

**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.

**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 should consider:

- Adjustments in plant density to avoid overcrowding.



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2011 Ranking Period 1

- 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

## ALABAMA SUPPLEMENT TO ENHANCEMENT SQL08 INTERCROPPING TO IMPROVE SOIL QUALITY AND INCREASE BIODIVERSITY

Increasing diversity by incorporating intercropping principles into an agriculture operation will increase interaction between plant, arthropods, mammals, birds and microorganisms resulting in a more stable crop-ecosystem. This enhancement involves the use one or more of the following intercropping principles to grow two or more crop in close proximity at the same time to promote these benefits in soil and water quality. 1) Relay inter-cropping (growing two or more crops on the same field with planting of the second crop after the first one). 2) Row inter-cropping (the growing of two or more crops on the same field with the planting of the second crop after the first one). 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 ). For strip inter-cropping the maximum width of the strips is the width of the planter or harvester, whatever is wider. For example if producer is planting corn and cotton on 36 inch rows and has a 12 row planter (36 ft) and the harvest equipment for the corn and cotton is 6 row than the maximum width of the strip would be 36 feet (12 rows).This enhancement can only applied on cropland. Refer to the national enhancement for more information.

### Documentation Requirements:

1. Documentation for each year of the enhancement by field a) intercropping system, b) crop planted, and c) planting dates.
2. Map of the fields where the enhancement was applied.
3. Photographs of a representative number of fields.

### References:

#### **Intercropping Principles and Production Practices**

<http://attra.ncat.org/attra-pub/intercrop.html>

#### **Strip Intercropping**

<http://www.extension.iastate.edu/Publications/PM1763.pdf>

#### **Potential economic, environmental benefits of narrow strip intercropping**

<http://www.p2pays.org/ref/49/48354.pdf>

**ALABAMA SUPPLEMENTAL INFORMATION FOR THIS ENHANCEMENT**

***SQL08 – Intercropping to improve soil quality and increase biodiversity***

**Documentation Form**

<b>Producer Name:</b>		<b>Date:</b>	
<b>Tract Number(s):</b>		<b>County:</b>	
<b>Field Number(s):</b>			
<b>Year</b>			
<b>Intercropping System</b>			
<b>Crop(s) Planted:</b>			
<b>Plant Date(s):</b>			

**Attach map showing fields and acreage where enhancement applied. Also, attach representative photographs of planted fields.**

**The supplied documentation accurately reflects the implementation of this enhancement.**

**SIGNATURE:**

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