

# Forsyth County, (Jordan Jones)

## Jones Plants and Nursery



Jordan Jones grew up on the family farm. They farmed tobacco, grain and raised cattle. It is his life goal to raise his kids and farm the land the way his great grandparents farmed. With the grant funds plans to add power and heat to a high tunnel to grow tomatoes year round.

**Update:** Jordan had some logs on the farmed sawmilled and timbered for the improvements to the tobacco barn. Lumber is now stacked and drying in the curing process for later use this fall. Also improvements are now in the beginning stages for the greenhouse this fall. Old plastic has been removed from the greenhouse in preparation for new, soil has been amended as needed and limed. Seeding will take place July 4-10<sup>th</sup>. A time has been scheduled for the electrician to come out to the greenhouse to install wiring for fans, heater, and other electrical components.



One of the major road blocks he experienced was due to the frequent rain falls they had this spring. One of the ditches that run's water away from this greenhouse couldn't handle so much water and has caused some backing up into one of the corners of the greenhouse. He plans on renting a skid steer, redirecting the ditch and excavating a few inches of soil completely away from the greenhouse and adding gravel to prevent excess water and moisture in the greenhouse and prevent disease and other issues that could arise.



**Year-end update:** The upgrades to the greenhouse are complete. Tomato transplants have been sown and ready to move into larger containers before they are planted in the ground of the greenhouse. Jordan, also put a new roof on the tobacco barn which will become a feed barn for cattle. Jordan plans to sell tomatoes on his farm and at the Piedmont Triad Farmers Market and anticipates a 10% increase in farm sales this year.

He provided information about his project with a class from Surry Community College who were learning about sustainable agriculture. Below is a link to a video Jordan created for his webpage.



*A Quick Way to Weed Tomato Plants.* Video link  
<https://www.facebook.com/JonesPlantsNursery/videos/1434681406584151/>

# Forsyth County, (Mike and Ginny Tate)

## Becca's Berries



Rebecca Knoll Farm was founded by Mike and Ginny Tate and their daughter Rebecca in 2013. Mike had a 35 year career in business, and volunteers at the local food pantry in Walkertown. To prepare for his new adventure, Mike completed the 2014 NC Agricultural Extension Farm School and is currently working on a degree in sustainable agriculture at Central Carolina Community College in Pittsboro.

Mike plans to install 100'x100'x9' screen enclosure using Tek-Knit 80 gram insect netting to protect organically grown blackberries from spotted Wing Drosophila and other flying pests. Their goal is to grow and market low/no spray organic berries. The netting has been tested and proven, but there is not a lot of information on how to construct and deploy the netting structure. They would like to make a contribution in this area with their project.

**Update:** They drove up to New York to pick up the netting so they could visit the farm of Dale La Riggs (the netting distributor for the US) and look at and discuss her use of the netting and how her structures are constructed.

They elected to split the structure into a smaller enclosure for the early maturing variety of blackberries, and a larger, structure for mid and late season varieties of blackberries. They installed 3' wide woven landscape fabric around the perimeter of the structures to serve as a weed barrier, and installed ground stakes for the structure's hoops.

Designing the structures was more challenging than anticipated because the field is a parallelogram in shape and has quite a bit of elevation change in the upper side. They changed the size of the field to fit in a rectangular shaped enclosure. This involved shortening some rows and disassembling the trellis that supports the blackberries.

After visiting several farms and looking at different approaches for building structures to support netting they decided to use PVC hoops instead of steel over t-posts as ground stakes for the basis of the structure. They made this choice because of the significant cost advantage, ease of on-site fabrication and the ability to create PVC hoops of varying sizes and heights on site to meet fit an established planting.

**Year-end update:** In June, Mike's father became ill with cancer and needed assistance until September when he passed. Mike worked on the clean-up and sale of his father's home. These events took time away from the project which was not completed until early March.

Mike is happy with the construction and they were able to achieve the initial design objectives for the enclosure. He plans to monitor it closely this spring and summer, paying attention to the structural stability during windy weather, and will monitor how effectively the netting keeps out the pests during harvest season. He plans to share his project with Sustainable Ag students at Central Carolina Community College, and the Forsyth County Local Foods Consortium.



## Forsyth County, (Justin and Jessica Strickland)

### Expand poultry operation



Justin Strickland and his wife Jessica purchased Old Holler Farm in 2014 and have put in thousands of hours to bring it back to life. There were trees growing in the barns, poison ivy vines taking over the paddocks and cattle chutes. But they love the farm, and have strong family support. Jessica's parents live on the farm, and Justin's mother plans to do the same.

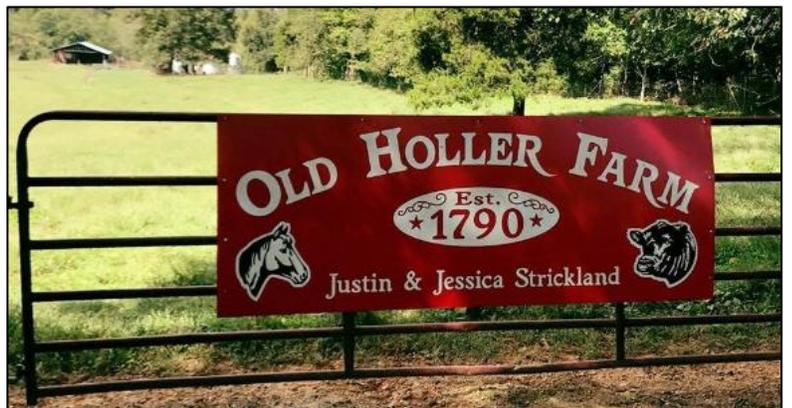
As a kid, Justin worked construction and was sent to work on a beef cattle farm and in commercial chicken “mega-houses” for a farmer in Trinity. His grandfather and his great grandfather farmed tobacco. His grandfather later became a meat cutter for cattle and hogs. He passed away in 2014 and Justin says, “It really fueled my passion even more.”

