<u>TRANSITIONING TO ORGANIC:</u> <u>CERTIFICATION BASICS AND</u> <u>RESOURCES FOR TRANSITION</u>



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PART ONE: Intro to Organics

USDA Organic Certification and the Organic System Plan

Organics in a Nutshell

Farming system that aims to/for Foster biological processes

- eg. nutrient cycling, biological control, Nfixation
- Rely less on external inputs
 - Fertilizers & pesticides
 - Prohibits synthetic inputs*
- Biodiversity: crop rotation & farm ecosystem
- Improve environmental quality
- Provide safe products for consumers &

Organics a Reaction To:

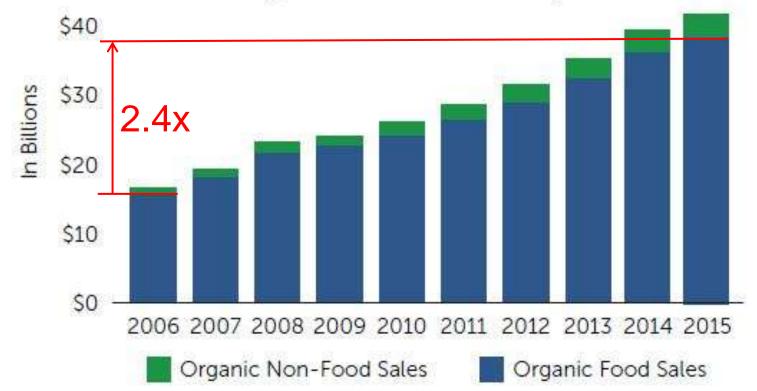
Dominance of synthetic inputs

- Some (not all) synthetic inputs can have adverse effects on biological systems (eg. aquatic life)
- Reliance on natural inputs thought to improve biology on the farm (and downstream)
- Perceived risks to human health and environmental quality in conventional ag
 - Motivates consumers to choose organic

Organics Are a Growing Market

National sales continue to rise

Total U.S. Organic Sales and Growth, 2006–2015



History of Organic Program

- In the past, "Organics" not well defined
- No national-level standard
- Certification, but standards varied
- Publicized incidents of fraud
- Undermined organic credibility
- Recognized need for national-level standards
 - Organic Food Production Act (1990)
 - National Organic Program (NOP) created in 2000

Legal Side of Organics

- VOLUNTARY program
- OFPA: the law set NOP into motion
 - Sets some very basic rules



- NOP: regulatory body that administers OFPA by setting standards and enforcing them
 - Core mission of NOP: protect integrity of "organic" and USDA organic seal
- National Organic Standards Board (NOSB): advises NOP on practices & materials
 - Can NOT modify standards only makes recommendations

Who Needs To Be Certified?

- Anyone wanting to
 - Claim "certified organic"
 - Use USDA Organic label
- Except growers grossing <\$5000/yr</p>
 - Can use "organic" but not "certified" or USDA label
 - Non-certified organic can not be ingredients in organic products

Key Players

National Organic Program

- Standard-setting body (USDA-AMS)
- Certifying agency (USDA-accredited)
 - Private or state-run
 - NOT affiliated with NRCS or CAP138 If a grower asks you
 - Interprets law
 - Grants certification
- Inspector (IOIA-trained)
- Grower or Handler

 <u>about getting</u> <u>certified, tell them to:</u>
 Talk to a certifier
 Sign up for EQIP-OI & a CAP138
 CFSA can help
 *More on CAP138
 certification shortly

Certifying Agencies

80 working in US¹ 48 domestic 32 foreign-based Only a few working in SC Clemson is only certifier based in SC, but all should have local inspectors List of certifiers on USDA's website

¹https://www.ams.usda.gov/services/organic-certification/certifying-agents Accessed 7/13/18

Three Certification Types

Crops

Vegetable, fruit, grain, fiber, flowers, tobacco, etc.

