturbances will not result in unacceptable levels of soil erosion and/or sedimentation.

Areas to be treated shall be relatively free of undesirable or noxious plants that are likely to increase because of surface disturbance.

If natural plant community is desired, desirable plant species shall be of sufficient quantity and have a distribution pattern that allows the plants to

take advantage of the improved moisture and to spread into disturbed areas.

Adequate rest from grazing shall be applied to ensure desired plant responses from this treatment.

All treatments should be planned on the contour when conditions warrant.

Assure soil is not too wet prior to treatment.

All work performed under this standard shall comply with State, federal, and local laws and regulations.

CONSIDERATIONS

Conservation practice standards Range Planting (550) and Pasture and Hayland Planting (512) may be used in conjunction with Grazing Land Mechanical Treatment.

Increased surface roughness may make the treated area undesirable for some uses.

Investigate for compacted layers with a probe or other appropriate tool prior to treatment.

Investigate for tile drainage systems, pipelines and other buried structures prior to work.

Consider cultural resources when planning this practice. If the selected mechanical treatment will exceed the depth of prior ground disturbance, this activity could affect buried cultural resources.

PLANS AND SPECIFICATIONS

Specifications for installation of Grazing Land Mechanical Treatment shall be prepared for each site or planning unit according to the criteria. Specifications shall be recorded using State-developed specification sheets, job sheets, narrative statements in conservation plans, or other acceptable documents.

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service [State Office](#) or visit the [electronic Field Office Technical Guide](#).

OPERATION AND MAINTENANCE

Implementation of a good prescribed grazing plan will assist in the long-term operation and maintenance of this practice. If the desired effects of this practice are lost over time, the practice may need to be repeated.

References

Daniel J. A., K. Potter, W. Altom, H. Aljoe, R. Stevens. 2002. *Long-Term Grazing Density*

Impacts on Soil Compaction. American Society of Agricultural Engineers Vol. 45(6): 1911–1915. ISSN 0001–2351

<http://asae.frymulti.com/request.asp?JID=3&AID=11442&CID=t2002&v=45&i=6&T=2>

University of Minnesota. 2001 Soil Compaction: Causes, Effects, and Control. FO-03115.

<http://www.extension.umn.edu/distribution/cropsystems/components/3115s01.html>