They currently raise pastured beef cattle but want to diversify by expanding their poultry operation. With the grant funds they will purchase additional fences, roosts, feeders etc.

**Update:** They have made a lot of progress in a short amount of time! The purchase of a feed silo has allowed them to purchase feed in bulk instead of bags which is resulting in a significant cost savings. In addition, they have purchased an egg washer which helps them ensure food safety and reduces the amount of time needed to wash the eggs.

They have purchased most of the equipment and hens, and are much further along than anticipated. Egg sales are expected to soar over \$30,000 this year, with room to grow! The only issue they have encountered is an increase in predators. They lost a few hens, but nothing they weren't prepared for.

**Year-end update:** With the help of the NC AgVentures grant they cut feed cost with bulk storage and bought more hens. At peak times they produced 350 dozen eggs per week and sold them for an average of \$2.85 per dozen which is \$1.55 profit resulting in \$542.50 weekly or \$28,210 annual net income.



# Forsyth County, (Timothy Bibb)

## Oasis



Timothy Bibb of Winston-Salem is part of an urban gardening group being mentored by Extension agent Mary Jac Brennan in Forsyth County. Many of the people in her group are African American; some had grandparents or great grandparents who were tobacco workers. Mary Jac says this group is a joy to work with. Their curiosity and interest in farming and food has reinvigorated her spirit.

Timothy, a part-time pastor started an urban garden four years ago and began a small CSA operation. Hoping to expand his urban farm, Timothy checked with the city about vacant land directly behind his family property and learned that he could use the land for farming as long as he did not build any permanent structures. With the grant funds he expanded the farm, and diversified his crops. The project is called Oasis because it offers affordable vegetables and fruit in urban east Winston-Salem.

**Update:** This past spring Timothy attended the Piedmont farm tour and visited 9 different farms with organic practices. He cut down trees and planted over 40 fruit trees (blueberry, fig, apple, pear and cherry). He had a wash station built and the irrigation system installed. He said most of his set-backs came from not knowing enough or having enough money. Volunteers from a community dance school helped him complete some projects.

**Year-end update:** Oasis was open from 9 to 4, Tuesday through Friday. Schools would visit by appointment. They sold produce straight from the farm, to a private school close to the farm and by word of mouth; but mainly through their neighborhood CSA.

Tim estimates that 75 youth participated on the farm in one way or another. Some kids worked on the farm for roughly 4 weeks to help their parents while simultaneously helping the farm. Tim offered a camp where kids learned about soil, natural fertilizers, veggies, rabbits, doves, fruit trees, nut trees and a pretty cool zip line. Tim estimates that the farm produced upwards of 45 pounds of produce.



# Green County, (Dean and Lisa Jones)

## Melons and Bloomers



Melons and Bloomers is a family farm with approximately 400 acres of row crops and 30-40 acres of produce. The farm used to grow tobacco and cotton, but with commodity prices down, the farm has transitioned to produce.

With the grant funds, they will build a place to pack and store produce which will help expand their wholesale business. This storage facility will allow them to sell a larger percentage of the produce harvested on the farm. In the future, they would like to work with neighboring farmers to offer a variety of foods to the community.

Dean Jones said, *"The farm has been a source of many happy memories to my Dad over the years and I hope my children see a similar sense of joy in my eyes."*

**Update:** Dean is just about to get started on the cold storage facility. It is most needed for storing harvested fall collards and other produce. They needed to get past the spring and early summer planting season before having time to begin construction. *(Photo: Dean laying out the site.)*



Dean has someone working on the designs and construction of the facility. It will be built directly behind the current structure he uses to store plants and produce for sale, so it will be convenient for customers and employees to work from.

He has already spent money on other things around the scope of the project, including planter, seed, and dry storage facility. But the main project was the packing house. He anticipates spending about \$50,000 to complete the building.

After visiting Dean, his Agent Roy Thagard said, He seemed excited when we talked today... Dean's been at this for 3 seasons now, and seems to have built a great niche market around this community. *(Photos: Dean's melons and bloomers!)*



**Year-end update:** With the grant funds Dean and Lisa were able to add another 4 acres and increased their crop of collards from 30,000 to 40,000 pounds. They estimate the market value to be \$40,000 (10,000 per acre) and their sales doubled from the previous year.



# Harnett County, (David M. Gardner)

## Chain Digger



David Gardner is a third generation tobacco farmer from Angier NC. Farming is a way a life. His son Clay grew-up helping on the farm and now, Clay and wife operate a turf farm next door. David still grows tobacco but, in 1983 he added sweet potatoes and other rotational crops. Twice they hosted a 4-H sweet potato gleaning, where 4-H members glean 20,000 lbs. of sweet potatoes from his field that were donated to local and statewide food pantries. They also give tours of the farm to Youth Leadership Harnett to help educate young leaders about the importance of agriculture to the history and economy of Harnett County.



Many NC farmers used existing bottom-type plows to turn over sweet potatoes for harvest. Once turned over, laborers pick and sort sweet potato tubers by hand. This method can be strenuous on workers, and a significant proportion of sweet potato tubers are left in the ground. With the grant award David will purchase a chain-digger sweet potato harvester. This type of harvester has a wide blade that goes under the potatoes to scoop tubers and soil onto a short chain-conveyer belt that separates the soil from the potatoes. Soil falls through the conveyer chain, while the tubers are moved back gently on the ground at the rear of the harvester, resulting in more potatoes that are easier to gather and sort by laborers.



