

# Organic Tobacco Production on Carter Farms



**JANUARY 14, 2014**

# Background



- **First certified acreage in 1998**
- **Motivation:**
  - Interest in sustainability
  - Curiosity
  - Profit
- **Currently over 600 acres are certified for organic production**
  - (NOP, EU and Japanese equivalency)
- **Certified with QCS (Quality Certification Services) since enactment of NOP**

# Background



- Primary focus in organic production has been flue cured tobacco and what works well in that rotation
- End user of tobacco has required EU certification and now requires EU-Japanese equivalency, but prefers growers to adhere to EU standards which are more restrictive in certain areas than NOP



# Background



- Located in the Sandhills, primary soil type is Candor sand, which is excessively drained with little inherent native fertility
- Most acres are capable of being irrigated to a certain extent
- Crop selection has generally been driven by high value crops that warrant irrigation
- Row crops and small grain have been grown primarily to ensure good rotations and prepare for the profitable crops

# Farming Operation



- Acreage is approximately 50% certified for organic production
- Conventionally Grown Crops:
  - Small grain
  - Soybeans
  - Milo
  - Flue cured tobacco
  - Fresh market fruits and vegetables
    - ✦ Sweet corn, Melons, Tomatoes, Strawberries

# Farming Operation



- **Organically Grown Crops for Market:**
  - Small grain- SR, HR, wheat and rye
  - Flue cured tobacco
  - Stevia
  - Re-incorporating sweet potatoes in 2014
  - Have grown sweet corn in the past



# Farming Operation

- **Organically Grown Crops for Cover- past and current:**

- Small grain
- Sudangrass
- Vetch
- Crimson Clover
- Arrowleaf Clover
- Sunn Hemp
- Winter Peas



# Production Issues



- **All organic production systems are composed of four components:**
  1. Crop Sequence- rotations and cover crops
  2. Crop Management- plant population, varieties, harvest, storage, etc.
  3. Soil management- tillage and fertility
  4. Pest management- weeds, insects, disease
- **On a mixed farm (both organic and conventional), thorough record keeping is essential to delineate organic from conventional production**



# Production Issues



- Recordkeeping is particularly important on farms with parallel production (same crops produced organically and conventionally)
- In your organic farm plan, you must clearly outline procedures to prevent comingling and document implementation
- Must have records of having purchased sufficient organic inputs to produce acreage indicated
- Must document yields consistent with both types of production
- Must assume at some point product will be tested for pesticide residue and/or GM materials

# Organic Production Parameters



- **Three Year Rotation:**
  - Year One- Flue cured tobacco
  - Year Two- small grain, followed by sudangrass followed by small grain cover
    - ✦ We are looking to integrate legumes here, whether it be summer or winter (had been vetch until we started marketing small grain)
  - Year Three- sudangrass summer cover followed by small grain winter cover
    - ✦ Potentially where sweet potatoes will fit
    - ✦ Have wanted to put soybeans here but have not been able to fend off pigweed and droughty nature of soil is exacerbated by frequent cultivations
    - ✦ Don't have enough water or yield potential to place corn here
    - ✦ Concerned about using legumes immediately prior to tobacco

# Organic Production Parameters



- Another constraining factor on crop selection is avoiding anymore parallel production because of current management limitations to form and implement multiple production plans

# Specific Production Practices



- Transplants are grown in typical tobacco transplant greenhouses
- No treated wood or none that is exposed
- Peruvian seabird guano and sulfate of potash used for fertility in the greenhouse
- Monitor water in bays regularly for alkalinity and EC
- Keep house a little cooler than conventional after germination
- Clip plants more frequently than conventional
- Are very diligent about removing dropped clippings
- Rouge any signs of collar rot by hand, bring trays to edge of bay to observe

# Specific Production Practices



- 10-2-8 is broadcast in the field and incorporated
- Bed land, plant drive rows in sunflowers, sow sudangrass and sunflowers in field borders
- Transplant with sulfate of potash
- Side dress with 13-0-0
  - May cultivate as many as 5 times, and hand weed twice
- Control worms with Bt
- Control aphids by not having crop too rank and topping early
- Control suckers with O-TAC, an organic fatty alcohol
- Harvest 3 or 4 times
- Cure in barns dedicated for organic usage