Livestock

- Cattle, poultry, pigs, small ruminants, etc.
- Common to have both Crops & Livestock certification

Processing/Handling

Made from ag products by "cooking, baking, curing, heating, drying, mixing, grinding, churning, separating, distilling, extracting, slaughtering, cutting, fermenting, eviscerating, preserving, dehydrating, freezing, chilling, or otherwise manufacturing, and the packaging, canning, jarring, or otherwise enclosing food in a container "

Steps to Organic Certification

- Follow rules & regs 3 years
- Maintain good records
- Choose a certifier
- Apply near end of 3 years
- Develop Organic System Plan (OSP)
- Inspection, review, certification

Organic System Plan: Overview

- Over-arching document for certification
- Basic production info:
 - Crop, fertility & pest management
- Verifies no prohibited materials used
- Materials list
- Outlines measures taken to protect integrity
- Natural resource protection
- Food safety (water, manure)
- Recordkeeping system
- Marketing & sales

Organic System Plan: slim on records

- OSP does <u>NOT</u> include detailed records
- Instead these are maintained separately
- Not submitted to certifier
- But scrutinized during inspection
 - All inputs: what, when, where, how much
 - All operations: what, when, where
 - "Seed-to-sale" traceability:
 - Seed source, acreage, yield data, sales receipts

(with more detail than is included in

						Cert'd / Approv'	Un-	Cert'd		
Date	Operation	Fiel d	Equipment type/name	Variety/typ e	Input source	d Organic	treate	non-	Clea n-out	Input amount
5/25/11	Rolled CC	В	Roller	-	-		-	-	Y	-
5/26/11	Planted soybean	В	JD No-till planter	29AR9	BlueRiv er	Y			Y	225,000 s/a
5/31/11	Rolled CC	А	Roller	-	-		-	-	NA	-
6/1/11	Plant corn	А	JD No-till planter	41R00	BlueRiv er	Y	-	-	NA	34,000 s/a
7/7/11	Harvested wheat	С	JD 9500 combine						Y	
7/25/11	Manure application	С	Manure spreader	Liq dairy manure	Breezy Farms	Y		-	Y	4500 gal/acre
7/25/11	Plow	С	4 bottom plow		-		-	-	Y	
9/1/11	Inoculate vetch	С	•	Vetch inoculant	Johnny' s	Y		-	-	2.4 oz/acre
9/1/11	Planted CC	С	GreatPlains drill	EC Vetch	Missing	N	Y	Y	Y	30 lb/acre
				Tritical 815	King's	N	Y	Y	Y	30 lb/acre
10/11/11	Harvested corn silage	А	Silage Harvest (Farm Ops)	-		-			Υ	•
	Llow costo d									

FART IVVO. Organic Regulations

Organic Production Rules as Defined by the National Organic Program (NOP)

Land Requirements

- Certifiable after 3+ years organic management
 - From date of last prohibited material to first harvest
 - 3-year period is "transition period"
 - Management records required for transition period
- Immediate certification possible if
 - No prohibited materials applied last 3 years
 - Land was not managed

Allowed & Prohibited Inputs

- Prohibited
 - Sewage sludge
 - Ionizing radiation
 - Genetically modified crops
 - Most synthetic materials*
- Allowed: most natural/naturally derived materials**

Allowed & Prohibited Inputs, cont'd

- Familiarity with product ingredients critical
- Products must be approved by certifier
 - Annually
 - Add to OSP when using new material
- Recommend OMRI or WSDA websites
 <u>omri.org</u>

Recordkeeping

- Document all production information
 - Operations (eg. planting, weeding, fertilizing)
 - Inputs (eg. seeds, pesticides, inoculants)
 - Harvesting, washing, handling
 - Sales
- Maintain records 5 years
- Be prepared to show at inspection

Soil Fertility Management

- Improve/maintain soil conditions & minimize erosion
- Nutrients managed with
 - Crop rotation
 - Cover crops
 - Use of plant & animal materials
 - Use of mined materials

Seed & Planting Stock

- Must use organic seeds, seedlings or stock
 - Unless not commercially available
 - Use conventional untreated
 - Must search for seed (3 vendors) and record searches
 - Non-organic perennials considered organic after 1 year organic management

