Water Quality Enhancement Activity –WQL20 – Transition to ORGANIC cropping systems

Enhancement Description

"Transition to Organic Cropping Systems" supports the conversion of a conventional to an organic cropping system. Key to the enhancement is the inclusion of management activities that improve water and soil quality in an "Organic System Plan (OSP)" that adheres to the National Organic Program (NOP) 205.201 criteria. Included in the plan are specifics on how producers will manage pests, weeds, diseases, and plant nutrients by following a crop rotation that incorporates cover crops and by using other cultural, biological and physical methods. The OSP also covers uses of manure and compost, measures to prevent exposure of organic crops and soils to NOP-prohibited substances, and seed sources.

Land Use Applicability

Cropland

Benefits

Environmental benefits are operation specific. Benefits may include, but are not limited to, improved soil quality through reduced erosion, increased organic matter, and balanced plant nutrients; reduced energy consumption due to the use of inputs with lower energy embodiment; wildlife habitat protection; and reduced impact on water quality. Organic transition reduces the impact of the farming operation on water quality by managing pests, weeds, and diseases through biological, mechanical, and cultural practices that eliminate the need for synthetic pesticides and by using slower-release organic and natural mineral nutrient sources that reduce nutrient losses via leaching and runoff.

Conditions Where Enhancement Applies

This enhancement only applies to crop land use acres in the process of transitioning to an organic production system.

Criteria

1. Implement a crop rotation that improves soil quality using a sod-based rotation, inclusion of high residue crops, addition of cover crops during non-crop periods, reduced tillage, and/or other soil improving practices. Work with your local NRCS Field Office to calculate RUSLE2 STIR and SCI values in order to document the soil quality improvement.
2. Manage plant nutrients using agronomic practices such as:
   a. Cover crops to provide or trap nutrients,
   b. Crop rotations that mix high and low nutrient feeding crops,
   c. Deep rooted crops followed by shallow-rooted crops, and/or
   d. Soil testing to determine nutrient values for application rates of compost and other nutrient sources.

3. Follow NRCS practice standard criteria for Nutrient Management (590) when incorporating manure when applied within the time limit specified in the NOP 205.203c1.
4. Follow NRCS practice standard criteria for Nutrient Management (590) and follow NOP 205.203c2 before land application of composted manure and plant materials for plant nutrient use.
5. Follow NRCS practice standard criteria for Nutrient Management (590) and follow criteria in NOP 205.203d & e to apply additional plant nutrient supplements in such a way that they do not contribute to contamination of crops, soil, or water.
6. Manage pests through strategies that incorporate NRCS practice standard criteria for Integrated Pest Management (595):
    a. Prevention management practices (e.g., crop rotation, sanitation measures, providing habitat for natural enemies, and selection of pest-resistant crop varieties),
    b. Scouting and monitoring of pests and beneficial insects,
    c. Suppression by using biological, mechanical, or physical practices (e.g. introduction of predators or parasites of the pest species, row covers and other barriers, cultivation or flame weeding, mulching), and
    d. Suppression by using biological, mineral or botanical materials allowed under NOP regulations, only when the above measures prove insufficient.
7. Apply all materials, including plant nutrients and pesticides for crop production in accordance with the National List of Allowed Synthetic and Prohibited Natural Substances.
8. Apply no prohibited substances, as listed in NOP §205.105 to the land for a period of 3 years immediately preceding harvest of the first crop to be marketed as USDA certified organic.
9. Establish distinct, defined boundaries and buffer zones between fields and adjacent lands to prevent the unintended application of a prohibited substance to the crop or contact with a prohibited substance applied to adjoining land that is not under organic management.

Adoption Requirements

This enhancement is considered adopted when the crop land use acre has received USDA Organic Certification.

Documentation Requirements

1. Written narrative of practices used during the transition to:
    a. Protect water resources from contamination by sediment, nutrients or pest-control materials,
    b. Improve soil quality including crop rotation, cover crops and other associated practices,
    c. Provide and manage plant nutrients, and
    d. Manage pests in the cropping system.
2. Map showing field boundaries and buffer zones.
3. RUSLE2 documents displaying STIR before and after.
4. A record of the application of inputs according to the NOP rules (e.g., type, date, rate, and amount of allowed nutrients and pesticides).
5. Documentation of practices applied and steps taken to receive organic certification based on consultation with an accredited organic certifier.
6. Copy of the Organic System Plan when approved by certifying agent and the valid USDA Organic Certificate when issued.

References

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USEPA. 2011. Water Quality Criteria for Nitrogen and Phosphorus Pollution. http://water.epa.gov/scitech/swguidance/waterquality/standards/criteria/aqlife/pollutants/nutrient/index.cfm

USDA-Study Team on Organic Farming. 1980. Report and Recommendations on Organic Farming. US Government Printing. Office 1980-0-310-944/96. Beltsville, MD.