

# Conservation Plan Supporting Organic Transition for [REDACTED] Farm Partners

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This plan outlines decisions and guidelines for sustained use of natural resources on this farm. It addresses immediate needs (next 3 years) to transition to organic production/certification. This plan is NOT an Organic System Plan (OSP) as required by the National Organic Program; it documents a system of conservation practices to assist transition from a conventional farming/ranching system to an organic production system.

*Financial assistance for part of the technical assistance cost related to this Conservation Activity Plan - Code 138 is reimbursed to the participant by the USDA-Natural Resources Conservation Service.*



## Property Ownership

### Landowner Information

Name & Address

[REDACTED] Farm Partners  
[REDACTED]  
[REDACTED] NC [REDACTED]

Phone

[REDACTED]

E-Mail

not available

### Landowner's Representative (if applicable)

Name & Address

[REDACTED]  
same address as above

Phone

same as above

E-Mail

not available

Plan Completion Date

8/1/2011

## Property Description

Total tract acreage ~70

Total Cropland acreage 39.6

*all of cropland to transition to organic*

Property location/description

[REDACTED]

Nearest town/township

Elm City

County

Wilson

State

North Carolina

Does owner or representative reside on the property? NO

## Additional Property Information

Use for addition information on property such as ownership history, past management, etc.

*(Base on personal knowledge, property records, owner/ local information sources, etc. Consider evidence gathered in field- stumps, skid trails, etc.)*

Operated by [REDACTED] Farms, Owned by [REDACTED] and wife for 20+ years, current farming 1500+ acres of tobacco, peanuts, small grain, soybeans and cotton

## Client Goals/Objectives

Include principal management objectives for the ownership.

1. Protect soil and water resources
2. Experiment on a small scale to evaluate moving to certified organic on a larger scale
3. Harvest certified organic crops in 3-5 years
4. Evaluate potential for improved profitability in organic production
5. Improve wildlife habitat for deer

## General Inventory Information and Resource Concerns

(refer to attached maps for location, soils, other inventory location)

### **SOIL** *Known or observed soil related issues - erosion, pH, fertility, compaction, steep slopes, drainage, organic matter, etc.*

See attached soil map and legend. The farm is located in the coastal plain of NC. Soils are flat to gently sloping and generally well drained with some poorly drained intrusions in the southern portion of Field 2 (Rains)...negative effects of poor drainage were not manifested on these areas in the existing 2011 cotton crop. Soils are inherently acidic and need to be limed for good crop production. Surface textures (loamy sand) and low organic matter levels favor formation of a traffic pan that will require subsoiling periodically for best productivity. Management and preservation of crop residues and generally cross slope farming should provide adequate erosion protection...additional mechanical erosion control such as a diversion or terrace may be needed.

### **WATER** *Known or observed streams, wetlands, ponds, lakeshore, wetlands, riparian habitat, wildlife, road crossings, etc.*

There is a shallow pond on the eastern boundary. Streams and associated riparian areas bound the property on the east and south. The pond could be a source for irrigation though its effective water storage was not calculated. There are not significant drainage structures nearby and not potential for drainage management. There are existing grassed waterways on the farm.

### **AIR** *Potential dust/ particulates, drift, etc*

There is unbuffered conventional cropland to the north and west with potential for pesticide drift that must be address in order to transition to organic production.

### **PLANTS** *Known or observed T&E/declining species. Pest weeds, invasive plants, diseases, plant condition issues, etc.*

No T&E plant species known or observed during field observations. No weed issues were observed in the minimum tillage cotton that was growing during planning visits. Pigweed can be an expected; pesticide resistant pigweed is a growing problem in Wilson County.

### **ANIMALS** *Known or observed T&E/Declining species. Desired species, hunting interest, food, cover, insect pests, etc.*

No T&E plant species known or observed during field observations There are no domestic livestock or animals on the tract. Landowner is interested in deer and deer hunting.

### **HUMAN & OTHER CONCERNS** *Known or observed special sites (cultural, ecological, historical, biological), neighbor issues, recreation interest, access and access control, trespass/posting, other professional assistance, etc.*

No special sites were observed during planning visits. Land is not posted and accessible. Presently, the transition process to organic production is the biggest human/other concern. Owner must change current farming paradigm/mindset and explore alternate weed/pest control and crop nutrient sources. Owner presently owns primary tillage equipment that is capable of no-till/minimum tillage. Organic production of field crops will require a high level of management and attention to details not experienced in conventional crop production. Owner presently owns primary tillage and planting equipment for no-till/minimum till cropping.

