

**NATURAL RESOURCES CONSERVATION SERVICE
PACIFIC ISLANDS AREA**

CONSERVATION PRACTICE STANDARD

GRAZING LAND MECHANICAL TREATMENT

(Ac.)

CODE 548

DEFINITION

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

PURPOSE

- Fracture compacted soil layers and improve soil permeability
- Reduction in water runoff and increased infiltration
- Break up root-bound conditions and thatch to increase plant vigor
- Renovation and stimulation of 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, chiseling, ripping, *imprinting*, 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. Prescribed grazing (528) will follow any grazing land mechanical treatment application.

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

If a 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), *Forage & Biomass Planting* (512), Prescribed Grazing (528), *Brush Management* (314), *Herbaceous Weed Control* (315), Pest Management (595), and Nutrient Management (590) may be used in conjunction with Grazing Land Mechanical Treatment.

Increase in noxious or invasive plants may occur following treatment. *Grazing Land Mechanical Treatment is not to be used to treat undesirable or noxious plants. Other practices may be implemented for that purpose.*

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.

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 [Field Office Technical Guide](#). *Italicized font indicates state-imposed criteria different from the National criteria.*

**NRCS, PI
March 2011**

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

Consider animal's ability to navigate terrain following treatment.

Consider impacts to wildlife and wildlife habitat when planning and designing this practice.

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

Site-specific specifications for the installation and maintenance of this practice shall be prepared for each field or treatment unit according to this Standard and the Conservation Practice Specification.

The NRCS Pacific Islands Jobsheet for this practice shall be used to document the site specifications. Other documents (worksheets, maps, drawings, and narrative statements in the conservation plan) may be used in addition to the Jobsheet to document site specifications or to plan or design the practice.

The following information shall be documented:

- *Identification, size, and location of the treatment area.*
- *Purpose of client applying the practice.*
- *Conditions relevant to the selection of the treatment methods to be applied, including treatment site soils and slopes; present and planned land use and/or plant communities; resource problems to be solved; and/or availability of equipment.*

- *Mechanical treatment method(s) to be applied (pitting, contour furrowing, subsoiling, etc.) and requirements for application. Requirements include: type of implements or equipment to be used; spacing, depth, and/or dimensions of treatment; timing of treatment.*

- *Required rest period after treatment.*

OPERATION AND MAINTENANCE

Implementation of a prescribed grazing plan according to the 528 standard is essential for the long-term operation of this practice. Heavy equipment use that will compact the soil in treated areas shall be deferred until autogenic repair processes have been restored. If the desired effects of grazing land mechanical treatment are lost over time, the practice may need to be repeated.

The Pacific Islands Grazing Land Mechanical Treatment (548) Conservation Practice Jobsheet shall be used to record the operation and maintenance of the practice on the client's treatment unit.

REFERENCES

- Griffith, L.W., G.E. Schuman, F. Rauzi, and R.E. Baumgartner. 1985. Mechanical Renovation of Shortgrass Prairie for Increased Herbage Production. *J. Range Manage.* 38:7-10.
- Vallentine, J.F. 1977. Range Development and Improvements. Brigham Young University Press, Provo, Utah.
- Whisenant, S.G. 1999. Repairing Damaged Wildlands. Cambridge University Press, United Kingdom.