Crop Rotation

- Required to implement a crop rotation
- Should include cover crops
- Aim is to
 - Improve soil organic matter
 - Manage pests
 - Manage nutrients
 - Control erosion

Pest Management

- First line of defense must be
 - Physical, cultural and biological measures
 - eg. cultivation, flame weeding, crop rotation, sanitation, insect release
- Pest control products allowed only after preventative practices fail

Livestock

- Origin
- Feed
- Healthcare
- Living conditions
- Pasture (for ruminants)

- Origin: animals must be managed organically starting
 - Meat: last 1/3rd of gestation onward
 - Dairy: 1 year prior to sale*
 - Poultry: 2nd day after hatching onward

Feed & Forage

- All feed & forage must be certified organic*
- Ruminants require 30% of DMI from pasture during grazing season
 - Grazing season must be ≥120 days
- Ruminant recordkeeping:
 - Total feed ration for each animal type & class
 - Provide DMI calculation method

Feed & Forage, cont'd

- Many restrictions
 - No growth-promoting drugs
 - No plastic roughage
 - No manure or urea in formula
 - No slaughter by-products in feed
 - No added antibiotics
 - Do not restrict ruminants from pasture

Healthcare

- Preventative maintenance is first step
- Allowed synthetic medications second step*
- Must provide appropriate healthcare
 - Even if certification is lost
- Parasiticides not allowed on slaughter stock
 - Exceptions for breeder & dairy stock

Living Conditions

- Must accommodate health & behavior
- Must allow access to
 - outdoors, shelter, shade, exercise areas, fresh air, clean water, direct sunlight
- Feedlots can be used* but must
 - Prevent food competition & crowding

Living Conditions, cont'd

- Bedding must organic if used as roughage
- Shelter must allow natural behavior & exercise
- Feedlot must prevent waste runoff & contamination
- Temporary confinement allowed for specific purposes*

Pasture (ruminants only)

- Must have Pasture Management Plan*
- Must be certified organic**
- Continuous access in grazing season
- ≥30% DMI from pasture during grazing season

Common Mistakes

- Using prohibited material
- Poor recordkeeping
- Straying from OSP
- Not getting approval to use new material
- Failure to prevent contamination or commingling

Certification Costs

Certifiers have different fee schedules

- Costs vary by size, complexity, level of organization
- Often based on sales
- Shop around and ask lots of questions
- Re-certify each year
 - Typically less after first year

Certification Costs

- Estimated costs:
 - ~\$1000 for 1 acre intensive vegetable farm
 - Goes up incrementally with scale, sales or complexity
- SCDA & Farm Service Agency Cost Share:
 - **75%** up to \$750
 - Reimbursement not an upfront payment

Transitional Certification

- USDA's National Certified Transitional Program (began 2017)
- Get certified as "transitional" before "organic"
 - Price premium to incentivize transition
 - Help lower cost barrier to organic production
- Certifiers accredited by USDA

CFSA Organic Consulting Services

Free one-on-one consulting for CFSA members

- Q&A on NOP regulations
- OSP development
- Recordkeeping
- Review of paperwork prior to inspection
- Service is free to CFSA members
- Organic Production Handbook
- "Road to Organic Certification"
- LOTS of online content to guide producers

PART THREE: The "CAP138"

CAP138: **Conservation Plan Supporting Organic** Transition via the Natural Resources Conservation Service (NRCS) and a Technical Service Provider (TSP)

What is a CAP138?

- A conservation plan, paid for by the NRCS
 - NRCS pays to have plan written by a Technical Service Provider (TSP), ex. CFSA
 - NRCS pays to implement conservation practices
- Designed to address 2 issues simultaneously

Why a CAP138?

- Resources are always limited when running a farm business Time, money, knowledge, skill Organic transition can be intimidating Management challenges Time for paperwork, learning
- Conservation measures draw on resources
 - Money, time, knowledge

Why a CAP138?