## Planned Land Treatment Decisions

(refer to attached plan map for field and practice location, refer to eFOTG of NRCS Practice Standard information)

Field No.	Planned		Treatment or Decision
	Amount	Year	
1,2	1.4 ac	2012-2015	<i>412 - Grassed Waterways</i> Maintain existing grassed waterways as stable water outlets and filters for the existing cropland.
1,2,3	39.6 ac	2012-2015	<i>328 - Conservation Cropping System</i> Begin a crop rotation for the organic production of soybeans, corn and sweet potatoes. All fields will be planted the same with the crop rotated annually.
1,2,3	39.6 ac	2012-14	<i>345 - Residue Management - Mulch Till</i> Use tillage and planting methods that will leave at least 50% residue on the soil surface when soybeans and corn are planted. With practice and success with weed control, the goal is to eventually be able to establish residue management for corn and soybeans to a 329 - No-till, Strip-till level.
1,2,3	39.6 ac	2012, 2014 or 2015	<i>324 - Deep Tillage</i> In row subsoil at least one year out of three to break traffic pans and allow deep crop root development. Mark or GPS rows so that planting of row crops near the subsoil slit in years when deep tillage is not done.
1,2,3	39.6 ac	2012	<i>340 - Cover Crop</i> Small grain and legumes will be planted after crop harvest as green manure crop and/or crop nutrients.
1,2,3	39.6 ac	2012-2015	<i>590 - Nutrient Management</i> Soils will be sampled annually nutrient and lime needs budgeted, applied and timed based on crop needs. Baseline soil fertility and mineralized nutrients from planned green manure cover crops will be considered when determining additional nutrients required. Any nutrient amendments must be from approved sources...extensive research may be needed to locate reliable approved nutrient sources.
1,2,3	39.6 ac	2012-2015	<i>595 - Pest Management</i> Pest will be managed using an integrated approach, including variety selection and crop rotation for disease resistance, early planting when possible, encouragement of beneficial insects, and regular field scouting and monitoring.
1,2,3	39.6 ac	2012-2014	<i>345 - Residue Management - Mulch Till</i> Use tillage and planting methods that will leave at least 50% residue on the soil surface when soybeans and corn are planted. With practice and success with weed control, the goal is to eventually be able to establish residue management for corn and soybeans to a 329 - No-till, Strip-till level.
1,2,3	39.6 ac	2012-2015	<i>330 - Contour Farming</i> Crops will be planted across the hill slope to change the row direction and of runoff from downslope to around the hillslope, reducing the potential for soil erosion..
1,2,3	4500 ft	2012	<i>386 - Field Border</i> Plant a permanent 20 foot wide strip of vegetation along the edge of these fields as shown on the Plan Map (attached). Portions of the border can be

Field No.	Planned		Treatment or Decision
1,2, 3	2000 ft	2012	<i>422 –Hedgerow Planting</i> Plant 20 foot wide permanent strip of shrubs or stiff stem grasses along the edge of these fields (shown on attached Plan Map) to establish a buffer from adjacent non-organic crops and road right-of-way activities.

## Organic Requirements (refer to attached plan map)

### **Seeds and Planting Stock**

----- will:

- a) Use only organic seed;
- b) Use a documented seed search, if sufficient quantity of the desired organic seed is not commercially available, (the documented seed search must include three known suppliers);
- c) Prove the intent to preferentially buy organic, otherwise only, non-organic, untreated, non-GMO verified, non-irradiated, non-sludge grown seed is allowed;
- d) Ascertain if the seeds are either coated or inoculated, and further substantiate if the seed treatment is OMRI- &/or NOP- approved;
- e) Verify the non-GMO seed status of all vegetables and fruit/nut tree transplants; and
- f) Document the non-GMO seed status for cover crops, such as hairy vetch or ryegrass.

