



## *Field Day Guide*

July 23, 2020

### **Stop 1- Flint River Fresh Backyard Garden**

Fitting Cover Crops into your Vegetable Rotation

Presented by Fredando Jackson, Flint River Fresh, Inc. - Executive Director

No matter how small your garden or big your farm happens to be, there is a cover crop you can grow. Cover crops are a great way to improve the overall health of your vegetable garden soil. Cover crops build soil, suppress weeds, provide flowers for pollinators, create a habitat for birds and beneficial insects and in general beautify the garden and farm. Join us for a tour of 6 different warm season cover crops plus a special warm-season cocktail mix. We will share how to successfully fit cover crops in your vegetable rotation, matching the right species to the right method, recommended rotations, and cash crop establishment.

### **Stop 2- Forquimica**

The 2020 Cotton trial is a side by side to show the effect of the Forquimica Nutritional Cotton Program. The right side has the common baseline nutrient program that is usually used in cotton. The left side has the same baseline program plus the Forquimica Nutritional Cotton Program. The intent of this trial is to compare the yields between plots and see the effects of the Forquimica Cotton Program. Our cotton program consists of seed treatment and foliar fertilizer applications throughout the season with our surfactant Goodspray.

### **Stop 3- Helena**

The objective of our Helena Acre™ plot is to highlight key Helena products and services that are critical to maximizing the quality and yield of cotton. We start our Helena Acre plot at planting with our revolutionary stabilized enzyme product, Zypro®, applied as an in-furrow spray. Zypro produces a consistent chemical reaction in the soil for up to 60 days to boost nutrient uptake. It helps produce a stress-resistant plant and improves plant growth and yield. As the cotton begins to put on pinhead squares, we will begin Extractor® tissue sampling and continue through mid-bloom to identify any hidden hunger. This enables us to proactively address these nutrient deficiencies with foliar applications as needed. We will then foliar apply Utilize® at pinhead square followed by a second application at first bloom. Utilize® is a foliar nutrient system formulated with Goëmar®, a physiological activator technology that directly impacts the development of flowers by enhancing pollination with increased polyamine production and photosynthesis. Utilize helps with a more uniform fruit set, retention and higher

yields. Potassium and sulfur are key nutrients for high cotton yields, so we will foliar apply two of our nutritional products at the first and third week of bloom to supply those needs. Coron® 10-0-10 is our standard foliar potassium product that will safely deliver the nutrient into the plant when applied with PGR-s. Ele-Max® Sulfur Complete will be tank mixed with the Coron to provide the supplemental sulfur along with other key elements that are essential to plant growth. The Helena Acre provides a custom approach to maximizing yield and quality of cotton with enhanced plant development and a targeted nutritional prescription from the Extractor tissue sampling program. Disclaimer: Always read and follow label instructions. Some products may not be registered for sale or use in all states and counties. Please check with your Helena representative to ensure registration status. Helena, Zypro, Coron, Ele-Max, Extractor and Joint Venture are registered trademarks and the Helena Acre is a trademark of Helena Holding Company. Utilize and Goëmar are registered trademarks of UPL. © 2020 Helena Holding Company.

#### **Stop 4- UGA Weed Science (Culpepper)**

University of Georgia weed science research at the Sunbelt Expo during 2020 is designed to further help steward pesticide use across Georgia. Specific efforts focus on conducting five volatility studies to better understand how tank mixtures and varying environmental conditions influence the volatility of various dicamba formulations. Additionally, as methods to reduce volatility are discovered, it is paramount that additional research is conducted ensuring weed control is still optimized. Thus, several weed management studies are also being conducted at the site.

#### **Stop 5- Dekalb**

DEKALB Brand Corn: Corn earworms may be small, but they can mean big problems for you and your operation. But thanks to Dekalb GenuityVT Double PRO, Trecepta and SmartStax traits you're ready to fight back. You already know Dekalb germplasm gives you strong roots, stalks, great disease tolerance and yields — but now, combined with VT Double PRO, Trecepta and SmartStax, Dekalb brand has a proven line of defense against corn earworms with broad spectrum above and below ground insect protection.

#### **Stop 6- Nutrien**

Nutrien Ag Solutions presently has research trials at Sunbelt Expo involving: Dyna-Gro Corn Varieties, Dyna-Gro Cotton varieties Dyna-Gro Sorghum varieties, Dyna-Gro Soybean varieties, Dyna-Gro Sunflowers as well as several of our Loveland proprietary products. In our corn variety plots we are testing 5 new products to see how they perform against our 3 standard varieties, D57VC51, D58VC65 and D54VC14.

The nutritional products we are evaluating for corn are: Levitate, Radiate, Accomplish, Black Max, Riser, Pakhorse, Carb N, & Potenza.