Harvesters that use a chain mechanism to dig the potatoes are used in states like California and Louisiana, but attached to a mobile platform where workers sort and grade potatoes in the field. However harvesters with chain digging mechanism that simply places the tubers on top of the soil for later hand picking has been tried and used successfully by Sweet potato farmers in counties further east. David visited a few of these farms and was impressed, and the farmers seemed very satisfied with the results. David will be the first in Harnett County to use a chain digger to harvest sweet potatoes.

**Update:** They have the purchased the chain digger and some additional parts. He will have more to report after harvest.  
(Photos: *The bottom photo is of chain digger*)

**Year-end update:** Compared to the old harvesting method, Gardner reported a 10% increase in total yields per acre due to fewer tubers being buried and left in the ground. Additionally, because workers spent less time digging and pulling partially buried tubers, 10-15% more acres per day were harvested with less physical stress on those workers. Since they are paid by the piece the workers earned more money. The chain digger was such a big hit with the workers they asked Gardner if they could use the digger on other farms where they were gathering potatoes!



# Harnett County, Dudley Langdon

## Silage and cattle



Dudley Langdon, of Angier, NC will be planting his 45th tobacco crop in 2017. His farm is recognized as NC Centennial Farm. With the grant award he plans to update the operation and increase profits by replacing granular fertilizer with liquid fertilizer. This new strategy should result in less moisture loss, lower heat damage and reduce disease.

**Year-end update:** Dudley is getting a do over! Dudley experienced health problems that prevented him from completing his project. He has reduced his farm acreage from 500 to 65 acres and will no longer grow tobacco. Dudley requested a change in scope to his original application proposal, and asked for an extension of time to implement a new project with cattle that will be equally beneficial but will better fit his health situation. Agent Brian Parrish will be consulting with Dudley on his new project. Dr. Tom Melton with Extension and Jeff Camden with TTFC approved his request.

Due to health issues and other unexpected events Dudley Langdon was not able to complete his grant project in 2017. He had to greatly reduce the size of his farm and would like to use the grant funds for a different but equally beneficial agricultural project.

He ended tobacco production and plans to produce silage. He has most of the equipment on hand, (Cutter, wagon, pits). He plans to grow two crops of potential silage each year; small grain (oats, wheat) in the spring and grain sorghum in the fall. Both crops are drought resistant and economical to grow. He will sell silage to the multiple small local operations. These operations are not large enough to run their own silage equipment and by keeping the price of production low, he can sell silage to supplement the high cost of hay for feeding, and make a profit.

By planting two crops, he will spread the risk from weather preventing harvest. Production cost for these two crops is much less than corn for silage. Small grains and sorghum will produce and grow better in the sandy soil. Two crops with two harvest times will allow less risk.

He will price silage by the ton. Good quality coastal hay is approximately \$200/ton in this area. He can under sell that cost by pricing it lower based on my production cost. I have multiple markets will be looking to utilize. He will also use the silage to feed his own herd. Dudley buys mismanaged cattle from auction and fattens them for market.



# Harnett County Community Grant, (Agent Brian Parrish)

## Livestock Handling Equipment



The Harnett County Livestock Association will use the grant funds for Livestock Handling Equipment. The Association has 22 members who are tobacco growers. The equipment will be available to producers with small cattle operations. The equipment provides safe restraint for animals during vaccination, castration etc., and also allow a much greater degree of safety for workers.

**Update:** There is the potential for over 50 individual farms to use the Cattle and Sheep/Goat Handling Equipment that will be purchased with grant funds. Harnett County Farm Bureau has contributed \$1,000 to this project and the Harnett County Livestock Association will be contributing remainder of funds needed. They already have two farms that would like to use the equipment. Dan Wells from Johnston County Extension, who purchased similar equipment last year, said their equipment has been used on a regular basis and has been well received. Brian expects a similar response in Harnett.



Brian received quotes from Cowco, Pearson, Palco, and Priefert Cattle Chutes. They also received a quote from D&S Livestock System for the sheep and goat equipment. He has been traveling to different farms to look at Cowee, Pearson, and Palco cattle chutes to see firsthand how the chutes work and which one will better suit the needs of Harnett County. He plans to visit Johnston County and look at the Priefert chute in the next couple of weeks. He believes that the time spent and the miles traveled looking at the different chutes were well spent and should help in making good purchasing decisions. Brian and the Harnett County Livestock Association board of directors will meet at the Extension office in early July to finalize all purchase decisions.



**Year-end update:** The cattle chute did not arrive until the last day of December 2017. It has some custom type features as the palpation cage is permanently attached to the rear of the chute. It also needed some welding repairs. Brian did a test run and helped a farmer work his small herd of 19 cattle this past month and everything worked well. The sheep and goat equipment trailer was fitted with welding brackets to hang livestock panels on each side. He recently helped a farmer worm and trim the feet of their sheep. The equipment worked great. Brian advertised cattle equipment for rental in the April Livestock Newsletter to get the word out. He will be giving an update to Harnett Farm Bureau in April, and plans to introduce the equipment as part of Alfalfa field day in May or June.



# Johnston County, (Brandon Batten)

## Drone Technology



Brandon Batten's family farm was started officially in the late 1970's by his grandparents. His grandfather was one of nine children of a sharecropper. When he was laid off, there was no room for him on the family farm. So he and his two sons, Brandon's father and uncle started their own farm. Triple B Farms incorporated in 1985 and continues to be an important part of the family heritage. They grow tobacco, wheat, soybeans, corn, hay and beef cattle. Brandon joined the operation after completing his Master's Degree at NC State in Agricultural engineering. He is the only grandchild that works fulltime on the farm. The grant funds were used to purchase an unmanned aerial system for advanced crop and field scouting to better visualize disease pressure, pest pressure and fertility in soils.

