Mid-Scale Case Study – Gittin' There Farms

Farm description – Gittin'There Farms has 14 acres in vegetable production. The land includes two fields, Bottom Field and Front Field, and a farm house where the farmer and his family live. The farm house is right next to the Bottom Field and over ¼ mile away from the Front Field. The farm house has two bedrooms, a kitchen, one bathroom, an outdoor handwashing station, a produce washing station with well water, and a root cellar where they sometimes store produce. The well water was tested when the building was first established.

Crops-The land was a family farm that had not been farmed for 10 years until the younger generation took it over. The farm began with the Bottom Field, 2 acres, that focused on direct marketing of crops. The Bottom Field grows up to 20 crops in a given year, though typically 6-10 in a season with several varieties of each crop. In spring/summer their crops are squash (yellow and zucchini), cucumber, snap beans, southern peas, tomato (several varieties), pepper (several varieties), eggplant, sweet corn (successional plantings to extend harvest) and sweet potato. Sweet corn constitutes 1/2 acre and is used as a good rotation crop between cucurbits and solanaceous crops of tomato, peppers, and eggplant. Fall and winter crops include greens (kale, turnip, mustard and collards), broccoli, potatoes (late winter/early spring), beets, carrots and green onions. The field is divided into eight 1/4 acre plots that have a complex rotation between plant families and summer and winter cover crops. In addition to grain and legume cover crops, some parts of the fields are sown in buckwheat and/or sweet alyssum for pollinator and beneficial insect habitat. Strips of sunflowers are planted and harvested to give to customers at the farmers market. In addition, these flowers can also be used by pollinators.

After five years, they expanded to Front Field, 12 acres, which is divided into four 3-acre fields in a simplified rotation that focuses on a wholesale market. Major crops for the Front Field are fall greens, spring lettuce, snap beans and hard squash, summer sweet potatoes and sweet corn and fall-planted onions. They focus on these crops because most of these are easily direct seeded and the greens, snap beans, and corn can all be cooled using their old hydrochiller. The onions, sweet potatoes and hard squash can be cured and have easy storage requirements for wholesaling. These major crops are interspersed with cover crop to maintain soil organic matter, suppress weeds and provide nitrogen.

June 1 to June 1
Year 1

Early summer legume cover crop - -- fall greens ---- spring hard squash
Sweet potatoes --- oats/crimson clover cover crop
Sweet Corn--- fall oats or rye –spring lettuce or snap beans
Cowpeas or sunn hemp --- fall onions

<u>Example Rotation for Front Field Farm:</u>

Yr 1: Early summer legume cover crop – fall greens (kale, collards, etc) – spring hard squash

Yr 2: Sweet potatoes– winter grain/legume mix cover crop

Yr 3: Sweet corn – Late summer buckwheat cover crop - Winter grain cover crop – Spring snap beans or lettuce

Yr 4: Summer legumes – onions

This rotation gives them summer income from sweet corn, fall income from sweet potatoes and fall greens, and spring income from lettuce, snap beans, and hard squash. The use of cover crops has slowly improved soil organic matter. Soil organic matter in the Front Field was initially 0.7%. Over time they have brought in up to 1.75% which is excellent for their sandy soils. They have to constantly work

to maintain the right pH and amount of nutrients. Nitrogen and potassium are particular challenges because these are rapidly lost below rooting zone in their sandy soils. They use commercial fertilizer to help maintain these nutrients in the soil.

Labor-They both work on the farm and hire additional summer labor. They were not able to purchase medical insurance until recently and saving for retirement has been difficult.

Markets – The farm started direct marketing at a farmers' market. This gave them time to learn how to grow crops and what worked best on their farm. It also built their clientele and after several years they expanded their direct marketing to a multi-farm CSA. Five years later they expanded to wholesale markets of locally-focused grocery chains. The produce from the Bottom Field is direct marketed through a multi-farm CSA along with USDA #2s from the Front Field. The Front Field USDA #1s are sold wholesale through a distributor.