### **Production of Seedlings, Transplants, Greenhouse Crops**

--- will:

- a) Use organic seeds, and he may obtain a small hoop house to use as a transplant-growing structure to further develop the vegetable operation;
- b) Develop a method to separate and identify organic and non-organic areas;
- c) Develop a system to prevent commingling of organic and non-organic plants;
- d) Maintain labeling specifications;
- e) Prevent the use of prohibited materials or drift contact through the irrigation system;
- f) Prevent prohibited materials from coming in contact with sensitive areas, through surface water or irrigation;
- g) Develop, maintain and document the cleaning of seedling containers, equipment used for both organic and prohibited substances; and
- h) Develop a method of cleaning to insure that airborne, waterborne and equipment borne materials stay on site.

### **Fertility, Soil Quality and Erosion Control**

---- will:

- a) Utilize a three-year crop rotation with field crops grown with intermittent cover crops planted across the dominant field slope;
- b) Use cover crops that provide a wildlife-friendly habitat year round;
- c) Incorporate green manure crops for as a nutrient source;
- d) Research compost sources of manure and other approved organic products to (1) increase organic matter content, (2) improve nutrient content, and (3) reduce soil erosion potential; &
- e) Monitor the nutrient management through rotational soil testing of all fields annually to assure adequate plant nutrients, while minimizing nutrient waste.

### **Production of Compost**

----- does not intend to produce any compost at this time.

### **Crop Rotation**

---- intends to:

- a) Maintain a three-year crop rotation of (1) soybeans; rye cover crop; (2) corn; rye cover crop; and (3) sweet potatoes; wheat-grain crop;
- b) This 3 year 'organic' rotation is being tested for application on larger areas of a conventional corn/soybean/cotton operation;
- c) Improve the soil organic matter via (1) cover and green manure crops;
- d) Utilize periodic applications of agricultural lime to maintain soil pH at a suitable level for crops grown;

### **Pest Management**

---- intends to:

- a) NOT use biological, synthetic, or beneficial substances or pesticides;
- b) Utilize natural soil and plant biological activity ward off many pests and associated diseases; and
- c) Practice Integrated Pest Management, including healthy soil, healthy plants, crop rotation, sanitation, timing, etc.; and, only as a last resort use NOP/OMRI-approved pesticides.

### **Prevention of Contamination by Contact**

-----, to document actions to prevent contamination of organic transition acreage, will:

- a) Establish buffers to guard against run-on from adjacent conventional farm;
- b) Manage buffer areas to assure essential conventional segregation from the organic crops, including equipment clean-out and purge;
- c) Cultivate, plant, harvest with documented clean equipment (this is especially important since parallel production of non-organic crops is occurring on other farm/tracts); &
- d) Store organically-prohibited materials in segregated, documented, and carefully-monitored areas to avoid contamination or commingling with organic crops.

### **Livestock**

----- does not intend to produce livestock:

### **Biodiversity**

--- will:

- a) Provide wildlife food and habitat via cover crops and within planted buffers;

## **Record Keeping and Continuing Education**

Continuing education is required to keep abreast of the latest products and management activities approved for organic production. There are numerous websites and literature on organic farming practices (see General References below). All materials and techniques utilized for 'organic' crop production must be researched and approved.

Documentation and recordkeeping is vital to maintaining a organic certification. Generally records must be kept for five (5) years. Example records include but are not limited to:

- Searches for organic fertilizers, seed stock and approved pest management materials
- Soil test sampling and results
- All purchases for crop production
- Field production activities (planting, nutrient application, IPM activities, etc)
- Rainfall and Irrigation
- Harvest and storage
- Approved Pesticide Usage
- Sales
- Worker safety and training

## Organic References

National Center for Appropriate Technology - <https://attra.ncat.org/>

*Source for general organic farming information, production of specific organic crops, record keeping forms. They maintain the National Sustainable Agriculture Information Service and Appropriate Technology for Transfer to Rural Areas (ATTRAP).*

Organic Material Review Institute (OMRI) - <http://www.omri.org/>

*Independent review of products intended for use in certified organic production, handling, and processing.*

