

**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 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.

**Criteria**

One or more of the following intercropping system 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. Mixed or multiple inter-cropping –the cultivation of two or more crops simultaneously on the same field without a row arrangement, e.g. Use of a cover crop mix that is harvested by grazing or haying.
2. 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.
3. 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.
4. 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).



United States Department of Agriculture  
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2011 Ranking Period 1

System design should 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.

#### **Documentation Requirements**

1. Written documentation for each year of this enhancement 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

**This activity may NOT be used with the following enhancements: ANM21, ANM22, ANM23, SOE02, SQL06**

**Potential duplicate practices: 328 - conservation crop rotation, 340 - cover crop, 311 - alley cropping, 585 - strip cropping**