**Update:** Brandon acquired the drone in February and completed his certification test from the Federal Aviation Administration on Feb. 24<sup>th</sup>. He consulted with field crops Agent Tim Britton and they took some tissue samples in wheat fields to verify the data the drone was returning. By the end of June he had flown 38 field surveys and covered 1243 acres in just over 16 hours of flight time; that is a range of over 76 acres per hour scouted. A farmer contacted him with a pressing disease issue in his tobacco and needed aerial images and plant analyses done as soon as possible. Brandon was able to get him the needed information that week.

**Year-end update:** Brandon used the drone to survey over 2,000 acres of crops and identified many areas where he could make improvements to production practices, including fertility, herbicide application, and tillage. He believes that he can reduce the fertilizer application on wheat crops and increase the total average yield. He was able to document drowning damage to tobacco fields early in the season from excessive rainfall, and adjusted the fertilizer rates and was able to make replanting decisions very quickly. He was also able to identify diseased areas from the air that were not as easy to see from the ground. It is difficult to put a dollar value on this, but the agronomic impacts will improve the bottom line of the farm operation. Brandon created Flying Farmer LLC to offer drone services to other farmers. You can visit his new website: [www.flyingfarmernc.com](http://www.flyingfarmernc.com).



# Johnston County, (James “Hunter” Langdon)

## Bulk Fertilizer



James (Hunter) Langdon of Benson, NC grew up on a small family farm and knew from a young age that farming was the career he wanted to pursue. He started farming for himself in 2010 while pursuing a degree in agriculture science at NC State University. Tobacco had always financially carried the farm operation, but this past year that flipped and he realized that he needed to rely less on the sales of flue cured tobacco and increase profitability with other row crops and livestock. To make the operation more efficient and reduce input costs, he will use the grant funds to purchase a large fertilizer tank and buy fertilizer in bulk.



**Update:** The bulk tank, the first load of liquid nitrogen and the Nurse tank were delivered and set-up in March. He has used the tanks extensively and everything is working as planned. *(Photos: Nurse tank and fertilizer tank)*



**Year-end update:** The project was very successful. Hunter purchased liquid nitrogen for \$164.00 a ton this year compared to \$225.00 a ton in 2016. He purchased 3 tractor trailer loads, filled and emptied the bulk tank 3 times, and enjoyed a lot of time saved because the nitrogen was on the farm and he only had to travel a short distance to refill the nurse tank when applying liquid nitrogen. The nurse tank is used almost daily during the growing season either hauling water, or nitrogen. The bulk tank and the nurse tank have greatly improved the efficiency and ability to get work done in the field particularly when planting and spraying.

He saved 80 cents per gallon on nitrogen which equates to a savings of \$11,200 plus the time saved in trips to purchase nitrogen. He did not grow tobacco but increased his production of wheat and soybeans which kept his income at the same level.

# Johnston County, (Jason Barbour)

## Popcorn Cleaner



Jason Barbour of Four Oaks, NC has a degree in Agri-business and is a 4th generation tobacco farmer. Like many other farms Jason grows sweet potatoes, corn, soybean, small grains and cattle, but last year he added a crop of popcorn.

Popcorn is different from sweet corn. Popcorn has a hard, moisture resistant hull that surrounds a dense pocket of starch that will pop when heated. Popcorn is a whole grain, not a vegetable.

Adding a crop of popcorn was a fortuitous decision, he found a distributor last year who was looking for a local producer. The distributor requested twice the amount of popcorn for 2017. With the grant funds Jason will purchase popcorn cleaning equipment.



**Update:** Jason has been researching popcorn cleaners. He will not need the equipment until later in the season. His planting was late due to the rain. However he is still filling orders of popcorn from last year's crop.

**Year-end update:** The new popcorn cleaner has been a huge help. The quality of the product was much better in comparison to the old cleaner, and the time it took to clean the machine was cut 10 fold. In the future Jason plans to buy additional screens to clean other commodities such as rye and oats for winter over seeding of pastures and cropland. Jason cleaned 300 bushels of popcorn with a current market value of \$10,000 and he saw a 15 percent increase in sales.

Jason Barbour's project was featured in CALS newsletter at NC State. *AG Student Graduate Diversifies with Grant from NC AgVentures*. Link: <https://agventures.ces.ncsu.edu/2018/02/ag-institute-grad-received-grant-from-nc-agventures/>



## Johnston County, (Michelle Pace Davis)

### “Keepin it berry clean and cool”



Michelle Pace Davis of Clayton grew up on a century old family farm. Tobacco has been the staple crop, but this year Michelle took one field and transitioned to a pick your own strawberry patch. Since there is no other you-pick operation in the community, they would have a customer base that would not take business away from other farms. With the grant award they will purchase a cooler and hand-washing station. The project title is, “Keepin it berry clean and cool”.

**Update:** Since awarded the grant, they completed their first strawberry crop. The handwashing station was for both workers and customers to use. Customers were encouraged to wash their hands before and after picking strawberries, and wash strawberries before consuming them. The walk-in cooler was purchased and housed in the barn.



Several inches of rain at the beginning of May, damaged the crop, as well as infested the crop with mold. They had to strip the entire field of the berries to prevent further mold, clean up the rotten ones, and spray fungicides. They not only lost money, but had a huge food waste. The rain at the end of May caused the same problems. However, they have connected with other strawberry farmers and their Agent at the Johnston County Extension Office to resolve these issues for next year.