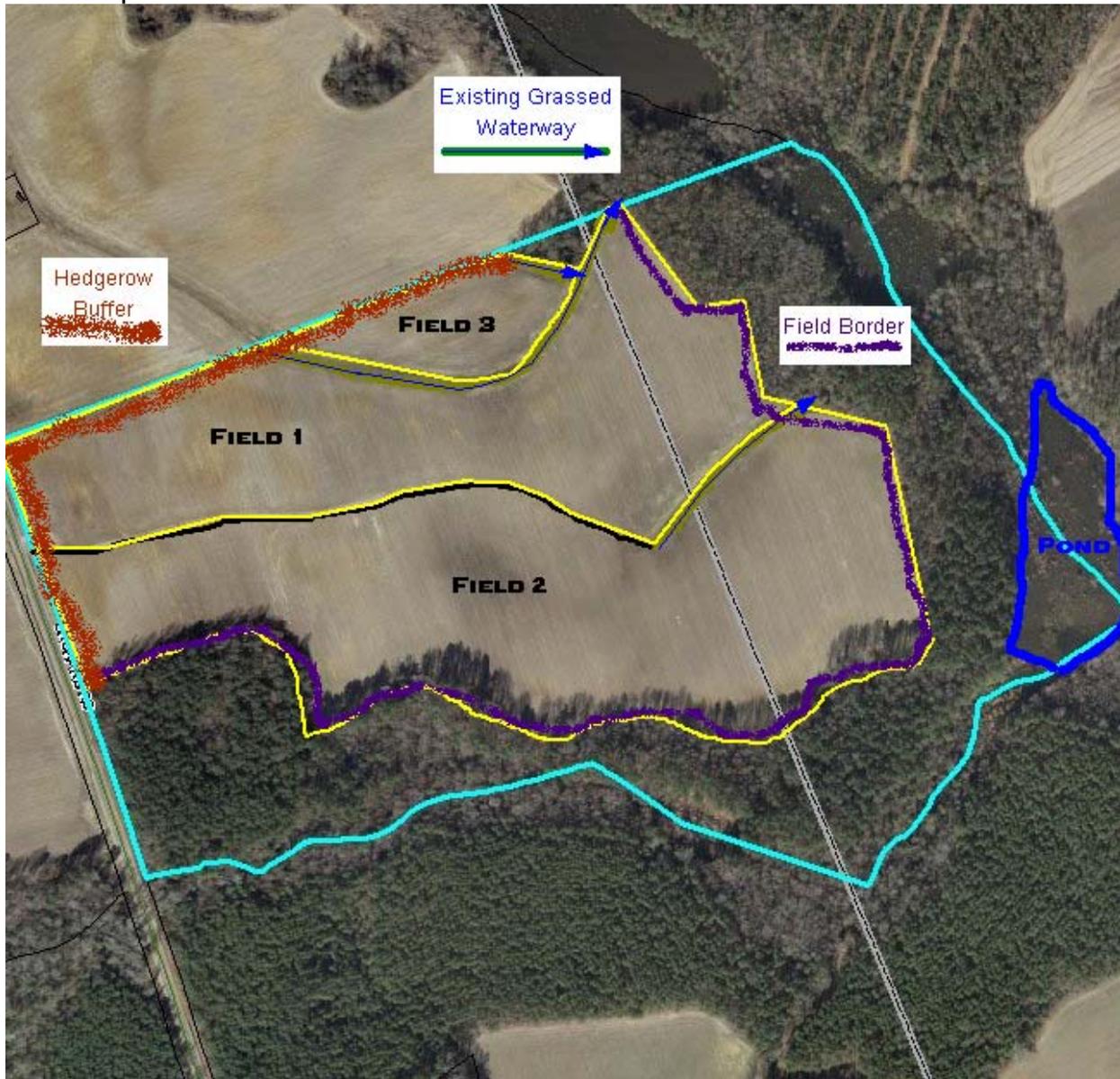
Managing Potassium for Organic Crop Production –

[http://www.ipni.net/ppiweb/bcrops.nsf/\\$webindex/4E3F21BC8771DEB18525744D000DA204/\\$file/BC08-2p26.pdf](http://www.ipni.net/ppiweb/bcrops.nsf/$webindex/4E3F21BC8771DEB18525744D000DA204/$file/BC08-2p26.pdf)

Phosphorus Fertilizers for Organic Farming Systems - <http://www.ext.colostate.edu/pubs/crops/00569.html>

