

10 Contour stripcropping... crop rotation and contouring combined in equal-width strips of corn or soybeans planted on the contour and alternated with strips of oats, grass or legumes.



How it works

Crops are arranged so that a strip of meadow or small grain is alternated with a strip of row crop. Not more than half a field can be planted to row crops. Meadow slows runoff, increases infiltration, traps sediment and provides surface cover. Ridges formed by contoured rows slow water flow which reduces erosion. Rotating the strips from corn to legumes allows nutrient-needy crops to benefit from the nitrogen added to the soil by legumes. This practice combines the beneficial effects of contouring and crop rotation.

How it helps

- Contour stripcropping reduces soil erosion and protects water quality.
- Contour stripcropping may help reduce fertilizer costs.

Planning ahead

- How many acres of row crops do you need?
- Does your crop rotation allow for alternating row crops with small grains and forages?
- Will herbicide carryover be a problem?

Tech notes

- Row crop strips need to be nearly the same width as small grains or meadow. A 10% variance is allowed.
- Plant grass or legume field borders instead of end rows and establish waterways as part of your stripcropping system.
- Key lines used for laying out strips should not exceed a 2% slope; except within 100 feet of an outlet, when the grade can be 3%.
- Strip widths may be adjusted downward to accommodate your equipment width for even rounds.
- Stripcropping is not as effective if crop strips become too wide, especially on steep slopes. Use the following table to plan maximum widths:

<u>% Slope</u>	<u>Crop strip width</u>
1 - 2	130 feet
3 - 8	100 feet
9 - 16	80 feet
17 - 20	60 feet
21 - 25	50 feet

Maintenance

- Keep strip widths consistent from year to year.
- If a meadow crop fails or is winter-killed, NRCS can help you make adjustments in your rotation schedule.



How it works

A diversion is much like a terrace, but its purpose is to direct or divert runoff water from an area. A diversion is often built at the base of a slope to divert runoff away from bottom lands. A diversion may also be used to divert runoff flows away from a feedlot, or to collect and direct water to a pond.

How it helps

- Reduces soil erosion on lowlands by catching runoff water and preventing it from reaching farmland below.
- Vegetation in the diversion channel filters runoff water, improving water quality.
- Vegetation provides cover for small birds and animals.
- Allows better crop growth on bottomland soils.

Planning ahead

- Are there proper soil conservation measures installed to prevent the diversion from filling with sediment?
- Is the outlet planned in a location which will not cause erosion?
- Is the diversion and outlet large enough to handle the runoff amount for that location?

Tech notes

- Diversions cannot substitute for terraces used for erosion control.
- Diversions must be built to carry at least the peak amount of runoff generated by a 10-year, 24-hour storm.
- Minimum top width for a diversion ridge is four feet.
- Each diversion must have an outlet. A grassed waterway, grade stabilization structure, or underground outlet is acceptable.
- Establish vegetative outlets before a diversion is constructed.
- Diversions should not be built in high sediment producing areas unless other conservation measures are installed too.

Maintenance

- Keep outlet clear of debris.
- Keep burrowing animals out of the diversion.
- Maintain vegetative cover on the diversion ridge.
- Install filter strips above the diversion channel to trap sediment and protect the diversion, if needed.
- Fertilize as needed.

12 Grassed waterway... shaping and establishing grass in a natural drainageway to prevent gullies from forming.



How it works

A natural drainageway is graded and shaped to form a smooth, bowl-shaped channel. This area is seeded to sod-forming grasses. Runoff water that flows down the drainageway flows across the grass rather than tearing away soil and forming a larger gully. An outlet is often installed at the base of the drainageway to stabilize the waterway and prevent a new gully from forming.

How it helps

- Grass cover protects the drainage-way from gully erosion.
- Vegetation may act as a filter, absorbing some of the chemicals and nutrients in runoff water.
- Vegetation provides cover for small birds and animals.

Planning ahead

- Is major land reshaping needed?
- Is there a proper outlet for surface runoff at the bottom of the water-way?
- Are soil conservation measures installed to prevent siltation?
- Will tile drainage be necessary to establish vegetation in the water-way?

Tech notes

- A waterway should be deep enough and wide enough to carry the peak runoff from a 10-year frequency, 24-hour storm. Check NRCS design charts.
- Plant seed at recommended time and rates. Place seed about $\frac{1}{4}$ to $\frac{1}{2}$ inch deep. Plant across the area or in a figure 8 pattern to reduce erosion.
- A nurse crop, temporary cover or mulching may be necessary until permanent cover is established.

Maintenance

- Lift implements out of the ground and shut off spray equipment when crossing.
- Don't use the waterway as a roadway.
- Fertilize as needed.
- Mow periodically, but wait until August 1 so young birds have a chance to leave the nest.
- Maintain the width of the grass area when tilling surrounding fields.
- Avoid planting end rows along the waterway. This prevents a new gully forming on the outside edges of the waterway.

Contour buffer strip... strips of grass or legumes in a contoured field, which help trap sediment and nutrients. Similar to stripcropping, but with narrower grass or legume strips.



How it works

A series of grass strips are placed across the slope on a contour. The alternating strips of grass or other permanent vegetation slow runoff flow, trap sediment from the crop strips above, and increase water infiltration. Because the buffer strip is established on the contour, runoff flows evenly across the entire surface of the grass strip, reducing sheet and rill erosion.

How it helps

- Vegetation provides cover and habitat for small birds and animals.
- The strips reduce erosion by slowing water flow and increasing water infiltration.
- By reducing siltation and filtering nutrients and chemicals from runoff, grass strips improve water quality.

Planning ahead

- Have you decided whether you want parallel crop strips or parallel buffer strips?
- Are other conservation measures such as crop residue management installed or planned to help reduce siltation of grass strips?
- Will planned acres in row crops meet your production objectives?

Tech notes

- Buffer strips must be at least 15 feet wide.
- Either crop strips or grass strips may be parallel. Parallel crop strips are easier to farm with no point rows, but that results in less of the slope in row crops.
- Grass buffer strips commonly make up 20% to 30% of the slope.

Maintenance

- Control weeds and brush in grass filter strips.
- Delay mowing until August 1 to help ground-nesting birds.
- Keep vegetation tall in spring and early summer to help slow runoff flow.
- Fertilize as needed.
- The buffer strip may be moved up or down the slope to help re-establish vegetation or for other maintenance needs.