

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CROSS WIND RIDGES

(acre)
CODE 589A

DEFINITION

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

This practice is adaptable to soils which are stable enough to sustain effective ridges, such as clays and loamy soils which include fine sandy loams. This practice is not suitable on deep sands. It may or may not be suitable on some sandy soils depending on surface layer thickness.

PURPOSE

This practice may be applied as part of a conservation management system to reduce soil erosion from wind.

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

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to cropland, or other land where crops are grown.

TABLE 1

SOILS UNSUITABLE FOR RIDGES ^{1/}

Wind Erodibility Group (WEG)	Soil Textures of Surface Layer	Soil Erodibility Index "I" Value
1	Very fine sand, fine sand, sand, or coarse sand	310 250 220 180 160
2	Loamy very fine sand, loamy fine sand, loamy sand, loamy coarse sand, or sapric organic soil materials.	134

^{1/} An on-site investigation may be needed to verify the thickness of the surface horizon. If enough clay can be brought into the surface horizon, approximately 25% of the horizon, through tillage, then the soil may be suitable for ridges.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resource Conservation Service.

NRCS, Texas

May, 1999

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, or coarse sandy loam	86
4	Clay, silty clay, noncalcareous clay loam, or silty clay loam with more than 35% clay content	86
4L	Calcareous loam and silt loam, calcareous clay loam, and silty clay loam	86
5	Noncalcareous loam and silt loam with less than 20% clay content, sandy clay loam, sandy clay, and hemic organic soil materials	56
6	Noncalcareous loam and silt loam with more than 20% clay content or noncalcareous clay loam with less than 35% clay content	48
7	Silt, noncalcareous silty clay loam with less than 35% clay content, and fabric organic soil materials	38
8	Soils not susceptible to wind erosion due to surface coarse fragments or wetness. Wind erosion is not a problem.	---

CRITERIA

Ridge height, spacing, and direction:

Cross wind ridges shall be as nearly perpendicular to the wind direction as practical. The angle of deviation from perpendicular to the wind direction shall be 45 degrees or less. Acceptable combinations of angles of deviation, ridge height and spacing are those which result in Ridge Roughness K values equal to 0.7 or less during periods that wind erosion is expected to occur. K values are displayed in National Agronomy Manual, Exhibit 502.62(a).

Current erosion prediction technology will be used to determine when ridging is needed to meet planned soil loss objectives. Calculations will account for the effects of other practices in the conservation system.

CONSIDERATIONS

Transport of wind-borne sediment and sediment-borne contaminants offsite can be reduced by this

practice when used in a conservation management system.

Plant residue remaining after ridge building will greatly increase the control of wind erosion and retain more soil moisture. This practice can be effectively used in conjunction with Residue Management-Seasonal (344) Standard.

Where water erosion or water quality is a concern, the hazards can be reduced by using Residue Management (329 or 344), the Contour Farming (330) Standard, conforming to the grade and length requirements outlined in the Terrace (600) Standard, by using furrow dikes, or by using a combination of the above in a conservation system.

PLANS AND SPECIFICATIONS

Specifications for establishment and maintenance of this practice shall be prepared for each field or treatment unit according to the Criteria, Considerations, and Operation & Maintenance described in this standard.

Specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

These specifications will include as a minimum: soil type, furrow width, height, wind direction, row direction, dates for the furrows to be applied, and appropriate operation and maintenance statement(s).

OPERATION AND MAINTENANCE

Ridges shall be established or reestablished by normal tillage and planting equipment which form effective ridges.

The effective height of ridges shall be maintained during periods when soils lack adequate cover of residue or growing crops to prevent wind erosion and wind erosion can be expected to occur.

If ridges deteriorate and become ineffective due to weathering or erosion, they shall be reestablished to maintain the effective K value unless doing so would damage a growing crop.

APPROVAL AND CERTIFICATION

CROSS WIND RIDGES

(Acre)

CODE 589A

PRACTICE STANDARD APPROVED:

/s/ Monty Dollar

State Agronomist

May, 1999

Date

This practice standard is needed in the _____ Field Office Technical Guide.

Natural Resource Manager

Date

CERTIFICATION:

Reviewed and determined adequate without need of revision.

Technical Specialist (Agronomy)

Date

Technical Specialist (Agronomy)

Date