□ To reiterate, a CAP138 will:

- Identify natural resource concerns
- Identify ways to address concerns (and will provide \$ to implement changes)
- Provide management plan for grower
- Written by NRCS-certified
 - Technical Service Provider (TSP)
 - CAP paid for by NRCS (up to a point)

CAP138: Overview

- Organic System Plan (OSP) integrated into conservation plan (see Part One)
- Resource Inventory:
 Assessment of natural resource concerns
 Soil erosion & soil quality
 - Water quality & availability
 - Crop/livestock condition
 -

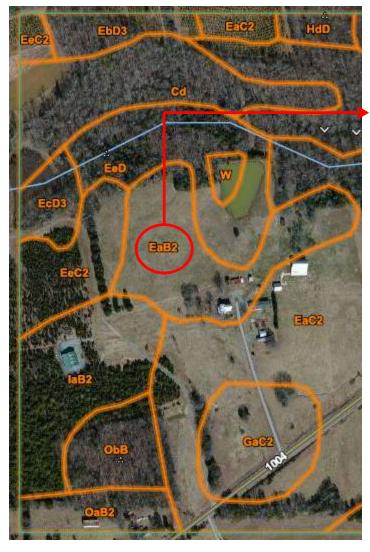
CAP138: Overview

- 3. Soil & farm information/maps
 Web Soil Survey
 TSP-generated maps
- 4. Soil erosion assessment
 - Software used to estimate soil erosion
 - Uses "Revised Universal Soil Loss Equation #2", aka "RUSLE2"
 - May be useful for producer & TSP to

CAP138: Overview

- 3. Soil & farm information/maps
 Web Soil Survey
 TSP-generated maps
- 4. Soil erosion assessment
 - Software is used to estimate soil erosion
- 5. "Job Sheets"
 Specifications and guideance for implementing conservation practices

Web Soil Survey Maps (example)



Describes soil types (in detail) and % slope (roughly)

EaB2: Efland silt loam, 2-6% slopes, eroded

Typical profile:

Ap horizon: 0" – 6" silt loam B horizon: 6" – 24" clay (silty clay loam @ 24"-25") Cr horizon: 25" - 40" weathered bedrock

Properties

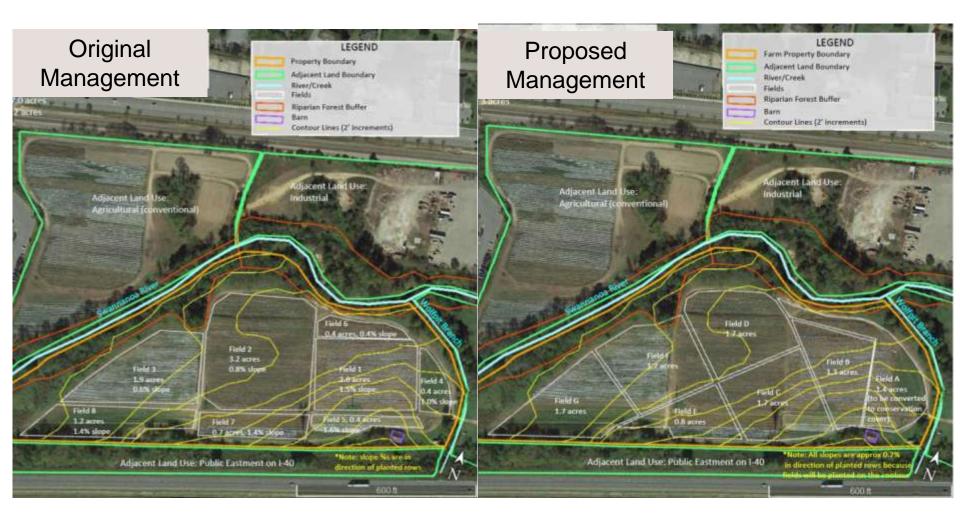
Natural drainage class: Well drained Infiltration (Ksat): very low to high (0.00-1.98 in/hr) Available water storage in profile: Low (about 4.3")

Production Potential (aka "Interpretive groups") Land capability classification: 2e (moderate limitations)

Class 1 = only slight limitations (best)

- Class 2 = moderate limitations
- Class 3 = severe limitations; remediation required

Farm Maps: Reflect Proposed Changes



CAP138: Conservation Practices

- Practices designed to address specific resource concerns
 Soil
 Water
 Crop & livestock specific
 Habitat
- □ ~75 possible in CAP138
- Up to producer to implement after CAP138 is completed

All

Conservation Practices

NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD

COVER CROP

(Ao.)

