United States Department of Agriculture
Natural Resources Conservation Service 2012 Ranking Period 1

Soil Quality Enhancement Activity – SQL08 – Intercropping to improve soil quality and increase biodiversity

Enhancement Description
This enhancement involves the use of intercropping principles, growing two or more crops in close proximity to each other, to promote interaction resulting in improved soil and water quality while increasing biodiversity.

Land Use Applicability
Cropland

Benefits
Incorporating intercropping principles into an agricultural operation increases diversity and interaction between plants, arthropods, mammals, birds and microorganisms resulting in a more stable crop-ecosystem. This collaboration that mimics nature is subject to fewer pest outbreaks; improved nutrient cycling and crop uptake; and increased water infiltration and moisture retention. Soil quality, water quality and wildlife habitat all benefit.

Conditions Where Enhancement Applies
This enhancement applies to all crop land use acres.

Criteria
One or more of the following intercropping systems will be used; systems can be mixed during the contract period allowing for a different system to be used each year on the same field.

1. Relay inter-cropping – the growing of two or more crops on the same field with the planting of the second crop after the first one, e.g. over seeding of a clover cover crop into cotton during defoliation, or planting of clover at lay by time of corn.
2. Row inter-cropping – the growing of two or more crops simultaneously on the same field with at least one crop planted in rows, e.g. planting corn in the rows and inter-seeding sorghum between the rows, harvesting all as silage or planting clover in between orchard tree rows.
3. Strip inter-cropping – the growing of crops in alternate strips wide enough to permit separate crop production using machines, but close enough for crops to interact, e.g. planting alternating rows of corn and soybeans 6 rows each or alternating strips of corn and Sudan grass. This isn't the same as NRCS conservation practice "Strip cropping" (585).

System design shall consider:

- Adjustments in plant density to avoid overcrowding.
- Maturity dates and/or development periods to maximize use of nutrients, water and other resources.
- Utilizing plant structure that provides for a diversity in heights with one plant providing a support for other to grow, e.g. corn supporting climbing beans
- Adjustments in nutrient requirements to account for those being supplied by inter cropping system used.

Adoption Requirements

This enhancement is considered adopted when one or more of the three list intercropping systems in the criteria above have been implemented on a crop land use acre.

Documentation Requirements

1. Written documentation for each year describing by field:
   a. Intercropping system used
   b. Crops planted
2. A map showing fields where enhancement was applied
3. Photographs of a representative number of fields

Michigan Supplement

SQL 08

There are no additional criteria for Michigan.

Refer to the following for assistance with implementing this enhancement:

MNRCS MI eFOTG, Section 1, Michigan Agronomy Technical Notes

Number 41- Narrow Strip Cropping

Number 42- Effect of Controlled Release N on Corn in Narrow Stripcropping

For Relay inter-cropping and Row inter-cropping- the 340 (Cover Crop) and 311 (Ally Cropping) Conservation Practice Standards may provide additional guidance.