During the year, they had a few groups come out to visit the farm. This was their first year for business, and they had not advertised heavily since they were not quite set up for full service. The groups that visited their farm this year are: NC State Ag Institute Lab MOPS (Moms of Pre-schoolers), Corinth Holders High School Health Science II Class, and Johnston County Extension Advisory Council. *(Photo: Cooler in barn)*

**Year-end report:** The walk-in cooler helped tremendously by prolonging the shelf life of their strawberries and pumpkins. The walk-in cooler is able to store about 300 one-gallon sized buckets. The buckets are able to stay chilled for two to three days. They were able to store the pumpkins for almost a month! After the pumpkins were cleared out of the cooler they stored fresh strawberry plants that needed to be chilled while transplanting over three days. The cooler saved about \$20,000 and they anticipate saving at least \$30,000 this coming year!

They are planning to provide customers with more fresh and local produce. They are planting early season vegetables as well as summer vegetables. Their goal this year is to grow enough for families to purchase fresh produce boxes each week for ten weeks from May to July. The cooler would allow storage of produce contained in the boxes and prolong the shelf. They are hoping to add the following crops: strawberries, pumpkins, beets, carrots, sweet corn, watermelon, red potatoes, onions, cabbage, squash and zucchini. There are no local farmers markets or road side stands in the area, and they hope to build on their strawberry customer base. The walk-in cooler has made all of this possible!



*(Photo: Handwashing station)*

## Johnston County, (Jeremy Norris)

### Stoney Fork Farms and Sawmill



Stoney Fork Farms, in Four Oaks, NC was leveled by a tornado in 2011. The farm had several mills. Grandson, Jeremy Norris would like to rebuild the farm starting with a Bin and Pallet Stringer Operation using wood from the property and selling to local farms. The grant award will be used to purchase a Sawmill.

**Update:** Jeremy has purchased a Sawmill, John Deere Loader, Log Trailer and Trim Saw. The equipment has been set-up. He is waiting on the utilities to be installed. He needs a new 3 phase system just for the mill. Jeremy is talking about setting up an agritourism business around the sawmill operation.



**Year-end update:** The project is not complete but well on the way. Money and older equipment are the biggest road blocks to get everything finished up. There are multiple steps left to complete the project such as setting up the planer and building another shelter that will cover the planer. The budget to complete the entire project is well over \$200,000.



Jeremy has promoted his business in the community and on Facebook. He is sponsoring a professional barrel racer who provides advertisement. But, he says word of mouth has brought in a lot of business. (*Barrel racing* is a rodeo event in which a horse and rider attempt to complete a cloverleaf pattern around preset *barrels* in the fastest time.)

Profit is slow, mainly due to the constant repairs but his project has created ten new jobs and sustained ten seasonal jobs. Most of these workers are receiving training and upgrading their skills.



Jeremy was featured in the Daily Record (April 25, 2017). See link: <http://www.mydailyrecord.com/eedition/clean-cut-sawmill-sold-for-20k/>

# Nash County, (Chris Reges)

## Irrigation system and produce shelter



Chris Reges, grew up on the family farm in Nashville, NC. The land had been in the family for 50 years. After the tobacco buyout, the farm was used to grow soybean and corn. Over time they expanded and built greenhouses to grow new produce.

Chris and his wife have been farming fulltime for 35 years. Their farm was recently accepted as part of the Goodness Grows in North Carolina initiative as a Certified Roadside Farm. To qualify for participation in this program, a roadside farm market



must sell primarily agricultural commodities direct to the public, with a minimum of 51% of total sales from farm products grown by the market operator. Applicants must submit a NCD&CS Grower's Certification, signed by their county extension agent, along with their application.

Currently they sell produce at the farmers markets in Nash and Wilson counties and directly on-site at the farm. In the future they hope to expand their sales to restaurants

and food stores. To make the farm more efficient and increase profits.



Chris will use the grant funds to purchase an irrigation system and a produce shelter. The shelter will allow customers to easily view produce that is available making sales more profitable.

**Update:** The sand filter system for drip irrigation has been built, and the underground water lines have been installed. The produce shelter has been constructed. *(Photos: sand filter, drip irrigation and shelter.)*

**Year-end update:** With the addition of the irrigation system, Chris was able to add an additional 4 acres of produce with plans to increase the acreage this year. They grow Annuals, Cabbage, Cantaloupe, Cucumbers, Eggplant, Ferns, Hanging Baskets, Herb, Herb Plants, Peppers, Squash, Tomatoes, Vegetable Plants, Okra and geraniums.

Chris estimates that the additional crops increased new farm income by 25%.



# Pitt County, (Lissa Guthrie)

## Vineyard



Lissa Guthrie is a fourth generation tobacco farmer. Lissa plans to transition a few acres from tobacco to a muscadine vineyard. The grant funds will be used for structural materials and irrigation equipment.

**Update:** Weather played a large factor in the delay of tasks needing to be done. The field, before tilling, would have standing water and be unable to work in after rain, which was nearly every weekend in the beginning. Once they were finally able to break up the hard pan, the field drained a lot better and they were able to get roughly 300 poles in the ground.

Another winery placed a large order for vines at the last minute, and Lissa wasn't sure she would be able to get vines. However, in the end Lissa was able to get 275 vines. She purchased the vines but had to wait for shipping because of a cold spell that would have damaged the vines. Once the vines arrived, they had to wait another week before planting because of the rain. Next year she plans to order directly from the nursery and order early!

The vines have been planted, and temporarily attached to tobacco sticks to encourage upward growth, grow tubes have been placed and fertilizer has been applied to the vines.