CODE 340

DEFINITION

Grasses, legumes, and forbs planted for seasonal vegetative cover.

PURPOSE

This practice is applied to support one or more of the following purposes:

- · Reduce erosion from wind and water.
- Maintain or increase soil health and organic matter content.
- Reduce water quality degradation by utilizing excessive soil nutrients.
- Suppress excessive weed pressures and break pest cycles.
- Improve soil moisture use efficiency.
- Minimize soll compaction.

CONDITIONS WHERE PRACTICE APPLIES

All lands requiring seasonal vegetative cover for natural resource protection or improvement.

CRITERIA

General Criteria Applicable to All Purposes

Plant species, seedbed preparation, seeding rates, seeding dates, seeding depths, fertility requirements, and planting methods will be consistent with applicable local criteria and solibite conditions.

Select species that are compatible with other components of the cropping system.

Ensure herbicides used with crops are compatible with cover crop selections and purpose(s). Cover crops may be established between successive production crops, or companionplanted or relay-planted into production crops. Select species and planting dates that will not compete with the production crop yield or harvest.

Do not burn cover crop residue.

Determine the method and timing of termination to meet the grower's objective and the current NRCS Cover Crop Termination Guidelines.

When a cover crop will be grazed or hayed ensure that crop selection(s) comply with pesticide label rotational crop restrictions and that the planned management will not compromise the selected conservation purpose(s).

Do not harvest cover crops for seed.

If the specific rhizobium bacteria for the selected legume are not present in the soil, treat the seed with the appropriate inoculum at the time of planting.

Additional Criteria to Reduce Erosion from Wind and Water

Time the cover crop establishment in conjunction with other practices to adequately protect the solid during the critical erosion period(s).

Select cover crops that will have the physical characteristics necessary to provide adequate erosion protection.

Use the current erosion prediction technology to determine the amount of surface and/or canopy cover needed from the cover crop to achieve the erosion objective.

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

RESIDUE AND TILLAGE MANAGEMENT,

REDUCED TILL

(Ao.)

CODE 345

DEFINITION

Managing the amount, orientation and distribution of crop and other plant residue on the soil surface year round while limiting the soildisturbing activities used to grow and harvest crops in systems where the field surface is tilled prior to planting.

PURPOSE

This practice is applied as a part of a conservation management system to support one or more of the following purposes:

- Reduce sheet, rill and wind erosion Resource Concern (SOIL EROSION – Sheet, rill, & wind erosion).
- Reduce tilage-induced particulate emissions

 Resource Concern (AIR QUALITY IMPACTS - Emissions of Particulate Matter-PM - and PM Precursors).
- Maintain or increase soil quality and organic matter content – Resource Concern (SOIL QUALITY DEGRADATION –Organic matter depietion).
- Reduce energy use Resource Concern (INEFFICIENT ENERGY USE – Farmingiranching practices and field operations).
- Increase plant-available moisture Resource Concern (INSUFFICIENT WATER –inefficient moisture management).

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all cropland.

This practice includes tillage methods commonly referred to as mulch tillage or conservation tillage where the entire soil surface is disturbed by tillage operations such as chisel plowing, field cutivating, tandem disking, or vertical tillage. It also includes tillage/planting systems with few tillage operations (e.g. ridge till) but which do not meet the STIR criteria for Residue and Tillage Management - No Till (329).

CRITERIA

General Criteria Applicable to All Purposes Uniformly distribute residues over the entire field. Removing residue from the row area prior to or as part of the planting operation is acceptable.

Do not burn residues.

