

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

CROSS WIND RIDGES

(Ac.)
Code 589A



Tillage being performed to create cross wind ridges.

DEFINITION

Ridges formed by tillage, planting, or other operations and aligned across the prevailing wind erosion direction.

PURPOSE

Reduce soil erosion from wind.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to cropland.

It is best adapted on soils that are stable enough to sustain effective ridges and cloddiness, such as clayey, silty, and sandy loam soils.

It is not well adapted on unstable soils such as sands, loamy sands, and certain organic soils.

Tables 1 and 2 lists the soil surface textures which fall into each wind erodibility group (WEG).

**TABLE 1
SOILS UNSUITABLE FOR RIDGES**

Wind Erodibility Group (WEG)	Soil Textures of Surface Layer	Soil Erodibility Index “I” Value
1	Very fine sand, fine sand, sand, or coarse sand	180 - 160
2	Loamy sand, loamy fine sand or sapric organic soil material	134

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

TABLE 2
SOILS SUITABLE FOR RIDGES

Wind Erodibility Group (WEG)	Soil Textures of Surface Layer	Soil Erodibility Index "I" Value
3	Very fine sandy loam, fine sandy loam, sandy loam	86
4	Clays, silty clays, noncalcareous clay loams and slity clay loams with > 35% clay content	86

CRITERIA

Ridge height, spacing, and direction

Acceptable combinations of ridge height, spacing, and direction are those having ridge roughness K values equal to 0.8 or less during those periods when wind erosion is expected to occur. Ridge roughness is discussed in the National Agronomy Manual Subpart 502.32 and K values are displayed in Exhibits 502-4 and 502-5 and in Florida Erosion Control Handbook, Section II, Table 13.

Use the latest approved soil and wind erosion prediction technology to determine when ridgeting is needed to meet the planned soil loss objectives.

Impact to cultural resources, wetlands, and Federal and State protected species needs to be evaluated and avoided or minimized to the extent practical during planning, design and implementation of this conservation practice in accordance with established National and Florida NRCS policy, General Manual (GM) Title 420-Part 401, Title 450-Part 401, and Title 190-Parts 410.22 and 410.26; National Planning Procedures Handbook (NPPH) FL Supplements to Parts 600.1 and 600.6; National Cultural Resources Procedures Handbook (NCRPH); and The National Environmental Compliance Handbook (NECH).

CONSIDERATIONS

Transport of wind-borne sediment and sediment-borne contaminants offsite can be reduced by this practice when used in a resource management system.

PLANS AND SPECIFICATIONS

Prepare specifications for installation, operation, and maintenance of Cross Wind Ridges for each field or treatment unit according to the Criteria, Considerations, and Operations and Maintenance described in this standard.

Record specifications on specification sheets, job sheets, narrative statements in conservation plans, or other acceptable documentation. As a minimum the following items should be documented:

1. Ridge Height
2. Spacing
3. Direction of ridges

OPERATION AND MAINTENANCE

Establish or re-establish ridges with equipment such as chisel plows, drills with hoe openers, or other implements that form effective ridges.

After establishment, maintain ridges through those periods when wind erosion is expected to occur, or until growing crops provide enough cover to protect the soil from wind erosion.

If ridges deteriorate and become ineffective due to weathering or erosion, or change in expected prevailing wind erosion direction, they shall be re-established unless doing so would damage a growing crop.

REFERENCES

- National Agronomy Manual
- Florida Agronomy Field Handbook
- Revised Universal Soil Loss Equation
- Wind Erosion Equation
- Florida Erosion Control Handbook