Infrastructure –There is a small green house to produce transplants. The well for their house also supplies water for post-harvest produce cleaning. The farm has converted an old barn to a packing shed that has stainless steel counters and a triple sink from a restaurant that has gone out of business. They originally walled off a small room and installed a CoolBot AC. When they decided to go into business for wholesale production they built a hydrocooler from a used milk chiller and chose to purchase a walk-in cooler from a failed restaurant.

Irrigation - Initially they tried to water with just garden hoses and sprinklers in the 2-acre CSA field – this was inadequate for their needs. Therefore, they invested in digging a small pond which was refilled using an existing 12' well. While not an ideal solution, as the well has a limited capacity, it was the best solution they had at the time. They purchased a used irrigation pump and traveling gun to water their 2 acre field at first. When they expanded they moved to drip irrigation as much as possible to conserve water and reduce food safety concerns although they will use the irrigation gun to water some crops such as sweet potatoes and snap beans which are planted on a tighter row spacing and would require more drip tape per acre than some other crops. They were able to obtain a cost share from NRCS to install pipes for drip irrigation. They may also still use the reel irrigation system to get the cover crops off to a fast start.

Equipment – They have a 75 HP 4 wd tractor ($20K used), a used turning plow ($1K), an old harrow, a planter ($3k), a small plastic layer, and a flail mower ($4500). They recently acquired a rotary spader ($20), which can reduce the number of trips through the field. Because they had planned on buying a spader at some point, when they bought their tractor they specifically chose one with a creeper gear so that they could run slow enough for the spader but maintain high enough rpms to turn it. They bought a used 2 row rolling cultivator which is used to help control weeds ($1800). They bought a drip tape layer that was custom made to bury drip 2-3 inches below the soil line ($1600). They use a finger-style used tobacco transplanter that was purchased from a local retired tobacco farmer ($300). They were able to buy a small 8 row boom sprayer with a 200 gallon tank that they later modified with drop nozzles (3' rows) from a local agriculture supplier for $1900. It will only spray 4 rows planted on 6' centers at a time. They also have a backpack sprayer. It has taken them some time to accumulate this equipment.

Ground Preparation - They have always used cover crops, so initially, the mowed cover crops with a rotary mower then turned them in with the turning plow. This required several additional passes with the harrow to prepare the beds, which decreased the benefit they saw from the cover crops on

increasing soil organic matter and structure. The purchase of the spader allows them to incorporate the cover crop and condition the soil in most cases with one pass.

Pest Management -
Weeds: Cover crops are used to suppress weeds when a cash crop is not being grown. They try to make one pass with the spader to incorporate the mowed cover crops and then make a shallow cultivation with a field cultivator to destroy the tiny weeds just before planting or transplanting. Plastic is also used to control weeds in the long season crops like onions being grown for wholesale. Wheel hoes and hand hoes are also used particularly in the 2-acre field with many crops for the CSA. They do spray with glyphosate for some hard to control weeds.
Insects: They scout for insect damage and spray if needed. They also use pan and sticky traps to monitor and trap insects to determine what type of insects are present and if these are an economic problem.
Disease: Resistant cultivars are used when possible and the crop rotation is closely managed to reduce disease pressure. The drip irrigation reduces soil splashing. They are diligent about rouging out infected plants and burning any debris to prevent the buildup of diseases. They do not generally spray for disease control.

Cover Crop Management - Initially, they used a rotary mower in the Bottom Field, but this tended to leave the cover crop in clumps so they invested in a flail mower. All the legume and legume/grain cover crops are flail mowed and turned in. In the Front Field, cover crops are seeded with a broadcast seeder and then lightly harrowed in so planting rates are high. They would like to buy a drill but have not been able to afford it yet. The same method is used if bigger blocks are open in the Bottom Field. If there are only smaller sections needing to be planted, they broadcast and rake in the seed.

Planting

Most of their cash crops are direct seeded. Any transplanted crops are planted with a used tobacco finger-style transplanter.