The Soli Tillage Intensity Rating (STIR) value shall include all field operations that are performed during the crop Interval between harvest of the previous cash crop and harvest or termination of the current cash crop (includes failow periods). The STIR value rating shall be no greater than S0, and no primary inversion tillage implements (e.g. moldboard plow) shall be used.

Additional Criteria to Reduce Sheet, Rill and Wind Erosion

Use the current approved water and/or wind erosion prediction technology to determine the:

- amount of randomly distributed surface residue needed,
- time of year the residue needs to be present in the field, and

Practice Standard Example

NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD COVER CROP

> (Ac.) CODE 340

PURPOSE

This practice is applied to support one or more of the following purposes:

- Reduce erosion from wind and water.
- Maintain or increase soil health and organic matter content.
- Reduce water quality degradation by utilizing excessive soil nutrients.
- Suppress excessive weed pressures and break pest cycles.
- Improve soil moisture use efficiency.
- Minimize soil compaction.

DEFINITION

Grasses, legumes, and forbs planted for seasonal vegetative cover.

All conservation practices have specific: Definition Purpose(s) for their use Conditions where they apply

Short List of Practices for Soil Conservation

	Practice	Code
Erosion: water	Conservation Cover	327
	Contour Farming	330
	Field Border	386
	Stripcropping	585
	Water and Sediment Control Basin	638
Erosion: wind	Cross Wind Ridges	588
	Herbaceous Wind Barriers	603
	Windbreak/Shelterbelt Establishment	380
Quality	Cover Crop	340
	Mulching	484
	Residue and Tillage Management No- Till	329
	Residue Tillage Management Mulch-	245

Short List of Practices for Water Conservation

	Practice	Code
Quality:	Animal Mortality Facility	316
Nutrient,	Composting Facility	317
Pesticide,	Integrated Pest Management (IPM)	595
Pathogen,	Nutrient Management	590
Sediment	Riparian Forest Buffer	391
	Stream Crossing	578
Crops: Irrigation	Irrigation System, Microirrigation	441
Livestock: Supply	Watering Facility	614
Flow	Diversion	
Source	Pond	378
	Water Well	642

Short List of Practices for Crop & Livestock Improvement

		Practice	Code
Crops	Soil	Alley Cropping	311
		Conservation Crop Rotation	328
		Contour Orchard &Other Perennial Crops	331
		Row Arrangement	557
	Livestock	Forage and Biomass Planting	512
		Forage Harvest Management	511
		Silvopasture Establishment	381
stock	Forage	Fence	382
		Prescribed Grazing	528
		Animal Trails and Walkways	575
		Heavy Use Area Protection	561

Short List of Practices for Habitat Improvement

	Practice	Code
Composition	Brush Management	314
	Hedgerow Planting	422
Ecosystem	Early Successional Habitat Development/Management	647
	Restoration of Rare and Declining Habitats	643
	Upland Wildlife Habitat Management	645
Wetlands & Waterways	Stream Habitat Improvement and Management	395
	Wetland Restoration	657
	Wetland Wildlife Habitat Management	644

Practice Specifications: "Job sheets"

United States Department of Agriculture Natural Resources Conservation Service	Crop tion Requirements			Imple		over Crop			
	tract: ounty: mber:	¥.	Reduce e	rpose(s): rosion from wind and v	vater.				
Practice Location Map	Index Cover Sheet Specifications Cost Estimate and Project Bid Form Operation & Maintenance	✓ Increase soil organic matter content. ✓ Capture and recycle or redistribute nutrients in the soil profile. ✓ Promote biological nitrogen fixation and reduce energy use. ✓ Increase biodiversity. ✓ Suppress weeds. ✓ Manage soil moisture. ✓ Minimize and reduce soil compaction. Seeding and Management: Fill in the following table with the appropriate cover crop information for							
		each f	Acres	Species	Seeding rate (Ibs/ac PLS*)	Seeding date range	Seeding method	Termination date or stage	Termination method
	Utility Safety / One-Call System	2	9.85	Rye (Secale cereale) + Radish (Raphinus sativus)	50+8	Sept 1 - Oct 1	Broadcast or drill	early oat flower	Mow & till
To be implemented in all vegetable crop fields (1-14); does not inclus	e Information	2	9.85	Mustard (Brassice spp) + Crimson clover (Trifolium incarnatum)	8 +15	Sept 1 - Oct 1	Broadcast or drill	early rye flower	Mow & till OR Roll (no-till)
fields 15 & 16 (purple & blue, respectively). Description of work:		2	9.85	Sorghum-sudangrass (Sorghum bicolor hybrid) + Cowpea (Vigna unguiculata)	25+35	May 1 - July 1	Broadcast or drill	At/after sorghum flower	Mow & till OR Roll (no-till)

