



Washington State Dept. of Agriculture Organic Food Program

Certification Fact Sheet

Crop Rotation in Organic Production

1. Purpose

Crop rotation is an essential, required component of the National Organic Standards (NOS). This guidance clarifies the organic production requirements for WSDA certified operations to meet the crop rotation standard as it relates to soil fertility, managing plant nutrients, erosion control, and the management practices for preventing crop pests, weeds, and diseases.

2. Background

The specific crops and the frequency and sequencing of their use in rotation are not specifically defined in the NOS. This provides flexibility for the grower and certifying agent to determine the practices that meet the crop rotation standard within the context of site-specific environmental conditions including climate, hydrology, soil conditions, and the crops being produced [NOP Preamble – Crop Production – Clarifications (1), paragraph 2, pg. 19].

3. Crop Rotation Functions

- Maintain or improve soil quality and soil organic matter content (NOS 205.200, 205.205).
- Manage crop nutrients and soil fertility (NOS 205.203, 205.205).
- Pest management in annual and perennial crops (NOS 205.205, 205.206)
- Prevent crop pests, weeds, and diseases (NOS 205.206)
- Provide erosion control (NOS 205.205)

4. Pasture Production Sites

Pasture production sites are exempt from the crop rotation standard.

5. Annual Cropping Systems

Crop means pastures, cover crops, green manure crops, catch crops, or any plant or part of a plant intended to be marketed as an agricultural product, fed to livestock, or used in the field to manage nutrients and soil fertility (NOS 205.2).

Crop rotation means the practice of alternating the annual crops grown on a specific field in a planned pattern or sequence in successive crop years so that crops of the same species or family are not grown repeatedly without interruption on the same field (NOS 205.2).



Crop year means the normal growing season for a crop as determined by USDA (NOS 205.2).

To provide assistance in understanding the National Organic Program's definition of Crop Rotation, WSDA utilizes the following definitions :

Repeatedly means grown in more than two consecutive crop years.

Interruption means:

- Planting and harvesting a crop from a different species or family in the subsequent crop year.
- Planting and harvesting a crop from a different species or family within the same production year (e.g., double cropping, triple-cropping, quadruple-cropping).
- Planting a cover crop and incorporating the plant residue into the soil as a green manure.
- Leaving the field fallow for at least one crop year provided that crop residue and volunteer vegetation in field manages soil fertility and adequately prevents soil erosion.

A. If annual crop growers use a crop rotation system outside the parameters of the above definitions, WSDA will issue a Notice of Noncompliance for failure to implement an adequate crop rotation practice. To resolve the Notice of Noncompliance, growers would need to:

- Implement an adequate crop rotation practice; OR
- Provide verification, supported by credible data, that their production practices satisfy all relevant crop rotation functions (NOS 205.200, 205.203, 205.205 and 205.206); and

If a grower alleges that any crop rotation functions are not applicable to the farm's production system, the grower must provide a written scientific explanation, supported by an independent third-party, which verifies the specific crop rotation functions that are not applicable. Some site-specific environmental conditions including climate, hydrology, soil conditions, and/or the crops being produced may make some crop rotation functions not applicable.

If WSDA determines the information is not adequate to verify compliance with the National Organic Standards, the grower may implement an alternative adequate crop rotation practice or WSDA will issue a Notice of Proposed Suspension, at which point the grower may appeal to the National Organic Program.

6. Perennial Cropping Systems

Perennial cropping systems employ means such as alley cropping, intercropping, and hedgerows to introduce biological diversity in lieu of crop rotation (NOS 205.2).

Alley Cropping – The practice of establishing adequate ground cover in the alley ways between perennial crop rows including, but not limited to sod, volunteer vegetation, cover crops, green manure crops, and catch crops.

Biological diversity— The degree of variation of life forms within a given ecosystem (e.g., farm or production site).

Intercropping – The practice of simultaneously cultivating two or more crops in the same production area.

Hedgerows – The practice of establishing trees or shrubs used to foster biological diversity.

A. If perennial crop growers do not have ground cover in alley ways at any time (i.e. year-round clean tilling), WSDA will issue a Notice of Noncompliance for failure to comply with the crop rotation standard (e.g. erosion control, biological diversity, soil fertility). To resolve the Notice of Noncompliance, growers would need to plant an adequate ground cover between the perennial crop rows.

B. If biological diversity cannot be verified or observed during the annual inspection, WSDA will issue a Notice of Noncompliance for failure to comply with the crop rotation standard. To resolve the Notice of Noncompliance, growers would need to:

- Implement intercropping or hedgerow cultivation practices to meet the crop rotation standard, OR
- Provide documentation supported by credible data that verifies the production practices provide biological diversity for their farm or production site.

If WSDA determines the information is not adequate to verify compliance with the National Organic Standards, the grower may implement intercropping or hedgerow cultivation practices or WSDA will issue a Notice of Proposed Suspension, at which point the grower may appeal to the National Organic Program.

7. References and Resources:

(Link directly to the highlighted url or type the short link into your browser address field if you are viewing this as a printed document.)

- National Organic Program Production and Handling -- [Preamble](#)
- National Organic Program Standards -- [Electronic Code of Federal Regulations](#)
- Crop Rotation -- [NCAT Sustainable Agriculture Program Crop Rotation Guide](#), or <http://tinyurl.com/rotation-guide>
- Intercropping -- [NCAT Sustainable Agriculture Program Intercropping Principles and Production Practices](#) (note that this is a 99c digital download), or <http://tinyurl.com/intercrop-guide>
- Hedgerows -- [NCAT Sustainable Agriculture Program Hedgerow Guide](#), or <http://tinyurl.com/hedgerow-guide>

Washington State Department of Agriculture
Organic Food Program
PO Box 42560; 1111 Washington Street SE
Olympia, WA 98504-2560
(360) 902-1805, organic@agr.wa.gov
<http://agr.wa.gov/foodanimal/organic>