## **Stop 7- Pioneer**

CORN P1185YHR - New hybrid with superb root strength and above average stalks, Outstanding test weight in a short plant with low ear placement, Good resistance to northern leaf blight

CORN P1213YHR – New 112 CRM hybrid offers a shorter plant height and lower ear placement, Above average stalks and roots, very good test weight and good resistance to northern leaf blight

CORN P1506YHR - New hybrid with superb yield potential with moderate plant and ear height that can be planted in high populations, Strong roots with good stalks; excellent grain quality and very good test weight, Above average resistance to northern leaf blight

CORN P1847VYHR - Late-season Optimum® Leptra® product with excellent yield potential suited for both dryland and irrigated, grain or silage, Impressive drought tolerance in a shorter stature product with lower ear placement, Intermediate resistance to northern and southern leaf blight

CORN P1870YHR - Leader product that performs in both irrigated and higher yielding non-irrigated environments, Shorter plant height, lower ear placement, outstanding stalk strength, strong roots, and above average brittle stalk resistance combine for solid standability, Offers intermediate resistance to northern leaf blight plus good resistance to Fusarium Ear Rot

CORN P2042VYHR - Exciting, new 120 CRM hybrid for high-yield environments, Offers Optimum® Leptra® trait for excellent earworm protection, Robust plant type with full flex; average northern leaf blight resistance

## **Stop 8- Syngenta**

NK strives to offer technology, genetics and value to your operation by bringing new products to market using the industry's largest and most diverse germplasm pool coupled with our Agrisure Traits portfolio for Above Ground(AgrisureViptera), Below Ground(AgrisureDuracade) and Drought(AgrisureArtesian). We have two hybrids on display at this year's field day, both are new hybrids we are excited about going forward, they are NK1677-3110 and NK1460-5222.

NK1677-3110 / This is a true southern hybrid, look to position this hybrid under irrigation or better dryland corn ground. 1677 has excellent emergence and is a high yielding hybrid that responds to management, has much improved test weight and grain quality combined with a desirable ear placement and husk cover. This hybrid also brings an excellent combination of strong stalks and roots and has a semi-flex type ear. This product is being tested in grain and silage OVTs in SC/GA/FL.

NK1460-5222 / This is a broadly adapted hybrid that offers solid performance under limited irrigation or rainfall on variable soil types. 1460 offers excellent emergence and root strength with quick drydown and drought tolerance along with a consistent, desirable ear placement and husk cover and has a semi-flex type ear. AgrisureViptera: Both hybrids on display here at the Sunbelt Expo provide all the above listed characteristics in addition to carrying trait packages which include industry leading AgrisureViptera. Agrisure Viptera provides the most comprehensive above-ground insect control featuring: 1) Superior Above-Ground control with the only trait that effectively controls western bean cutworm, 2) Healthier plants with reduced risk of mold and mycotoxin development through control of ear feeding insects and 3) Higher yield & profit potential, with a 7.3 Bu/A yield advantage in fields with ear feeding insect pressure.

## **Stop 9- UGA Extension (Kichler)**

In furrow Input Corn Study: A replicated multiyear study to evaluate the feasibility of various in furrow treatments and their effects on corn yield. This study includes various fertility, nematode and fungicide treatments applied at planting and will be taken to yield. Early Season Corn Fungicide Study: A replicated multiyear study to evaluate the feasibility of an early season fungicide application to V7 corn. Diseases will be evaluated during the year and this study will be taken to yield.

## **Stop 10- Valley**

Valley Irrigation is excited to be a part of the Sunbelt Ag Expo Field in this crazy 2020 of a year, we hope you can gain something out of the products we are going to be talking about at the field day!

Valley 365 takes the full functionality of existing technology like AgSense®, Valley Scheduling™, and Valley VRI, and fully integrated these tools into one location. It's complete, connected crop management, to make better decisions, save time, maximize irrigated acres and have peace of mind.

Growers will gain greater value through this end-to-end platform with greater efficiency, improved accessibility, and smarter business decisions.

- Greater efficiency – Existing applications will fully integrate, allowing growers to use a single app/site to access all solutions.
- Accessibility – This end-to-end cloud-based platform offers growers a simpler, more intuitive user experience, anytime and anywhere they want it.
- Smarter – Growers can leverage equipment, environmental and agronomic data more effectively, in real time.
- Scalable – This innovative, all-inclusive software solution will enable our growers to add features effortlessly, and is customizable based on your changing needs. It's irrigation management that grows with you.
- Security – Built upon the latest cloud-based technology, it provides unlimited data storage, offers enhanced support capability and is extremely secure.

The four intuitive modules within Valley 365 are:

- o Forecast & Plan – Valley Scheduling improves water application, saving money and increasing your productivity with technology proven on 5 million acres worldwide.
- o Monitor & Control – The tried and true power of AgSense technology gives you real solutions in real time so you can control everything from your pumps to your pivot and more!
- o Optimize & Apply – Valley Variable Rate Irrigation (VRI) provides uniform and accurate water delivery to the crop, maximizing yield and maintaining the health of the plant.
- o Insights & Analysis – With Valley Insights, powered by Prospera, imagery detects water application issues, crop-related stress, nutrient deficiencies or improper chemical application.

