CC71 Increase Yields by Contouring
Many Nebraska farmers have increased yields of row crops by contour farming or planting across the slopes. Contoured corn averaged, over a seven-year period, ten bushels more per acre than corn which was listed up and down hill on a nine per cent slope, with 25½ inches of annual precipitation. Yields of sorghum were increased 25 per cent in a four-year average on a four per cent slope with 17 inches of rainfall. Each lister furrow, cultivator groove, and disk or drill row that is on the contour holds water until it soaks into the soil. Reducing run-off saves top soil and fertility for present and future crops.
Why waste power or tractor fuel by pulling equipment up the hills when it takes less to go across the slope? Tractors can pull a load faster around than up the hill, and consequently time is saved. Records of 35 Boone County farmers showed a 15 per cent saving in tractor fuel, and nine per cent saving of time by preparing the ground, planting, and cultivating corn on the contour. Replanting of row crops is rarely necessary if it is properly done on the contour.

Contour farming saves more soil and moisture on gentle slopes than on steeper slopes. It is best adapted to slopes of less than eight per cent. Steep land should be seeded to grasses and legumes.

Terraces are important in addition to contouring for controlling erosion on long slopes, or on fields that have rills or finger gullies. It is especially important to establish grass in the draws or drainage ways of cultivated fields to prevent gully formation by heavy rains. Soils absorb water more rapidly if the crop rotation keeps growing vegetation or crop residues on the land.

How to Determine the Percentage of Slope

1. Make a mark 100 inches from the end of a straight 1 x 4.
2. Set one end of the board on edge on the ground and point the other directly down hill.
3. Place level on top edge of board and measure the distance in inches from the 100-inch mark to the ground when the board is level. The number of inches from bottom of board to ground is the percentage of slope.

Check Level for Accuracy

Place the level on a straight board on a bench and raise the lower end by placing thin pieces of wood under it until the bubble centers between bubble marks. Then reverse level, and the bubble should center again. If it does not center, adjust the level until it will.

How to Lay Out Level Contour Lines

Guide lines for contouring may be laid out by two men with a surveyor's level, farm level, hand level, or a
carpenter’s level fitted with sights and a standard as described in Nebraska Extension Circular 773.

One man can lay out guide lines for contouring with a carpenter’s level fastened on top of a straight 1 x 4 with legs of equal height nailed at right angles to the ends. Using legs of equal height is satisfactory for use on gentle slopes.

1. Drive a stake about 150 feet from the top of the slope and near one edge of the field.

2. Set one of the legs supporting the level on the lower side of the stake and move the other leg up or down the slope until the board is level. Drive stake No. 2 against the upper side of the front leg. Stakes 1 and 2 are on the contour.

Level the frame by moving front supporting leg up or down hill.

Set stakes at level points.
3. Carry the level across the slope and place the back leg against the lower side of stake No. 2. Shift the front leg up or down hill until it is at a point level with stake No. 2, and drive stake No. 3, touching the upper side of the front leg.

4. Continue around the slope in this manner, setting each successive stake level with the previous ones. Avoid setting legs of the level in depressions or on ridges. If the field is ridged from cultivation it will be more satisfactory to lay out the lines after the first diskig.

5. Unless the slope is very uniform, additional contour lines will generally be necessary to keep the rows on the contour. On gentle slopes one contour line every 300 or 400 feet down the slope will be sufficient, while on steeper or irregular slopes, lines may be necessary at one-half or one-third this distance.

6. Mark contour lines by back-furrowing with the plow and avoid sharp turns at the stakes.

7. Always plant along the top line first, and work to the top of the hill.

8. Next plant on the lower side of the top contour at least half-way down to the second guide line.

Contouring Gentle Slopes

9. Then plant along the second contour line, working upward to about the width of a turn-row from the previously planted area. Irregular areas might be filled in with shorter rows and then the area which was left for a turn-row planted last. Small, irregular areas might be sown to feed crops for hay or winter pasture and thereby eliminate the point rows.
Irregular areas at the tops of ridges may be absorbed by turning each row away from the crest. With row crop implements, outside or half figure-8 turns will frequently be necessary on top of the ridge. Where the ridges or hogbacks are rather narrow, the slope is generally steeper in the draws than on the ridges, and working upward from a contour line tends to cause excess water to flow toward the crest of the ridge where breaking-over may form new ditches. Whenever the ridges have less slope than the draws, successive rows should be planted by working only downward from the contour line. When working both upward and downward from contour lines on fields with narrow ridges, the short point rows will be across the nose of the ridge and will concentrate surplus water in the turn-row which may damage the field.

10. Continue planting in the same manner between the successive lower contour lines.

**Caution:** Small plants may be buried by a dashing rainstorm if listed too deeply.

**How to Lay Out Gradient Guide Lines**

Contouring soils that absorb water more slowly, or on steeper slopes, is more successful if excess water concentrates at natural drainage ways which should be grassed. Guide lines can be laid out to drain excess water slowly toward the natural drainage ways by this method:

1. Make one leg of the level an inch longer than the other if a 16-foot 1 x 4 is used, or ¾-inch longer with a 12-foot 1 x 4.

2. Proceed as in laying out level contour, keeping the longer leg of the level frame toward the drainage way.

If additional information on contouring is desired, call your county extension agent or soil conservation office.
Here's How

you can increase yields by contouring, produce more with less time and power, conserve the soil, and help with the war effort.

THIS PUBLICATION IS ANOTHER WARTIME CONTRIBUTION OF YOUR STATE AND COUNTY

AGRICULTURAL EXTENSION SERVICE
THE UNIVERSITY OF NEBRASKA
AND U.S.D.A. COOPERATING
DISTRIBUTED THROUGH THE OFFICE OF YOUR COUNTY EXTENSION AGENT