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 organic matter, 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), par. 2, pg. 19].

3. Crop Rotation Functions
Crop rotation includes but is not limited to sod, cover crops, green manure crops, and catch crops that provide the following functions:

- Maintain or improve soil quality and organic matter content (NOS 205.200, 205.205).
- Manage crop nutrients and soil fertility (NOS 205.203, 205.205).
- 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 Crop Rotation standard, 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.
- Planting a cover crop and incorporating the plant residue into the soil as a green manure.
- Planting a cover crop and leaving the land covered and fallow for one crop season.

If annual crop producers implement a crop rotation system outside the parameters of the above definitions, and:

- utilize synthetic weed, pest, or disease control materials approved on the National List at 205.601, or
- soil organic matter is not maintained, or
- erosion has not been prevented

WSDA will issue a Notice of Noncompliance for failure to implement crop rotation practices. To resolve the Notice of Noncompliance, the certified operation will need to modify their crop rotation strategies.

### 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** – Trees or shrubs inter-planted with agronomical or horticultural 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** – Dense vegetation established in a linear design to achieve a conservation purpose.

If perennial crop growers do not have ground cover in alley ways at any time (i.e. year-round 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.

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 will need to implement practices to meet the crop rotation standard.

Contact our office to discuss the crop rotation plan specific to your operation and to assess its consistency with the requirements of USDA organic regulations.

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