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.

PURPOSE

This practice may be applied as part of a conservation management system to reduce soil erosion from wind and meet the social and economic objectives of the producer.

CONDITIONS WHERE PRACTICE APPLIES

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

It is best adapted on soils which are stable enough to sustain effective ridges, 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 because the ridges deteriorate rapidly and the period of protection is much shorter.

CRITERIA

The design of ridge height, spacing, and direction to reduce wind erosion to the soil loss tolerance "T" or other planned soil loss objectives shall be determined using the current approved wind erosion technology.

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. K values are displayed in the National Agronomy Manual, Exhibit 502.62(a).

CONSIDERATIONS

This practice may be used in combination with other practices in a conservation management system to control erosion.

Adjacent fields, roads or field corners may need treatment to stop saltation of soil particles onto fields protected by cross wind ridges. Effective treatments may include mulching with straw or manure, permanent cover planting, planting windbreaks or herbaceous wind barriers.

The effect of crosswind ridges is generally temporary and may not last throughout the critical wind erosion period.

Cross wind ridges are most effective when established across the prevailing wind direction. Cross wind ridges formed in coarse textured soils such as very fine sandy loams, fine sandy loams, sandy loams, and sand soils should be done when soil is moist to be effective. Ridges on these soils will deteriorate quickly and shorten the protection period.

Where water erosion along the furrows formed by ridges is a concern, the hazard can be reduced by farming across the slope

according to the standards for contour farming.

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.

OPERATION AND MAINTENANCE

Ridges shall be re-established by normal tillage and planting equipment such as chisel plows, drills with hoe openers, or other similar implements which form effective ridges.

Proper equipment for soil types is important. In general, chisels, narrow sweeps or rotary hoes may reduce potential soil blowing on loamy or fine textured soils. Ridging the surface with a lister or wide shovels on chisel shanks is more effective on sandy soils.

After establishment, ridges shall be maintained 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, they shall be re-established unless doing so would damage a growing crop.