

Conservation Crop Rotations

Iowa Job Sheet



Natural Resources Conservation Service
Des Moines, Iowa

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What are crop rotations?

Crop rotation is growing different crops on the same piece of land often changing crops year by year in a planned, recurring sequence.

This may include alternating row crop production from a high residue producing crop such as corn to a low residue producing crop like soybeans. It may also involve rotation to a small grain or a grass-legume meadow, and may include crops planted for cover or nutrient enhancements.

How it helps the land

The effect a crop rotation will have on the land varies depending upon the capability of the land, the type of crops used in the rotation, how the crops are grown and how the crop residue is managed.

Grass legume meadows are often the most conserving crop in a rotation. Good stands are needed to produce high yields, to increase profit, to return more organic matter to the soil, to improve or maintain tilth and to do an effective job of controlling soil erosion.

Where the practice applies

Soil conserving crop rotations can be used where sheet and rill erosion are a problem in cropland. Crop rotations work best with other conservation practices such as conservation tillage, contouring, and grassed waterways.

Where to get help

Your local Natural Resources Conservation Service office can assist in selection of a crop rotation pattern that will control soil erosion and fit into your farming system.



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Requirements of your crop rotations

In order to reach the planned level of erosion reduction or Soil Conditioning Index (SCI) you must follow the crop sequence shown in the "Conservation System Summary" in your conservation plan.

Applying the practice

This practice is considered applied when the most conserving crop has been planted at least once in each specified field, or conservation treatment unit (ctu), or 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 overall erosion potential in the specified crop rotation

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 which kind of crop you are growing can be useful in planning any crop substitutions.

Common lowa crops are listed below by category.

High Residue Crops

- corn (grain)
- corn (grain and cobs)
- sorghum (grain)
- small grain (winter or spring)
- forages (grass or legume)
- all crops with winter cover crop

Low Residue Crops

- corn (silage)
- corn (grain and residue)
- sorghum (silage)
- soybeans
- sunflower
- rootcrops
- vegetable crops

Maintaining the practice

After the most conserving crop is established it will continue to be rotated with the other crops in subsequent years.

Adjusting the rotation

Weather conditions, unexpected herbicide carryover, and marketing considerations may affect year to year cropping decisions which may require a change in your scheduled rotation. Simple

adjustments to rotations can often be made by following these guidelines:

- Small grains and meadow can always be used to replace any row crop or low residue crop.
- Corn (grain) can always be used to replace soybeans or any other low residue crop in the rotation.
- For crop rotations which include hay (meadow), the rotation can be lengthened by maintaining the existing hay stand for additional years.
- Any crop substitution which is outside of those identified in this job sheet should be evaluated to ensure sufficient quantities of biomass to reduce erosion to acceptable soil loss levels is used. Contact your local NRCS office prior to planting the crop.

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This table, along with a plan map identifying fields, may be used to help schedule rotations. Fill in the blanks with the appropriate crop for that year. The most conserving crop is circled.

Field/CTU #	_____	_____	_____	_____	_____
Year rotation begins	_____	_____	_____	_____	_____
Year 1	_____	_____	_____	_____	_____
Year 2	_____	_____	_____	_____	_____
Year 3	_____	_____	_____	_____	_____
Year 4	_____	_____	_____	_____	_____
Year 5	_____	_____	_____	_____	_____
Year 6	_____	_____	_____	_____	_____