**Year-end update:** For Lissa, 2017 was a year of trial and error. The majority of vines did not take. She created a propagation bed with 600 cuttings hoping to create her own new stock, but that was unsuccessful. However Lissa is undaunted. She has been working at another vineyard gaining experience. (This is the vineyard that she has contracted with to buy her grapes.) She contacted a friend who can help with her soil problems, and she is getting ready to plant again. She will be adding wire to train the vines that did survive and hopes to harvest her first crop next year. Lissa will continue to provide updates.



## Pitt County, (Louis Tyson)

### Making the cattle operation more efficient

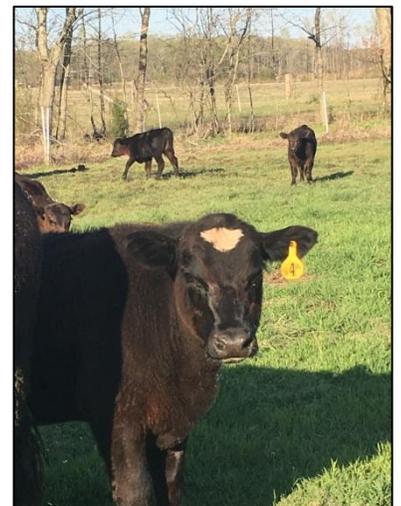


Louis Tyson was born and raised on a family farm, and has been raising cattle and livestock all of his life. He has been farming independently for 27 years. Five years ago he stopped growing tobacco. For his grant project, he plans on taking 30 acres out of row crop production and turning it into pasture to make his cattle operation more effective and efficient. He will use the grant award for fencing, feeders, water tanks etc.

**Update:** The new pastures have been soil tested, limed, fertilized, and the fencing installed. Cattle are rotational grazing in the new pasture. Louis has started direct marketing his pasture finished grass-fed beef to local farm to table restaurants and will be taking beef samples when the beef is available. Calves were born in March 2017 and will not be ready for processing until March of 2018.

**Year-end update:** Louis raised 4 calves to market this year. His goal was to move into this project slowly. The calves are now 1200 pound steers. Three restaurants in Greenville are interested in purchasing beef, plus the Farmers Market. Two of the restaurants want to purchase the whole cow. The steers will be ready around the end of April. Louis decided not to start a webpage or facebook page because he will not have enough meat to sell this year and he doesn't want potential customers to be disappointed.

The Tyson farm is participating in the Community research project being conducted by Extension agent Andy Burlingham in Pitt County on the *Adaptability and Productivity of Cool Season Perennial Forage in the Coastal Plains of North Carolina*. The goals for this community project are to test the longevity and productivity of new forage varieties of grass species that have historically been considered poorly adapted to the coastal plains on NC. Resulting data and outcomes should allow Extension agents and producers to make better decisions on forage variety selection and management of said species. A longer term goal is to increase profitability due to higher value hay production.



# Pitt County Community Grant, (Agent Andy Burlingham)

## **Project: Adaptability and Productivity of Cool Season Perennial Forage in the Coastal Plains of North Carolina**

Pitt County sits in the heart of the coastal plains in NC. The sandy loam soils of the county have long sustained farmers growing tobacco, peanuts, soybeans, corn, wheat, and sweet potatoes. Contract swine and poultry production along with many small and mid-sized cow calf operations utilize many of the lower productivity soils. Forage production is a very important component, utilizing animal waste and providing low cost feed for grazing animals. Some producers have developed lucrative markets for forage, selling high quality hay to a growing community of horse owners. There is a need for high quality forages to support expanding grass fed beef and pasture raised hog production driven by a growing local foods movement.

The traditional perennial forages of the region are Bermuda grass, Bahia grass and K-31 fescue. While these forages are very well adapted to our soils, climate, and production practices, they are of a lower nutritive value as compared with many types of forage grown in other regions. Growers in coastal plains have traditionally been discouraged from planting cool season perennial grasses by their Extension agents due to poor adaptability of older cultivars. However, there has been a lot of plant breeding and selection done in Georgia and Tennessee to develop cultivars that perform better in heat, drought and acidic soil conditions. As research is released from trials conducted in these other regions of the southeast, local producers often wonder if these grasses would perform here in eastern NC. Some trials have been conducted in the piedmont of NC and in the coastal plains of VA, but no data has been collected in coastal plains of NC.

The goals for this community project are to test the longevity and productivity of new forage varieties of grass species that have historically been considered poorly adapted to the coastal plains on NC. Resulting data and outcomes should allow Extension agents and producers to make better decisions on forage variety selection and management of said species. A longer term goal is to increase profitability due to higher value hay production.

**Year-end update:** Five forage varieties: Cajun 2 Fescue, Persister Prairie Bromegrass, Matua Bromegrass, Persist Orchardgrass and Foxtan Festulolium were planted on October 6-7. A total of 21 acres of forage was planted across 6 farms. Dry weather after planting impacted emergence, but satisfactory stands of all grasses but the Matua were established. It was determined that the Matua seed purchased was over 5 years old resulting in very poor germination. The seed company was contacted and replacement seed was requested. At that time, the Matua seed supply was very limited and it took several weeks for replacement seed to be located and shipped. Replacement seed was received in early December, far outside of the establishment window. It was decided that the replant of the Matua would wait until spring when a better establishment outcome was likely. The Matua plots were reseeded February 26 and a good stand has emerged. An application of 100lbs per acre of 10-0-30 was also made to all plots on Feb 26 as well. An additional nitrogen and pre-emergent herbicide application is scheduled for the second week in April.

### **EVALUATION METHOD**

Evaluations of the forage stands are just starting. Andy would rate stand establishment as fair to good. Dry conditions at planting and prolonged freezing and snow cover during the winter have impacted stand density and tiller counts. The fertilizer application and current rains are leading to stand thickening. Spring stand population data will be collected in the next two weeks.

