



Crop Rotation in Organic Crop Production

Guidance

Crop rotation is an important cultural method for managing nutrients, combating pests, and protecting vital natural resources. Rotations designed using knowledge of plant biology, weed cycles, and nutrient cycling can boost yields and provide investments in soil fertility. It is important to consider, however, that while crop rotation has formal and informal meanings, certified organic operators are required to create a crop rotation as defined through the National Organic Program (NOP). Certifiers, such as PCO, evaluate whether a crop rotation is compliant with organic regulations based on the regulatory definition and several standards that refer to crop rotation (7 CFR 205.203, 205.205 and 205.206).

DEFINITIONS

- Crop rotation: 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. Perennial cropping systems employ means such as alley cropping, intercropping, and hedgerows to introduce biological diversity in lieu of crop rotation. §205.2

NOP REGULATIONS AND PCO POLICY

Crop rotation is a required practice in the NOP organic regulations. Generally, crop rotations are planned to take advantage of inherent crop characteristics that will benefit the land, the farmer, and subsequent crops. While there are multiple strategies and possibilities for rotating crops in a given field over time, there are specific functions that must be considered during its design and implementation. PCO will look at your rotation to determine whether it fulfills the following criteria: (1) Maintains or improves soil organic matter; (2) Assists with the management of pests in annual and perennial crops; (3) Manages deficient or excess plant nutrients; and (4) Provides erosion control. In addition, according to organic regulations, crop rotations cannot include the same plant species or family grown repeatedly without interruption on the same field. There are several ways for operations to fulfill the crop rotation; some examples of strategies used to fulfill the required functions are included on the next page.

ADDITIONAL INFORMATION

HOW DO I KNOW IF MY CROP ROTATION IS COMPLIANT?

When reviewing a crop rotation for compliance, PCO looks at the pattern of crops grown in the same field over time. The time periods of growth, types of crops grown, use of cover crops and repetition of plant families and species are examined to determine whether the organic operator's plan provides the required functions. If it is unclear whether a crop rotation plan is compliant, you will be required to submit justification that details how the required functions are being filled, which must include how you reached that conclusion (e.g. monitoring, cooperative extension advice/consulting, published research, etc.).

General Guidelines for Crop Rotation:

- ✓ Interrupt plant families/species in the same field for a minimum of one growing season.
- ✓ Alternate heavy nitrogen feeders with nitrogen-fixing crops or cover crops.
- ✓ Plan cover crop usage to avoid bare soils or periods of active nutrient mineralization without plant growth.
- ✓ Disrupt pest cycles (weeds, insects, diseases) by avoiding shared hosts in the same field in subsequent years.

EXAMPLES OF CROP ROTATION FUNCTIONS IN PRACTICE



A NOTE ON BIOLOGICAL DIVERSITY

Crop rotation naturally introduces biological diversity to organic operations through the changes in crops grown on the same field over time; however, some perennial crops or long-term rotations may require other strategies for introducing biological diversity. Solutions are site-specific, however strategies include (1) the creation of wildlife corridors, (2) installation of hedgerows, (3) cultivating cover crops between rows of perennial plants, and (4) using biologically active soil amendments, such as compost.