Winter cover crop should be established after harvest of summer or fall cash crop, and summer cover crop should be established after harvest of spring crop (when appropriate) to enhance ground cover for soil quality, provide nutrients to next crop & increase soil organic matter/moisture content. The producer can decide what cover crop species (or mix) to plant, but 3 mixes are recommended based on season and crop N-demand; a legume-containing mix (eg. mustard + crimison clover) should be planted before a spring/ summer crop with high N-demand, a grass-radish mix should be planted before a spring/summer crop with lower N-demand, and a warm seaon cover crop mix (eg. sorghum-sudangrass + cowpea) should be planted as a summer cover crop when appropriate. Practice Specifications: "Job sheets"

Cover Crop Example:

- Specs determined by TSP and/or grower
- Job sheet specifies the following:
 - Field Number, Location, and Acreage
 - Cover crop type (species)
 - Planting method & rate (lbs/acre or seeds/acre)
 - Seedbed prep, if any

The CAP138 Process

- Apply for CAP138 through NRCS
 Hire TSP once approved
 TSP site assessment:

 On-site natural resource inventory
 Discussion to understand grower's goals
 - Gather organic certification info
- TSP writes plan, submits plan to NRCS
- Once approved, grower is eligible to apply for cost-share for each practice

CAP138 Recap

NRCS & Partner Organizations here to help!

- Provide cost-share on conservation practices
 - Cover crops prescribed grazing drip irrigation
- Take big step toward organic certification
 OSP development
 - Guidance on organic rules & regs *
- CAP138 is also a management plan

TSP/NRCS Resources

□ CFSA:

- TSP in five states: SC, NC, TN, VA, GA
 CAP138 resources & application on our website: carolinafarmstewards.org/capconsulting-services/
- TechReg to locate a TSP: nrcs.usda.gov/wps/portal/nrcs/main/nation al/programs/technical/tsp
- NRCS: EQIP-OI (program housing CAP138):

https://www.nrcs.usda.gov/wps/portal/nrcs/d etail/national/programs/financial/eqip/?&cid -proc142_008224

Organic Transition Resources

- CFSA: carolinafarmstewards.org/farmservices
 - Certification & Production Assistance (free to CFSA members in Carolinas)
 - Many, many online resources
- State Extension: Clemson, NCSU, NCA&T
- USDA: ATTRA/NCAT
- eXtension.org

CFSA CONSULTING SERVICES (Free to CFSA Members)



Organic Transition: Guidance choosing a certifying agent and record keeping system, Q&A on NOP regulations, and records and application review.

Conservation Activity Planning (CAP-138): For growers transitioning to organic. Includes a farm resource inventory, identification of resource concerns and options to address them, a soil and water quality impact analysis for each option.



Conservation Service



High Tunnel Production: Help farmers identify best management practices including planting dates, varieties selection, and irrigation, soil fertility and pest management.

CFSA CONSULTING SERVICES (Free to CFSA Members)

Good Agricultural Practices (GAP):

Conduct risk assessments, identify ways to mitigate pathogen risks, review Food Safety Plans, and provide assistance preparing for





Wholesale Readiness: Help farmers assess wholesale readiness and understand postharvest handling infrastructure, packaging, labeling, traceability, transportation and basic food safety norms to meet wholesale requirements

Farmland Access: For established growers who are looking for new land, and want help assessing multiple aspects of the land, ownership, and access strategies.