### **RESULTS**

The project is ongoing and data will be collected for the next three years. An initial field-day is scheduled for April 23.

# Rockingham County, (Dana and Rochelle Reynolds)

## Greenhouse for heirloom vegetables



Dana and Rochelle Reynolds inherited 50 acres that have been passed down from Dana's grandparents. The Joyce Family Farm was established in the late 1930's, a classic WW II era farm. Elma Joyce was Dana's grandmother, she was known for her farm fresh butter, eggs and fine cakes and pies. Warner Joyce raised dairy cows, chickens, tobacco and vegetable crops. The family took in several foster children.

For the last three years, Dana, Rachelle and Frank Reynolds have been growing vegetables and herbs, with a concentration on heirloom specialty crops for local retail sales. They had a difficult time locating quality heirloom plants, and realized the only way they can properly ensure quality heirloom plant varieties for their customers is to propagate the seeds themselves.



The grant funds will be used to construct a commercial greenhouse for propagation of heirloom vegetables and medicinal herbs not typically found in local grocery stores or farmers markets. With the addition of the greenhouse they would have the ability to extend their growing season to include early spring and fall crops and plants that can be started in the greenhouse and transferred to the field.

**Update:** Dana Reynolds has been busy excavating this spring. They located a used greenhouse at a bargain price, but the deal included site clean-up. As you can see in the top photo the greenhouse had been dormant. It took three days to remove and clean up the site. Before Dana could re-assemble the greenhouse on his farm he had to clear a new site.

This involved clearing out stacks of lumber, cutting trees and hauling off trash and brush. After the area was cleared a visual and surveyed plot measurement of the space determined the location was not desirable due to a 46 inch elevation drop running east to west. Dana reassessed the landscape and determined that north to south installation had only an 18 inch drop, which would be more desirable, but would require more excavation. At the end of May, the farm was flooded from rain storms and hail. The powerful storms caused a power outage and brought work to a halt as the ground was too muddy for heavy machinery. Their next step is to level the ground for the foundation of the greenhouse.

**Year-end update:** This project has been a success in many ways for Reynolds Family Farm. They are now able to propagate all of their agriculture from seed, and no longer reliant on others. In addition, they have generated a growing interest with their customers from the Farmers Markets. There are numerous clients who desire to come to our farm to shop at our greenhouse. Dana has been ordering numerous varieties of rare heirloom seeds for vegetables and herbs and started propagating plants in January. *Photo: Dana and Rochelle had an open house on March 19<sup>th</sup> to promote their new greenhouse.*



[Project video created by Dana and Rachelle Reynolds](#)

# Rockingham County, (Steve and Natalie Foster)

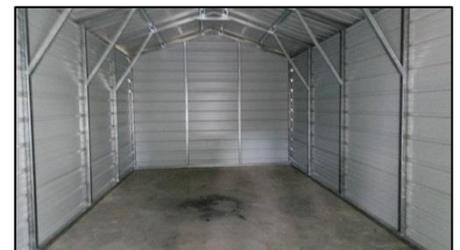
## Produce cooler and propagation shed



Steve and Natalie Foster have been operating a small farm since 1996. (The farm had originally been a tobacco farm owned by Steve's grandmother.) They produce garlic, produce, pork and eggs. Their products can be purchased at the Greensboro Farmers Curb market 51 weeks a year. They plan to purchase a produce cooler and construct a propagation shed.

**Update:** The Foster's received their grant payment in April but could not lay the concrete foundation till June 20 because of the wet spring weather. The building has been constructed and they are preparing to work on the inside. They plan to build a wall to separate the cool room from the work room and add electricity.

**Year-end update:** The Fosters project plans were furthered delayed by family illness and deaths that kept them from working at their fullest potential. They finally got all the electrical wires and lights up in the building, and have the electrical cable to run electricity to the building but can't finish until they bury the cable. They will rent a ditch witch from Big Apple farm supply as soon as the ground dries out long enough to use it. After this step they can insulate. Insulation is the second highest expense of this project but is also the last step. They still have to buy all the spray insulation and foam board for the walls and a few small things to finish the project.



## Sampson County, (Robert "Blake" Lane)

### Irrigation pump mounted on refurbished engine



Robert "Blake" Lane will use his grant funds to turn a salvaged diesel engine from a burnt cotton picker into an irrigation pumping unit. With an irrigation pump mounted on the refurbished engine, it would allow him to irrigate his new vegetable crops without the use of a tractor which is needed in other areas of the farm operation.

**Update:** The irrigation unit has been purchased, and all its parts have been received. The engine has been removed from the remains of the burnt cotton picker. A trailer has been purchased to hold the assembled pump. Currently, everything just has to be assembled together and tested, and the project will be complete. Blake estimates that the entire assembly will take approximately a week to complete, provided no problems occur. A trailer was needed to both hold the unit and allow for mobility, therefore, one was ordered from Georgia.



**Year-end update:** The project was completed in late September. There were a few roadblocks. The first hindrance was the skid that came with the trailer, it was ordered to hold the unit but it was the wrong size. Exchanging the unit for the correct size required a second trip to Georgia. Another issue that delayed the project's completion was the fly wheel, ordered by John Deere, was also the wrong size. There were also electrical and water pump issues that occurred during the actual assembly of the engine to the irrigation pump.

