

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

CONTOUR FARMING

(acre)
CODE 330

DEFINITION

Farming sloping land in such a way that plowing, preparing land, planting, and cultivating are done on the contours. This includes following established grades or terraces or diversions.

PURPOSES

To reduce erosion and control water.

CONDITIONS WHERE PRACTICE APPLIES

On sloping cropland and on recreation and wildlife areas where other cultural and management practices in a cropping system do not control soil and water loss.

CRITERIA

Selected fields shall have continuous slopes with a nearly uniform grade or are slightly concave.

Deviation from the contour is permitted up to 10 percent of the field slope for a maximum continuous distance of 200 feet. If the field slope is 10 percent, then the row grade could change to a 1 percent grade (1.0 ft. drop per 100 ft.) for 200 feet and then must return to contour.

Using uniform row grades of 0.3 to 0.5 percent (0.3 ft. to 0.5 ft. drop per 100 ft.) would still fit this practice.

On irrigated land follow the irrigation guide for furrow length. For sprinkler or trickle-irrigated plantings, the lengths of lateral lines will be determined during irrigation system design.

CONSIDERATIONS

Fields that are cut by gullies, have undulating topography, or are irregular are not suitable for this practice. Fields that have heavy overland flows from above are not suitable unless these flows can be diverted to safe outlets.

Avoid areas that have evidence of mass movement or have the potential for landslips.

A topographic survey will usually be needed to see if the desired planting pattern will fit the slopes. The row spacing needs to fit the planned crops and equipment set-up used by the grower.

Following the flat contour (same elevation) may not be desirable where slow drainage may increase disease problems and where furrows could fill with water and overtop the beds to produce an erosive, avalanching down the slope.

Minimize the number of point rows by changing row grades within the allowable deviation and performing minor land smoothing.

Avoid leaving furrows in the same place more than two seasons without some cultivation.

On irrigated fields, locate the main irrigation pipelines and use them as control lines for staking out rows.

Provide safe outlets for runoff water due to rain or irrigation. Consider use of underground outlet.

Make provisions for protecting land that was disturbed or cleared from erosion until planting is established.

Provide protection for up and down hill farm roads during the rainy season using straw mulching alone or critical area planting. Avoid driving those roads during the rainy season.

Locate permanent guide rows that can be protected and maintained.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental

Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravels, and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

Contour farming may reduce the rate and the amount of runoff. This may increase the amount of soil moisture until the soil profile becomes saturated. The amount of water percolate may increase, which may increase the amount of ground water recharge.

1. Effects on the water budget, especially on volume and rates of runoff and infiltration.
2. Potential for a change in plant growth and transpiration because of changes in the volume of soil water.

Water Quality

This practice reduces erosion and sediment production. Less sediment and related pollutants may be transported to the receiving waters.

Increased infiltration may increase the transportation potential for soluble substances to ground water.

1. Potential for development of saline seeps or other salinity problems resulting from increased infiltration in the presence of restrictive layers.
2. Effects on erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances carried by runoff.

PLANS AND SPECIFICATIONS

Plans and specifications are to be prepared for each field. Identify alignment requirements with terraces, diversions, or contour strips, and where contouring is used without these practices.

List the planned grades for planting each crop and the allowable deviation from the contour on each field or parts of fields.

Specify the furrow lengths in irrigated fields based on the Irrigation Guide and irrigation system design.

Identify method for marking permanent guide rows and spacing of these guide rows.

Indicate location of water disposal measures.

Include erosion control measures for any up and down hill farm roads.

OPERATION AND MAINTENANCE

Maintenance needed for this practice includes protecting the permanent guide rows, periodic inspection and repairs to runoff water outlets, protecting up and downhill farm roads from erosion, cultivating the furrow at least every two years.