

OREI Planning Grant - High Tunnel Interviews Report

Summary of Participants:

Eight interviews were completed during September and December 2016 - four farmers from Florida and four farmers from Georgia. The four Florida farmers represented St. Lucie, Santa Rosa, and Marion counties. The four Georgia farmers represented DeKalb, Newton, and Wheeler counties. All but two farmers run USDA certified organic farms and the non-USDA certified organic farmers use organic practices. All of the high-tunnels used are organically managed. Each farmer operates at least one high-tunnel and most were purchased using the NRCS cost-share program. One farmer uses gutter greenhouses, which was defined as two high tunnels side-by-side with a gutter in-between to catch the water that runs off the high-tunnels. One farmer operates twenty-eight high tunnels on his farm in Newton County, Georgia.

Crop Selection:

The crops grown in the high-tunnels by the farmers interviewed are listed below:

- Lettuce
- Tomatoes
- Cucumbers
- Kale
- Collards
- Spinach
- Carrots
- Kohlrabi
- Beets
- Herbs
- Escarole
- Endive
- Beans
- Chard
- Peppers
- English cucumbers
- Mustard
- Ginger
- Turmeric
- Eggplant
- Arugula
- Turnips
- Radish
- Onions
- Leeks
- Chicory

Overwhelmingly, the farmers focus on high-value crops such as tomatoes, cucumbers, peppers, and ginger that benefit from a more controlled environment (cold and rain protection) but most crops work/succeed. The other factors predominantly affecting crop choice are market demand, high

disease resistance, and quick maturing varieties. One farmer noted that her organic customer base is interested in open-pollinated varieties rather than hybrids.

Soil Building Practices:

The soil building practices are typically cover cropping, rotating as much as possible given space constraints, using green manure, applying compost, animal manure, and other soil amendments, and mulching.

Benefits:

The farmers interviewed mostly use high tunnels for season extension, better environmental control/risk management (typically related to rainfall), to be able to grow cash crops all year long, to reduce losses to pests and weather, to produce a higher percentage of marketable products, to grow high-value crops out of season, for quicker production (arugula), and disease suppression.

Economic Advantages:

The major economic advantages of using high-tunnels realized by the farmers interviewed are increased production and profit, more consistent production, less weeds (everyone uses drip-irrigation), season extension, no increase in cost of production (except high-tunnel installation costs), and lower disease and pest pressure (including bird and deer damage).

Disadvantages:

The major disadvantages of using high-tunnels for these farmers are the high cost of installation (without cost-share programs), maintenance time and cost (plastic, shade cloth), damage from storms, unfamiliarity with high-tunnel environment compared to open-field experience – increased management, increased disease pressure with hot and humid environment (leaf mold, stem blight), hard to rotate crops with one tunnel, land space is valuable, and managing water runoff from high tunnels.

Barriers:

Barriers they believe growers face when deciding to add a high tunnel to their system are the high initial cost without cost-share programs (typically about \$8000 to purchase materials and install without cost-share help), rotating crops, high tunnel maintenance time and costs, economic outcomes unknown, determining best location, radical change from farming in an open-field,

temperature control, a challenge to implement organic soil management practices, and not enough outreach (farmers unaware of advantages and funding opportunities).

Research Priorities:

Research the farmers feel is needed to make high tunnels an attractive option for organic vegetable producers in the Southeast includes venting/shading options for the summer (tunnels used in warmer climates need higher sides to help with venting – at least 5-6 ft. high), heating options for the winter, simplifying the high tunnel design, crop and cultural recommendations specific to high tunnels, pest issues, pest exclusion methods, trap cropping, disease management, beneficial crop rotations, water reclamation from high tunnel runoff, soil maintenance/building practices, recommendations for low resource situations, maintenance recommendations, breeding programs specific for high tunnel environments, fertility recommendations, short-term and long-term economic studies, and pollinator issues at certain times of the year (need self-pollinating varieties in the summer).

High Tunnel Interest:

All of the farmers believed small scale organic vegetable farmers are generally interested in high tunnels and consider adding them to their system. They believe their interest is driven by a desire for higher profits and to extend their growing season.

Decision Factors:

The biggest factors they believe someone should consider when deciding to use high tunnels are economics, experience with controlled growing environments, willingness to commit (long-term investment), location selection of high tunnel (need good air flow and full sun), soil preparation (reduce perennial weeds population prior to building, if possible), irrigation capabilities, crop selection, door selection (determines equipment capabilities), water runoff management, how to utilize tunnels to augment field production, and to start with two, if possible.