Not available in all regions

Valley 3000i

Growers need to maximize efficiency and keep up with increasing regulations, but documentation can be difficult and time-consuming.

The Valley 3000i flowmeter can help. It can help growers be more efficient and monitor their application precisely, saving water, energy, money and effort.

- Accurate automated reporting of irrigation and well usage via Valley 365/Ag Sense
- New technology for new but also existing pivots – utilizes a saddle and drilled hole to eliminate cost on retrofit

#### Pump Command

Save time and resources with wireless remote monitoring, plus control of all of your pumps and link them to your fleet of pivots or linears. Valley Pump Command™ is like an easy button for your pumping – just turn your pivots on, and your pump station takes care of itself.

- Intuitive Pump Control – All three tiers (Basic, Enhanced, Pro) offer an automatic VFD set point control solution that automatically matches output to demand for multiple pumps and pivots
- Maximized efficiency – Save energy and water at all times by using only the pressure required
- Cost savings – Avoid the expensive and difficult digging necessary to install wires
- Reporting capabilities – Integration with Valley 365 / Ag Sense for comprehensive recordkeeping

Valley Scheduling is advanced management software, paired with expert agronomy services, which provides easy-to-understand irrigation recommendations to growers, based on real, scientific data.

- Technology that is field-proven on more than 45 commercial crops and on over 5 million acres in 12 countries
- Uses a variety of inputs about soil, crop type, development stage and automatically updated weather conditions
- Produces easy-to-understand recommendations based on modeled or actual soil probe for measured data
- Improves profitability and yield potential through better crop health and reduced disease

### **Stop 11- UGA Cotton Team (Harris)**

A randomized and replicated field experiment was initiated in Fall 2019 to examine the contribution of four cover crops systems to the uptake and utilization of nitrogen by cotton. This research is sponsored by The Fertilizer Institute as well as the Georgia Cotton Commission and is one of four locations across the Cotton Belt (Virginia, Tennessee and Texas are the other states participating). Plots of cereal rye, clover+vetch and a mixture of cereal rye and clover+vetch were established in Fall 2019. A plot with no cover or fallow was also included. Cotton was then strip-till planted in May 2020 (DeltaPine 1646). Each of the main plots were divided in four and will receive 0, 40, 80 and 120 lb N total N per acre. The nitrogen applications will be split between at planting and sidedress. Deep core soil samples (down to 3

feet) and plant biomass samples will be taken periodically during the growing season and then each plot machine harvested for yield in the Fall.

### **Stop 12- Nutrien**

Nutrien Ag Solutions presently has research trials at Sunbelt Expo involving: Dyna-Gro Corn Varieties, Dyna-Gro Cotton varieties Dyna-Gro Sorghum varieties, Dyna-Gro Soybean varieties, Dyna-Gro Sunflowers as well as several of our Loveland proprietary products. We are really excited about the Dyna-Gro cotton varieties we have at Expo this year. They include 3615 B3XF and 3799 B3XF which were launched in 2020 as well as 4 new varieties H959 B3XF, H929 B3XF, 3456 B3XF, 3535 B3XF.

The nutritional products we are evaluating for cotton are: Levitate, Radiate, Accomplish, Black Max, & Titan XC.

Also, we have yield trials involving ESN (Environmentally Smart Nitrogen) & Syntrex on cotton compared to the standard program. This is our 3rd year with this particular trial and we hope to continue to demonstrate the yield increases from the past 2 years. New in 2020, Nutrien Ag Solutions is looking at several sustainable agriculture trials. These trials involve several of our products that help reduce our carbon footprint at the same time increasing yields for growers.

### **Stop 13- Americot**

Americot is committed to providing varieties specifically developed for the Southeast cotton grower. NG 5711 B3XF has been a proven dependable variety for the last three years. It has all the key features Southeast cotton growers need: mid-full season maturity, smooth leaf and very high bacterial blight tolerance in addition excellent yield potential and fiber quality. NG 5711 B3XF responds well to PGR's and handles heat and drought stress very well. NG 4936 B3XF is another Bollgard 3 XtendFlex variety with premium quality fiber and wide adaptability to go across multiple soil types. NexGen 5007 B2XF & 3522 B2XF have been consistent performers in the Southeast for the past 6 years. As the saying goes, "Varieties don't get old because they're bad!" Growers will have the ability to test new varieties through our Americot Cotton Evaluation (ACE) Trials in 2020! Georgia cooperators growers will be able to assess new variety performance on their own farms in real life scenarios. Americot is committed to providing the Southeast cotton grower with varieties with qualities they expect: high yield potential, excellent fiber quality and disease protection, all in the latest technologies available. At Americot, our priorities are simple: excellent performance, quality products and exceptional people.

### **Stop 14- Phytogen**

Planted: May 11, 2020

PX 3D43 W3FE – \*Experimental – Mid – REN/RKN/BB

PHY 350 W3FE – Early/Mid – RKN/BB/VW

PHY 400 W3FE – Mid – RKN/BB

PHY 480 W3FE – Mid/Full – RKN/BB

PHY 500 W3FE – Full – RKN/BB – Smooth Leaf

PHY 580 W3FE – Full – RKN/BB

REN/RKN/BB/VW denotes Native Breeding Trait resistance to specific pests

REN – Reniform nematode, RKN – Root-Knot nematode, BB – Bacterial Blight, VW – Verticillium Wilt

PhytoGen W3FE varieties not only offer Widestrike 3 Insect Protection, fighting yield robbing bollworm, you also have full tolerances to Liberty and glyphosate herbicides, as well as the only registered auxin technology in the market in Enlist, to fight pesky resistant weed species. You'll also begin to forget about pests such as root-knot and reniform nematode, and bacterial blight through PhytoGen varieties industry leading Native Breeding Trait resistance. PhytoGen W3FE offers high yield potential in a full range of maturities to best match your management systems with the exceptional seedling emergence and vigor you have always been able to trust.

### **Stop 15- Stoneville**

We have 6 varieties planted at the Expo this year. Four of the varieties are commercially available and two experimental lines which we are testing here as well as across the cotton belt. Stoneville 5471GLTP is a proven performer across Georgia and has yielded at the top of the UGA cotton variety trials in 2018 and 2019. ST 5471GLTP has excellent seedling vigor to go along with a premium fiber package, 3-gene worm protection, disease resistance package, and top end yield potential. Stoneville 4990B3XF is a newcomer to the market place in 2020 but performed extremely well in Stoneville's Agronomic Performance Testing program in 2019. ST 4990B3XF is a mid-full maturity variety which has tolerance to Engenia and Liberty herbicides to go along with its top end yield potential and 3-gene worm protection. Stoneville 5600B2XF was Stoneville's first Engenia tolerant variety, which hit the market in 2019. ST 5600 is a full season variety and has resistance to root-knot nematodes. It performed very well in the Auburn University, South Alabama variety trials in 2019. Stoneville 5610B3XF is another new variety for Stoneville in 2020. This full season, Engenia tolerant variety performed very well in Stoneville's Agronomic Performance Testing program in both irrigated and dryland trials, but excelled in tough dryland conditions where other varieties tended to fall off. BX (BASF Experimental) 2193B3XF is a mid-full maturity variety with tolerance to Engenia herbicide and 3-gene worm protection. Yield data from breeding trials, this variety may have a fit across the cotton belt including Georgia and Southern Alabama. BX 2194B3XF is a full season variety with excellent seedling vigor and tolerance to Engenia herbicide. Yield data from breeding trials in previous years and its full season maturity indicate it may be a variety suited for Southern Georgia and Alabama.

### **Stop 16- Deltapine**

DELTAPINE Brand Cotton: The Deltapine Class of 2016 – 2020 cotton varieties offer yield and fiber quality improvements over commercial standards. Our variety offerings carry the Bollgard II or Bollgard III Xtend traits to help maximize both insect and weed management performance on fields across the Southeast. First launched in 2015 the Deltapine Xtend Varieties are setting

standards in yield, quality and weed control in the Southeast. Take a look at the class of 16 - 20 Deltapine Xtend varieties you will like what you see.

### **Stop 17- *Pennington***

Pennington's story began in 1945 as a small seed store on Main Street in Madison, Georgia. Brooks Pennington Sr., the company's founder, started by supplying local farmers and ranchers with quality cotton, soybean and agricultural grass seeds. As Brooks Pennington Jr. began running the company, Pennington moved out of the retail seed business and set their sights on supplying agricultural seed to retailers across the southeastern U.S. The company decided to concentrate their efforts on pastures and forage products and later for lawn and turf. As the company's grass seed business grew, Pennington extended its growing facilities into Missouri, Arizona and eventually into the fertile Willamette Valley in Oregon. Pennington maintains a strong commitment to farmers, ranchers and hunters of America with a complete line of premium forage, wildlife, and most recently, cover crop seed products. The lineup includes both warm and cool season annual and perennial forage species. Our cover crop products feature exclusive seed varieties such as Wintergrazer 70 Cereal Rye, AU Sunrise Crimson Clover, Root Plow Radish and Root Plow Annual Ryegrass. These varieties were used individually and as mix components ahead of this year's cotton crop at the SAE Research Farm. They offer several unique plant characteristics that make them ideally suited for cover crop use. They are available individually or in several cool season mixes sold under Pennington's Field Guard™ product line. In addition, custom seed blending is offered to meet individual farm cover crop needs.

### **Stop 18- *Georgia Association of Conservation Districts***

Georgia Association of Conservation Districts, in partnership with Trellis, demonstrates the implementation of moisture sensors and cover crops to improve soil health. Cover crops allow for increased moisture retention and reduce water runoff, which allows for greater nutrient holding capacity. For our plot, Trellis sensors were installed in order to monitor soil moisture throughout the cover crop lifecycle and demonstrate the increase in moisture retention, ultimately resulting in healthier soil. Our demonstration will cover details on Trellis products and how they work as well as information on cover crops, soil health and everyday examples of implementation of these practices.

### **Stop 20- *Asgrow***

ASGROW Brand Soybeans: Asgrow continues to research new products and deliver new innovations and will lead the way with the greatest volume of new Xtend varieties, the next generation of Bayer soybean technology that will set the stage for improved performance. The 2020 Asgrow product line delivers a strong portfolio of maturity groups 0 through 7 that are tested and proven to perform well in both optimum and tough growing conditions.

### **Stop 21- *DonMario Seeds***

DONMARIO is an independent, family owned and operated soybean seed brand, and we are excited to invite you to view our plots as we share our fresh options in soybean seed genetics for American farmers! We offer exclusive soybean genetics, multiple trait options, unmatched seed quality, and the best agronomic recommendations. With over thirty-six years in the soybean industry, DONMARIO is serious about soybeans. We look forward to showing you our Enlist unique indeterminate varieties from 4.8-5.9! Our plot was planted on May 15th, with 38inch rows. In it, you will be able to see our Enlist unique indeterminate varieties lineup from MG 4.8-5.9. Further, we are also showcasing our elite Xtend lineup from MG 4.7-4.9. We look forward to seeing you there!

### **Stop 22- *Nutrien***

Nutrien Ag Solutions presently has research trials at Sunbelt Expo involving: Dyna-Gro Corn Varieties, Dyna-Gro Cotton varieties Dyna-Gro Sorghum varieties, Dyna-Gro Soybean varieties, Dyna-Gro Sunflowers as well as several of our Loveland proprietary products. We are currently testing 9 Dyna-Gro soybean varieties. All are Extend technology.

### **Stop 23- *S&W Seed Co.***

SP 7715 is a medium-full, bronze colored grain hybrid with very high, stable yields and a robust disease package. It has superb tolerance to anthracnose, all downy mildew pathotypes, and white sugarcane aphids. It has a uniform appearance, a semi-open head, and very good thresh ability. Excellent standability and drought tolerance allows maximum yields across different environments and geographies. Very well suited for the Central/south Texas, Mississippi Delta, and East coast regions. SS304 is a medium-full tall silage hybrid with high tonnage yield performance. Due to a high sugar content, stalks are very sweet and juicy. It reaches silage maturity quick enough to harvest as far north as Nebraska. It also has a high level of tolerance to Anthracnose allowing it to move into the SE United States where it is perfect double crop fit. Plant height reaches 10-12 feet with very good standability. SP4105 can expand the window for usage because it will not head under most conditions. SP4105 continues to grow and maintain its nutrient value in the leaves and stem until it is chopped or grazed thus extending the harvest time frame. SP4105 Is a versatile hybrid sorghum x Sudan grass that can meet most summer forage needs and produces high quality forage for fast weight gain and/or increased milk production. This hybrid is best used for hay, haylage, and green chip. SP4105 has good leave to stem ratio.

### **Stop 24- *Dekalb***

DEKALB Brand Corn: Corn earworms may be small, but they can mean big problems for you and your operation. But thanks to Dekalb GenuityVT Double PRO, Trecepta and SmartStax traits you're ready to fight back. You already know Dekalb germplasm gives you strong roots, stalks, great disease tolerance and yields — but now, combined with VT Double PRO, Trecepta and

SmartStax, Dekalb brand has a proven line of defense against corn earworms with broad spectrum above and below ground insect protection.

### **Stop 25- Nutrien**

Nutrien Ag Solutions presently has research trials at Sunbelt Expo involving: Dyna-Gro Corn Varieties, Dyna-Gro Cotton varieties Dyna-Gro Sorghum varieties, Dyna-Gro Soybean varieties, Dyna-Gro Sunflowers as well as several of our Loveland proprietary products. Dyna-Gro has a full Sorghum line up for the Southeast as well. We have 7 varieties in our 2020 trials. 2 of these we selected from testing at Expo last year when they yielded 100+ bushels .Rounding out we have a demonstration area showcasing 5 Dyna-Gro Clearfield sunflower varieties .Nutrien Ag Solutions also has multiple nutritional trials going on at Sunbelt Expo to continue to demonstrate the proven yield improving performance of several of our products.

### **Stop 26- Nutrien**

Nutrien Ag Solutions presently has research trials at Sunbelt Expo involving: Dyna-Gro Corn Varieties, Dyna-Gro Cotton varieties Dyna-Gro Sorghum varieties, Dyna-Gro Soybean varieties, Dyna-Gro Sunflowers as well as several of our Loveland proprietary products.

The nutritional products we are evaluating for peanuts are: Levitate, Radiate, Accomplish, & Black Max.

### **Stop 27- Reinke**

Reinke was the first to introduce Navigator GPS for swing arm corners. This innovation eliminated the need for a buried guide wire and provided precise path control. In 2020, the company again revolutionized the irrigation industry with its electronic swing arm corner. The ESAC 6.0 now comes standard on all new swing arm corners. “ESAC’s biggest improvement in precision water application comes through using precision guidance, electronic zoning, and a patent-pending method utilizing the system’s path of travel to calculate the water demand during every move,” said Cody Bailey, Reinke director of engineering. “This technology increases water application precision in even the trickiest field designs. Field studies have shown a significant improvement in water application uniformity on irregular shaped fields; whereas with previous SAC models, some areas were not covered as well as others.” Reinke ESACs offer the same SAC options with the addition of advanced controls. Patent pending technology increases water uniformity on all Reinke SAC models. ESAC uses sequential sprinkler zones and provides electronic zone control based on GPS positioning. With ESAC controls, growers can virtually eliminate under and over watering throughout their field's corners. Growers can choose from three ESAC Control Packages to suit their needs. ESAC 6.0 allows for six zones of sprinklers and comes standard on all SAC options. ESAC 12.0 and 12.5 come with additional sprinklers and allow up to 12 zones. ESAC12.5 also uses the SAC path to design the sprinkler package for optimal performance. ESAC is the best option for growers who want the efficient and uniform water application that electronic zone control provides. Irrigate up to 98.7% of total acres and

virtually eliminate over and under watering throughout field corners. Reinke is also proud to continue our “Finding a Cure is Pivotal” campaign. This multi-year effort has supported 26.2 with Donna the marathon to finish breast cancer, an organization dedicated to supporting breast cancer research, patients and survivors in the SW Georgia/North Florida area. We will again offer custom t-shirts with a new design in our booth for a \$10.00 donation. Be sure to come to the show and get this year's shirt!

### **Stop 28- UGA Peanuts**

This is an experimental plot for The University of Georgia. This research will be used for one of the graduate students to write a master's thesis as a part of the degree requirement. This year is a second-year project. As we know, one of the increasing environmental concerns today is water conservation and optimum water use. The potential to capitalize on the known benefits of conservation tillage practices is particularly appealing, especially considering that conservation tillage has received scant attention in peanut. This research project compares the water-use efficiency between two tillage systems: strip-tillage versus conventional tillage. Eddy-covariance the technique is used to compare the carbon dioxide flux, evapotranspiration, and water-use efficiency between strip tillage and conventional tillage. Each eddy-covariance system consists of a sonic anemometer CSAT3 (Campbell Scientific Inc., Logan, UT) and a fast-response CO<sub>2</sub>/H<sub>2</sub>O analyzer Li-7500 (Li-Cor Biosciences, Lincoln, NE), where were set up on a tripod at about 1.5 m above the ground in each field (Fig. 1), with the CO<sub>2</sub>/H<sub>2</sub>O analyzers calibrated before the setup. The instruments are powered with a set of batteries charged with a 120-W solar panel. The eddy-covariance system measured and saved automatically three-dimensional wind components, temperature, and concentration of water vapor and carbon dioxide 24-hr/day at a frequency of 10 Hz with a datalogger CR 1000x (Campbell Scientific Inc., Logan, UT). Remote checking technique is applied to remotely check the system status and measurement quality. The data are collected weekly and used to calculate peanut evapotranspiration and CO<sub>2</sub> fluxes (i.e. the exchange rate of carbon dioxide between peanut canopy and the atmosphere). CO<sub>2</sub> fluxes indicate the canopy respiration (with nighttime data) and photosynthesis (with daytime data). Both eddy-covariance fluxes will be used to calculate water-use efficiency of the peanut ecosystem. Our preliminary results suggest that water-use efficiency and yield were greater for strip tillage for all growth stages as compared to conventional tillage. We also measured Leaf area index in both plots. Leaf area index was greater in strip tillage in early (29%), mid (40%) and late maturity (18%) stages, which is a probable reason for greater water use efficiency. This year we are repeating the same experiment to validate the results. Right now, the planting has done for both types of tillage systems and we are installing the Eddy-covariance system in the field. Soon, we will be collecting the data and at the end of the session, will be analyzing the data and make inferences based on the data. We also have taken samples for soil organic carbon and total carbon contents. At the end of the season, we will be comparing the differences before the tillage and after the tillage. One more repetition will be done for next season as well. We believe, this experiment could be helpful for growers to follow the effective cultivation practices and irrigation strategies based on scientific facts.

## **Stop 29- UGA Forage Specialist**

The Sunbelt Ag Expo Darrell Williams Research Farms continues to provide an exceptional opportunity to highlight forage research in South Georgia. These hayfields provide an outdoor classroom for County Extension Agent in-service trainings, producer field days, and collaborative industry events. There are multiple demonstrations and on-going research trials in progress on the farm to address basic forage needs in addition to evaluating the integration of novel weed and insect management strategies into forage systems. The 2-acre bermudagrass garden provides a field-scale comparison of the six most popular bermudagrass varieties in the Southeast. Here producers can interact with and evaluate these different varieties before selecting the best option for their own farm. This area is also used for large plot research trials to better simulate the yield impact of the bermudagrass stem maggot (BSM) that would actually be observed on-farm. The BSM caused significant yield loss in all six varieties since 2017, but a higher percent damage was always observed in the four finer-textured varieties. The biggest takeaway from these studies has been the influence of improved management on reducing BSM impact on forage yield. Cumulative yields have doubled since 2017 because of improved forage and harvest management, despite fluctuations in BSM populations in the late part of the season (August – September) that traditionally lead to 40% + yield loss. Our next research project will use thermal imagery to assess the field and determine the optimum time to apply insecticides. The goal is to use canopy temperature as an early indicator of plant stress to improve effectiveness of insecticide applications for suppressing BSM populations. Multiple sites on the farm are being used to test the new pre-emergent herbicide from Bayer Crop Science. It was successful in controlling annual ryegrass and other winter weeds in bermudagrass. This summer we will evaluate its effectiveness in controlling summer annual weeds while establishing bermudagrass. A new field of Tifton 85 bermudagrass will be sprigged in May 2020. This field will not only improve the production potential of the farm, it will be used to demonstrate the importance of following establishment guidelines for a successful stand. A new alfalfa field will be seeded in Fall 2020. Video from each of these establishments will be used in online educational programs.

## **Stop 30- Conger LP Gas**

Conger LP Gas has been serving South Georgia since 1989. Conger LP Gas is locally owned and supplies propane in 30 counties in South Georgia, with over 6,000 customers. Conger LP Gas specializes in the agricultural industry as the only propane marketer in Georgia that is a distributor for propane irrigation engines. Bill Moore, Alternative Fuel Sales Manager, actively works with farmers and irrigation dealers in the area who are looking for ways to improve efficiency on the farm. Conger LP Gas also partners with the Propane Education and Research Council (PERC) to offer incentives up to \$5,000 to a farmer who purchases a propane irrigation engine. There are also incentives for poultry and greenhouse heating and standby emergency backup generation. In partnership with the Sunbelt Ag Expo, Conger LP Gas and PERC have donated a 200 HP propane irrigation engine for testing purposes against existing diesel and electric irrigation engines. Whether it involves grain, tobacco, peanut or cotton drying, propane irrigation engines, or chicken house and greenhouse heating, Conger LP Gas has the experience to sell and maintain every facet of propane on the farm. Our service techs have over 100 years of combined propane experience and can repair or replace any appliance from a 5,000 BTU bathroom heater to a 1,000,000 BTU grain dryer. As the only propane marketer in Georgia that

carries a full line of propane irrigation engines, Conger LP Gases are able to analyze a farmer's current irrigation needs and determine if switching to propane is the most cost-efficient option. Our experience allows us to work with farmers in seeking propane solutions for the farm. This includes helping farmers apply for any rebates or grants that may be available when increasing energy efficiency on the farm.

### **Stop 31- UGA Extension (Kichler)**

Cotton Nematode Study: Management of southern root-knot nematodes has been a significant problem for cotton growers in Colquitt County and but also across the Cotton Belt of the United States. Losses to plant-parasitic nematodes result in more than 10% losses each year when one sums the reduction in yield and the cost of control. According to UGA Plant Pathology Extension Specialists, the southern root knot nematode (*Meloidogyne incognita*) is the most prevalent plant-parasitic nematode affecting cotton in Georgia. Based upon survey results, it is known that the southern root-knot nematode infests over 70% of the Georgia cotton acreage. According to estimates from Dr. Bob Kemeraït, UGA Cotton Plant Pathologist, southern root-knot nematodes reduced yields by 8% and cost growers \$72.1 million dollars in 2017. This experiment will be conducted at multiple locations to determine the potential of nematode resistant cotton varieties, and at plant applied nematicides to manage southern root knot nematodes.

### **Stop 32- UGA Peanut Team (Monfort)**

UGA PEANUT TEAM is conducting several trials at the Sunbelt Expo's Darrell Williams Research Farm. The 2020 Research trials include: trial 1.) foliar fertilizers and plant growth stimulants, 2.) tillage practices trial, and trial 3.) a seeding rate trial in twin row peanut. The foliar fertilizer and plant growth stimulant trial (1) will evaluate the growth, yield and quality responses of commercially available foliar fertilizers and plant growth stimulants. In trial 2, the objective of the research is to evaluate the economic impact of intensive broadcast tillage (bottom plow) and two reduced tillage programs consisting of a single ripper shank with and without cover. The objective in in trial 3 is to assess yield response and return on investment of increased seeding rates in twin row peanuts. The results of these research trials will be shared with growers and county agents in winter crop production meetings.

### **Stop 33- Miller Chemical & Fertilizer**

Full Measure Calcium Plots:

Full Measure Calcium is a product that has both Calcium Acetate and Calcium Carbonate to provide plants with a combination of immediately available calcium along with a slower, gradual release source of calcium.

Full Measure Calcium can be applied in a tank mix with your fungicide and insecticide applications with no compatibility issues and no additional equipment trips through the field as you would for a gypsum application.

In this Demo plot we have four different treatments:

1. 1 Gal./Acre of Full Measure Calcium applied with 1st fungicide spray and 1 Gal. applied with the 2nd fungicide spray.
2. 1000 lbs./Acre of Gypsum – Grower Standard.
3. 500 Lbs./Acre of Gypsum + 1 Gal./Acre of Full Measure Calcium applied with 1st fungicide spray.
4. 1 Gal./Acre of Full Measure Calcium + 8 oz/Acre of CALFA applied with 1st fungicide spray and 1 Gal. of Full Measure Calcium + 8 oz. CALFA applied with the 2nd fungicide spray.

#### CALFA Plots:

CALFA = Carboxylic Acid Liquid Fertilizer Additive

CALFA is a proprietary blend of natural carboxylic acids that, in nature, are secreted by soil bacteria, fungi and plant roots to aid in solubilization and uptake of plant nutrition. CALFA will aid in reducing physiological stresses caused by deficiencies in P, Ca, Mg and Zn caused by alkaline and calcareous soils. CALFA can also aid in releasing bound sodium, allowing it to be leached from the root zone.

In this Demo plot we have the following three treatments:

1. 1 pt./Acre of CALFA applied with the 1st fungicide spray.
2. 500 lbs./Acre of Gypsum + 1pt./Acre of CALFA applied with the 1st fungicide spray.
3. 1000 lbs./Acre of gypsum – Grower Standard.

## Our Sponsors

### *Ameris Bank*

Ameris Bank specializes in ag banking with a team of bankers with over 100+ years of combined ag banking experience. As an FSA Preferred Lender, we continue to build on our ag banking commitment, which started with our founding in 1971. Our bankers understand that the ag industry is constantly changing and recognize the importance of providing solutions according to your resources, goals, and changing needs. Member FDIC. Equal Housing Lender.

### *Farm Credit Associations of Georgia*

Farm Credit Associations of Georgia have been helping Georgia grow for generations. With over 100 years of support for agriculture and rural communities, Farm Credit offers reliable and consistent credit along with financial services programs. As a member-owned cooperative, Farm Credit has paid patronage refunds back to its members since 1988. It's a tradition of being the only lender who pays you for doing business with us.

### *Kelley Manufacturing Co*

KELLEY MANUFACTURING CO. has been building dependable equipment for progressive farming for over 50 years. Each piece of KMC equipment is developed and engineered with the farmer's needs in mind, ensuring a top-quality implement that will produce top quality results.

Specializing in peanut harvesting, tillage and poultry cleanout equipment, KMC offers a wide variety of products to their customers.

### *Monosem*

The versatility of the Monosem vacuum meter is demonstrated in its ability to consistently meter many different seed types. This multicrop option provides adaptability to market trends that more specialized, single-crop planters do not allow. A Monosem owner can plant row crops such as corn, soybeans, milo, and cotton with accurate precision, and then also use the same planter for specialty crops such as sugar beets, peanuts, sweet corn, edible beans, etc. All Monosem planters are custom built to the specifications of each operation, for tillage style, inputs, row spacing, and row types including single, twin-row, and ultra-narrow row.

### *Newton Crouch*

NEWTON CROUCH, INC. provided the variable rate spreader equipment used to prepare the fields for the demonstration. Visit NCI at the Sunbelt Field Day to learn how you can leverage the precision ag equipment for your farm's needs. NCI is celebrating 76 years in business this year. A family-owned business based in Griffin, Ga., NCI has been a part of the Southeast agriculture community since its inception. NCI manufactures an extensive line of dry fertilizer and lime spreaders as well as liquid fertilizer applicators, sprayers and nurse trailers. We specialize in precision ag equipment such as variable rate dry spreaders and GPS guidance systems. Learn how our variable rate technology can improve yields and limit waste, all designed to help promote more efficient farming practices. The NCI equipment line is noted for its high-quality components and design allowing for rugged durability. NCI equipment has a long field life, living up to its motto of "The Spreader of Choice." ® The NCI parts department is always ready to help with your pump, parts, tips, and poly tank needs.

### *RW Griffin Feed, Seed, & Fertilizer Inc.*

The flagship company for RW Griffin, a fifth generation southern agribusiness company leading the way through innovative crop solutions, a team of Certified Crop Advisers, retail farm supply centers, cotton gins, peanut buying points, major terminals, and a large wholesale distribution network. In 2014, RW Griffin Industries, LLC, one of the RW Griffin Feed, Seed & Fertilizer, Inc. companies, joined forces with the UGA Cotton, Corn, and Forage Teams by agreeing to provide nitrogen inputs for both the test plots and production farm at Sunbelt Expo. RW Griffin Industries, LLC, is proud to have supported UGA research efforts on cotton and forage for the past several years. Products supplied will include 19-E, "The Low-Cost Solution," a liquid nitrogen input used by growers for more than 40 years. In addition, they will supply 18-0-0-3S, a 19-E based Sulphur solution, and Calcium Ammonium Nitrate in dry form, both popular choices among growers. RW Griffin Industries, LLC, continues its commitment to supplying products that are based on agronomically sound principles, have stood the test of time, and are the best value for its customers.

