Small Scale Solutions for your Farm
Rotations for Soil Fertility

Do You Have Problems with:
- Soil crusting
- Cloddy soil
- Water stress (too wet or too dry) for crops
- Soil erosion
- Soil compaction
- Low yield

A crop rotation can help to manage your soil and fertility, reduce erosion, improve your soil's health, and increase nutrients available for crops.

Purposes and Benefits of a Rotation System
- Improve crop yields
- Improve the workability of the soil
- Reduce soil crusting
- Increase water available for plants
- Reduce erosion and sedimentation
- Recycle plant nutrients in the soil
- Provide better distribution of labor during the crop season by using different crops, planting dates, and harvest periods
- Improves air quality
- Reduce fertilizer & insecticide inputs
- Reduces soil loss
- Reduces nutrient and pesticide contamination of streams and well water
- Improve crop emergence, growth and health
- Reduces financial risk by using multiple crops
- More money in your pocket

Crop Rotation Maintenance
- Periodic soil testing (initially every 1-3 years, then later at 3-5 years)
- Crop and pest scouting
- Annually, evaluate cropping sequence for income needs and soil concerns
- Calibrate sprayers, planters, and fertilizer applicators to:
  - Apply the recommended rates
  - Establish uniform distributions
  - Provide uniform seeding depths

SEPTEMBER 2022
Crop Rotation Planning Considerations

- Identify soil erosion, nutrient, and soil health concerns.
- Soil test (every 1–3 years) for pH, organic matter, and nutrients. Use soil test recommendations to adjust pH and nutrient levels for optimum crop yields and quality.
- Determine nutrient (fertilizer, manure, or composts) needs.
- Choose the crops/varieties to meet the erosion, soil health, nutrient concerns, and other producer objectives.
- Evaluate and modify the crop sequence based on the identified concerns.
- Attend training needed for crop, soil, and pest scouting.
- Evaluate cover crop needs.
- Clean field equipment when moving from one field to another. Wash with water and/or physically remove the soil and plant residue from the equipment.

Practice Application

1. Using a map, lay out a crop rotation by year for the length of the rotation. See Example
2. Plan rotation for the operation to establish a nearly equal acreage for each crop each year.

Four Field/Four Year/Four Crop Sample Rotation

<table>
<thead>
<tr>
<th>Crop</th>
<th>Year</th>
<th>Field/Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Grain, Oats, Hay, Hay</td>
<td>1, 2, 3, 4</td>
<td>#1 / 9.3</td>
</tr>
<tr>
<td>Oats, Hay, Hay, Corn Grain</td>
<td>1, 2, 3, 4</td>
<td>#2 / 9.7</td>
</tr>
<tr>
<td>Hay, Hay, Corn Grain, Oats</td>
<td>1, 2, 3, 4</td>
<td>#3 / 9.7</td>
</tr>
<tr>
<td>Hay, Corn Grain, Oats, Hay</td>
<td>1, 2, 3, 4</td>
<td>#HQ / 7.5</td>
</tr>
</tbody>
</table>

Rotations produce healthy crops.

Rotations are planned to produce residue cover for erosion control and moisture conservation.

Rotations involving hay or cover crops improve soil, reduce fertilizer and pesticide inputs.
Technical and Financial Assistance

Whether you measure your farm in terms of feet or acres, your local Natural Resources Conservation Service (NRCS) office has experienced conservationists that can help you develop a Conservation Plan to conserve, maintain, and restore the natural resources on your land and improve the long-term health of your operation.

There is no charge for our assistance. Simply contact your local office to set up an appointment. You may also be eligible to receive financial assistance. Your NRCS office will explain any programs that are available so you can make the best decision for your operation. All NRCS programs and services are voluntary.

For More Information

Visit the Natural Resources Conservation Service or visit farmers.gov/service-locator to find your local NRCS office. You can also check with your local USDA Service Center, then make an appointment to determine next steps for your conservation goals.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA’s TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.