## Maps

### Plan Map



Map Not To Scale

#### FSA Fields and Acreage

Field 1 – 14.7 acres

Field 2 – 22.0 acres

Field 3 - 2.9 acres

# Soils Map and Legend



Portions of the tract are in Edgecombe County

Wilson County, North Carolina (NC195)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DpA	Duplin sandy loam, 0 to 2 percent slopes	0.0	0.0%
GoA	Goldsboro sandy loam, 0 to 2 percent slopes	1.5	2.2%
NoA	Norfolk loamy sand, 0 to 2 percent slopes	1.5	2.2%
NoB	Norfolk loamy sand, 2 to 6 percent slopes	22.6	32.7%
Ra	Rains sandy loam	13.2	19.1%
<b>Subtotals for Soil Survey Area</b>		<b>38.9</b>	<b>56.2%</b>
<b>Totals for Area of Interest</b>		<b>69.2</b>	<b>100.0%</b>



## RUSLE2 Worksheet Erosion Calculation Record

Info:

Owner name	Tract #	Field name
Tyner Farms	[REDACTED]	1-3

Location	Soil	T value, t/ac/yr	Slope length (horiz), ft	Avg. slope steepness, %
North Carolina\Wilson County	NoB NORFOLK LOAMY SAND, 2 TO 6 PERCENT SLOPES\NORFOLK loamy sand 75%	5.0	140	2.5

**Alternatives:**

Description	Management	Contouring	Strips / barriers	Diversion/terrace, sediment basin
	c.Other Local Mgt Records\tWade <sup>1</sup>	d. relative row grade 8 percent of slope grade	(none)	(none)

**Alternatives Results:**

Description	Management	Cons. plan. soil loss	Soil conditioning index (SCI)	STIR value	Wind & irrigation- induced erosion for SCI, t/ac/yr	Equiv. diesel use, gal/ac	Energy use, BTU/ac	Fuel cost, US\$/ac
	c.Other Local Mgt Records\tWade <sup>1</sup>	1.4	0.084	81.3	0	13	1900000	36.89

<sup>1</sup> See attached Management

The **SCI** is the **Soil Conditioning Index** rating. If the calculated index is a negative value, soil organic matter levels are predicted to decline under that production system. If the index is a positive value, soil organic matter levels are predicted to increase under that system.

The **STIR** value is the **Soil Tillage Intensity Rating**. It utilizes the speed, depth, surface disturbance percent and tillage type parameters to calculate a tillage intensity rating for the system used in growing a crop or a rotation. STIR ratings tend to show the differences in the degree of soil disturbance between systems. The kind, severity and number of ground disturbing passes are evaluated for the entire cropping rotation as shown in the management description.

## RUSLE2 Management Description Record

**File:** managements\CMZ 67\c.Other Local Mgt Records\tWade

<i>Date</i>	<i>Operation</i>	<i>Vegetation</i>	<i>Yield (# harv. units)</i>	<i>Type of cover material</i>	<i>Cover matl add/remove, lb/ac</i>	<i>Cover from addition, %</i>
10/25/2012	Disk, single gang					
10/26/2012	Disk, tandem light finishing					
10/27/2012	Drill or air seeder single disk openers 7-10 in spac.	Wheat, winter, mid-south	35.00			
6/10/2013	Harvest, killing crop 70pct standing stubble				1027.6	46
6/13/2013	Drill, air seeder, 6 inch stealth openers on 12 in spac	Soybean, groups V, VI, VII, and VIII 7in rows	20.00			
11/10/2013	Harvest, killing crop 50pct standing stubble				541.54	27
11/10/2013	Disk, tandem light finishing					
11/13/2013	Drill, air seeder, 4 inch stealth openers on 12 in spac	Rye, winter cover S.E.	4200			
3/24/2014	Planter, in-row subsoiler w/ residue mgr.	Corn, grain	112.0		2467.1	61
9/5/2014	Harvest, killing crop 70pct standing stubble				1881.6	51
9/16/2014	Disk, single gang					
9/18/2014	Drill or air seeder single disk openers 7-10 in spac.	Vetch, hairy, fall cover crop, mid Sept seeding	3000			
5/16/2015	Disk, tandem heavy primary op.				2146.6	72
5/18/2015	Subsoiler bedder (ripper/hipper)					
5/20/2015	Planter, transplanter, vegetable on 8 inch high beds	Potato, sweet	22000			
10/20/2015	Harvest, dig root crops 12 in depth res. on surf				2238.4	73

Long-term natural rough.: 0.24 in.  
 Normally used as a rotation?: Yes  
 Duration: 3 yr

Info: