USDA United States Department of Agriculture
Natural Resources Conservation Service

Conservation Cropping Sequence

What is a conservation cropping sequence?

A conservation cropping sequence is an adapted sequence of crops designed to provide adequate organic residue for maintenance or improvement of soil tilth.

A conservation cropping sequence has many options. This may include alternating crops from a high residue producing crop, such as small grains, or corn harvested for grain, with low residue producing crops like soybeans or sunflowers. It may involve a longer short-term rotation to a legume or grass. It could mean alternating corn or grain sorghum with small grain, which may include a fallow year in western South Dakota or continuous high residue crops. All cropping sequences should, at a minimum, include a high residue producing crop at least 50 percent of the time.

How it helps the land

The effect a conservation cropping sequence has on the land varies with the capability of the land, the type of crops grown, whether crops are rotated, how crops are grown, and how crop residue is managed. Good rotations can improve crop yields, increase profit, return more organic matter to the soil, improve, or maintainsoil tilth, and control soil erosion. Conservation cropping sequences can also conserve soil moisture, break cycles of weeds, insects, and diseases, and provide wildlife habitat.

Where the practice applies

Conservation cropping sequences can be used on all cropland. Wherever wind and/or water erosion are a problem, conservation cropping sequences work best in combination with other conservation practices such as conservation tillage, field windbreaks, contouring, and grassed waterways.

Where to get help

Your local Natural Resources Conservation Service (NRCS) staff can help you develop an effective conservation plan that maintains or improves the soil resource and fits into your farming system.

Planning for a conservation cropping sequence

To reach a desired level of erosion reduction or to achieve other goals, you should develop and follow a crop sequence. A good place to record your decision is in a conservation plan tailored for your operation and soil resource.

Applying the practice

A conservation cropping sequence is considered applied when the “most conserving” crop has been planted at least once in each field, or when it is clear the specified crop ratio is currently in place for all affected fields or treatment units. The “most conserving” crop is the crop with the lowest erosion potential.

Maintaining the practice

After the “most conserving” crop is planted, it will continue to be rotated with the other crops in subsequent years.

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Adjusting the sequence

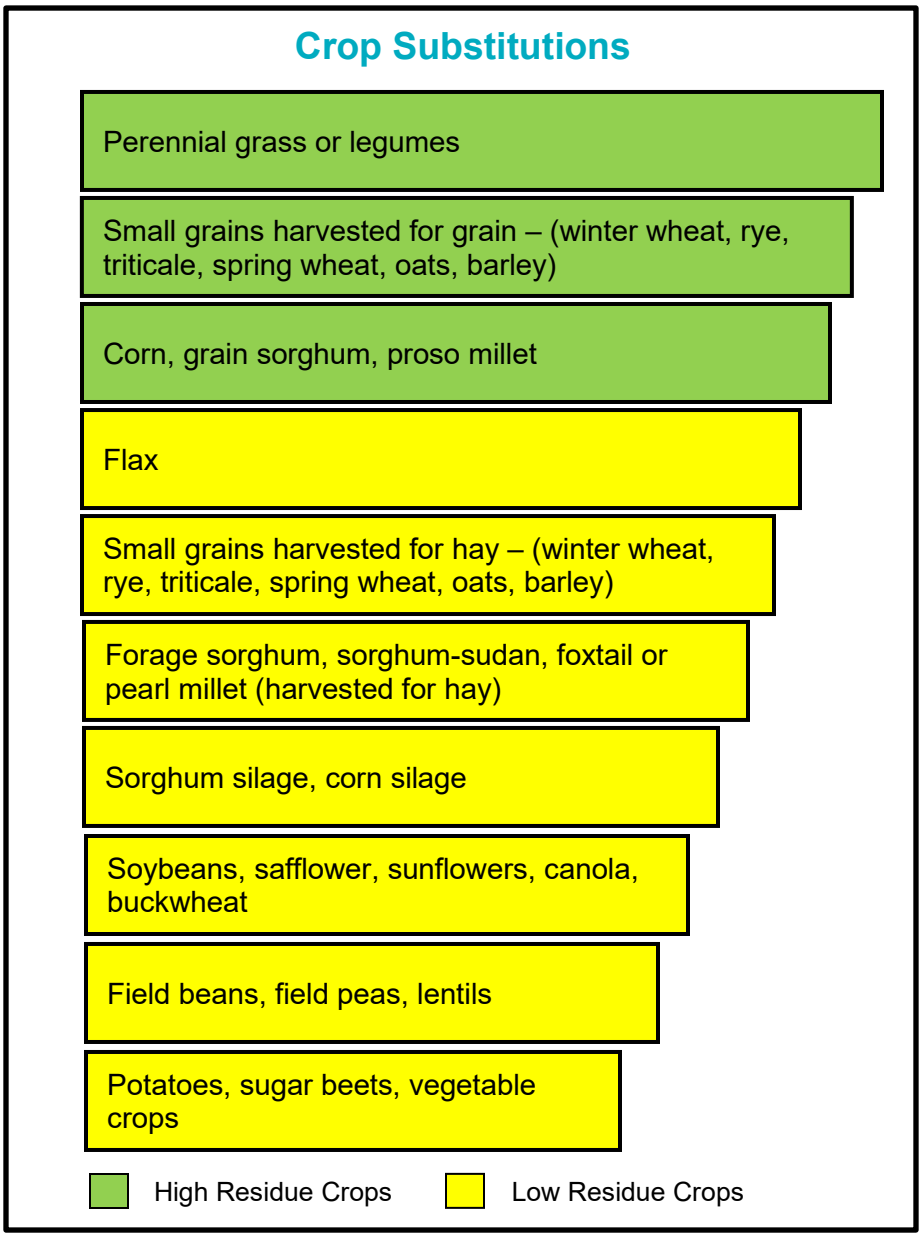
Weather conditions, farm program changes, unexpected herbicide carryover, and marketing considerations may affect year-to-year cropping decisions. These conditions may require a change in your scheduled sequence. To maintain planned erosion control or other benefits of a cropping sequence, simple adjustments can often be made by following these guidelines:

- Small grains can be substituted for any row crop or low residue crop when the same percentage of residue cover is maintained.
- Corn harvested for grain with residue left in the field can always be used to replace soybeans or any other low residue crop in the rotation.
- Perennial grasses and/or legumes may be substituted for all crops. Forcrop rotations that include grass and/or legumes, the rotation can be lengthened by maintaining the existing hay stand for additional years.

Other Considerations

In general, crops can be categorized into high and low residue producing groups. The high residue producing crops are considered more conserving because they provide better protection to the land than the low residue producing crops. Knowing how much residue your crop produces can be useful in planning any crop substitutions.

Crop substitutions for your farm can be determined using the list of high and low residue crops shown below.



Considerations for Highly Erodible Land (HEL)

To maintain eligibility for USDA farm program benefits, producers with highly erodible land must follow the crop sequence shown in the narrative section in their conservation plan for the fields specified.

Any crop substitution which is outside of those identified above should be approved by the Natural Resources Conservation Service prior to planting the crop.

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