However, the refurbished engine mounted to the irrigation pump was most definitely a success. The pump was used to irrigate the collards they grew in the fall, which saved the use of a tractor and another irrigation reel. Blake grows 17.5 acres of corn, sweet potatoes, tomatoes and collards. With this project, a tractor and irrigation reel will be spared and used in other much needed areas of the farm operation. It also

saves 2-3 hours of labor each time they irrigate. *(Photos: Crops that this irrigation pump will be benefitting)*

Blake shared information about the project at a Cover Crop Field Day Event that was sponsored by the Sampson County Farm Extension Agency on December 19, 2017 at Jason Tyndall Farms in Clinton, NC.



# Surry County, (Earnest and Cathy Wheeler)

## Mushroom lab



Borrowed Land Farm was formerly a tobacco farm. Earnest and Cathy share the farm with a brother and nephew. The Wheeler's both have master's degrees in biology and are guided by scientific principles. They have been growing mushrooms for nearly a decade, first for themselves and later to sell. They sell to the public at farmers markets in Elkin and Winston-Salem and to two local restaurants with plans to expand. They are familiar with many cultivation techniques and have established a growing market. With the grant funds they will build a mushroom lab, grow room and storage expansion.

**Update:** The floor construction is complete for the work area, lab area and walk-in cooler. They are preparing to put up the walls. The shipping container (growing room) is fully insulated and has been moved to its final location. The energy recovery ventilator, for use in the new growing space is in shipment. The new sterilizing equipment is in use and they have been able to increase their spawn production, increasing the types of products they offer. Their biggest challenge was the weather!



The Wheelers are active in the community. They made a presentation on June 12, to Siloam Homemakers Club about their farm project. It was an Extension sponsored program with 20 attendees. Their farm was part of the Northern Triad Farm Tour, June 25, with 41 visitors. *(Photo: Northern Triad Farm Tour)*



**Year-end update:** The project has definitely been a huge success. Starting with the purchase of an autoclave, they've been able to expand the spawn production and generate new lines of mushroom varieties from wild-collected specimens. This has allowed them to save as much as \$700 / month by not having to purchase spawn from other suppliers, and has made possible the testing of new projects, like grow-at-home kits and new mushroom varieties, without significant expense. Having a climate-controlled and energy-efficient workspace enables them to continue work through the

winter with no slow-downs, even during the recent single-digit temperatures. They can reliably deliver mushrooms to their customers week after week. *(Photo of a grow-at home kit.)*

They are producing and selling more than double the amount of mushrooms than last year. Because of their increased production, they were also able to start selling at the Greensboro Farmers Curb Market, a large market, where they are increasing their customer base and, even in the winter months, are finding a nice profit. As a result of their expanded capabilities and customer base, they hired the first outside-the-family employee. They expect him to become full-time by summer, and with his help they'll also have time available to get back onto finishing the rest of the project.

[How to grow Schroom Cubes video.](#)



# Yadkin County, (Charles Wooten Jr.)

## Scooterbug's strawberries



Chuck Wooten has transitioned from a tobacco farm to the largest plasticulture strawberry operation in Yadkin County. His Dad grew tobacco, grain and cattle. When he passed away, Chuck returned to the farm full time and transitioned to a specialty crop operation. The challenge is finding crops that will allow him to squeeze enough profit from a small farm.



Chuck has two daughters who are now involved in farming and it would suit his interest to see their operation grow in that direction. They are the 5<sup>th</sup> generation to benefit from farming on the land. Scooterbug's Strawberries is named after his youngest daughter. Her nickname is Scooterbug, and Sweet Pea's Pumpkin Patch is named after the oldest whose nickname is Sweet Pea. Chuck said, "This has been a great way to connect them directly to the farm and give them a sense of ownership in these ventures."

This will be their 4<sup>th</sup> year growing strawberries. They have increased production each year and now sell to a company that fresh freezes and resells to chain grocery stores. They need a cooler to maintain freshness, and it would also allow them to participate in the Farm to School program once they get GAP certification.



**Update:** The cooler has been installed and was used during the 2017 strawberry season. He had several groups come through this year. The Yadkin Valley Economic Development District, INC. (YVEDDI), brought seniors out twice a week to pick and several church youth groups; and the 4-H group for Yadkin County.

**Year-end update:** The new cooler allowed them to package quart containers for late afternoon pick up for weddings and banquets. It provided the option of putting strawberries in the cooler to condition them for afternoon sales, and reduced waste from over picked strawberries. It allowed them to use cut-off plants from California for a ½ acre organic crop they are growing for 2018. In 2017 they produced 6000 gallons of strawberries with a market value of \$60,000 and increased their income by 10%. They anticipate the cooler will provide \$7500 in additional revenue for 2018 if everything works out.



## Rockingham County, (Trey Baker)

### Produce building for storage, grading and packing



Robert (Trey) Baker grew up farming with his father and grandfather. The farm has been in the family for four generations. In its years of operation it has been successful in raising tobacco, wheat and soybeans. They are firm believers in “if you take care of the land it will take care of you.” Trey recently started farming full-time. He hopes to build the farm so his children will continue to farm. With the grant funds he plans to construct a produce building for storage, grading and packing.

*(Photo: Trey [left] sharing information about his greenhouse tomato production.)*

**Update:** The Baker project like many others was delayed for two months because of the rain. The building has been constructed and the concrete floor has been poured. They are working on the insulation of the roof and the electrical work.

**Year-end update:** They have completed their project for the time being. All that is really left to do is finish insulating the walls and closing in an office area in the packing facility. Having the packing facility provides a space to properly store and grade and pack, and has taken a lot of the stress away. Trey said, he didn't know how his father operated without a facility for packing, grading and storage.

They offered a farm tour of their packing facility and tomato production greenhouse in the beginning of December. They had a wonderful turn out, and said that it was very nice to meet with others that are in the same area.

