



CONSERVATION ENHANCEMENT ACTIVITY

E328N

Intercropping to improve soil health

Conservation Practice 328: Conservation Crop Rotation

APPLICABLE LAND USE: Crop (Annual & Mixed)

RESOURCE CONCERN ADDRESSED: Soil Quality Limitations

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

This enhancement involves the use of intercropping principles (i.e., growing two or more crops in close proximity to each other during part or all of their life cycles) to promote interactions that improve soil health, plant health, reduce inputs via increased biodiversity and contribute to pest management. 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 and a more efficient use of space, water, sunlight and nutrients. Furthermore, soil health is benefited by increasing ground coverage with living vegetation which reduces erosion and by increasing the quantity and diversity of root exudates which enhances soil fauna. This collaborative type of crop management mimics nature and is subject to fewer pest outbreaks, improved nutrient cycling and crop nutrient uptake, and increased water infiltration and moisture retention. **This enhancement cannot be used for annual hay or silage crops. It is for grain/seed/vegetable production only.**

Criteria

One or more of the following intercropping systems shall be used. Systems can be mixed during the contract period allowing for within year diversity on the same field. Producers should consult with the USDA-Risk Management Agency (RMA) to clarify and understand how the use of any of the criteria options below might impact insurability of any cash crop grown using these methods.



- Plant two or more crops simultaneously in the same field. For example, planting chickpeas and flax together either in alternate rows or mixed within rows. Another example could be planting vegetables that perform well together, e.g. the “three sisters” intercropping system of corn, beans and squash.
- Relay intercropping – grow two or more crops on the same field with the planting of the second crop before the first crop is harvested. This cropping strategy enables production of a second crop in areas where time for seeding the second crop is considered inadequate for double cropping. For example, seeding soybeans into wheat that is still growing.
- Strip intercropping – grow crops in alternate strips wide enough to permit separate crop production machinery, but close enough for crops to interact (e.g., planting alternating strips of corn and soybeans 6 rows each or alternating strips of corn and Sudan grass). Generally, the maximum width of individual strips for effective interaction of crop pests and their natural enemies is about 30 ft. Note: this criterion is not the same as NRCS Conservation Practice Stripcropping Code 585



Documentation and Implementation Requirements

Participant will:

- Prior to implementation, provide NRCS with the current and planned crop rotation, including intercropping system used, for all cropland acres on the operation.
- Prior to implementation, provide maps for review by NRCS of the planned crop rotation.
- During implementation, notify NRCS of any planned changes in crops, crop rotation, or field operations to verify the planned system meets the enhancement criteria.
- During implementation, take dated pictures with field indicated at least every 3 months to show growing intercrops.
- After implementation, provide for review pictures showing growing intercrops throughout the year.

Current Management Rotation (complete table for each rotation)

Field	Current Crops (in sequence)	Planting Date	Harvest Date

Planned Management Rotation With Intercropping (complete table for each rotation)

Field	Planned Crops (in sequence)	Planting Date	Harvest Date



NRCS will:

- As needed, provide technical assistance in selecting intercropping systems for the crop rotation that would meet the criteria of the enhancement.
- As needed, provide additional assistance to the participant as requested.
- Prior to implementation, verify the crop rotation meets the criteria of the enhancement. ***Plan/contract the actual acres planted to the intercrops.***
- During implementation, evaluate any planned changes in crops, crop rotation, or management to verify the new system meets the enhancement criteria.
- After implementation, if there were any changes to planned rotation or management evaluate the applied crop rotation using information provided from the participant to verify the applied rotation meets the enhancement criteria.
- After implementation, review photos of the intercropping system.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met the criteria and requirements.

Participant Name _____ Contract Number _____

Total Amount Applied _____ Fiscal Year Completed _____

NRCS Technical Adequacy Signature

Date

Design Approvals & Acknowledgements:

Design Approval	Date	Job Approval Authority
Designed by:		
Approved by:		

Client's Acknowledgement Statement:

The client acknowledges:

- I have received a copy of the specification and understand the contents and requirements.
- It is my responsibility to obtain all necessary permits and/or rights and to comply with all ordinances and laws pertaining to the application of this practice.
- I will not begin installation of this practice until I have received appropriate approval to do so. I understand NRCS also has Federal and state laws to comply with that may take some time to address (e.g. cultural resources).

Client's Signature	Date

Certification Documentation:

	Field Evaluation: Post-treatment inventory, measurements, notes, as-built, and supporting documentation (document completion in conservation plan), as required.
	Map(s): Including field numbers, fields treated, and units treated (may document on conservation plan map), as required.
	Photos or other supporting documentation (e.g., seed tags, soil tests, receipts, invoices, spray records, fertilizer records, etc.)
Brief Description of Work Accomplished (types of equipment used, date of application, extents and quantities installed, etc.)	

Certification Statement:

The employee certifies the implementation of this conservation practice:

- Meets the purpose, general criteria, and any required additional criteria as documented in the conservation practice standard and/or enhancement sheet.
- Meets the specifications contained herein and is complete.
- Conforms to my existing Job Approval Authority controlling factors and levels.

Name	Date	Job Approval Authority

Field Level Certification – For multiple applications of this design.				
Land Unit/ Contract Item Number	Date	Unit(s)	Amount Installed	Certifier