Virginia-Carolinas
PEANUT NEWS

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SPRING/SUMMER 2022

South Carolina 2021 State Peanut Production Winner

Colt Farms, Inc. & B.C. Farms of South Carolina, Inc. is based out of Wagener, SC and is led by brothers Colt and Brandon Woody. The Woody brothers moved to South Carolina from the High Plains of Texas in 2016 where they also farmed. In addition to peanut, corn is a prominent crop grown on their farmland in Aiken County which is rotated with a potato farm. Colt Farms, Inc. & B.C. Farms of South Carolina, Inc produced 6,620 pounds per acre on 641 acres. Colt Farms, Inc. & B.C. Farms of South Carolina, Inc. has consecutively won the SC Peanut Yield Contest from crop years 2019 through 2021.

Virginia 2021 State Peanut Production Champion

Greg Applewhite of Applewhite's Acre, a farming operation in the Courtland area of Southampton County, is the 2021 peanut yield champion for Virginia. Greg produced 6,769 pounds per acre on 35 acres. This winning yield is the highest for Virginia since the contest began many years ago.

Applewhite's Acre is a diversified farming operation raising cotton, soybeans, and peanuts. The peanuts were planted in a long rotation behind cotton no-till. Greg is the 5th and his son the 6th generation to live on the farm. Greg is also a crop input and seed salesman for Simplot Grower Solutions and is co-owner of A & D LLC, a custom spreader operation.

This is the fifth year in a row that the state production winner is from Southampton County.

North Carolina 2021 Peanut Production Champion

Dennis Trotman of Gates County is the 2021 North Carolina State Yield Winner; he is also a former state yield champion.

Dennis produced 6,780 pounds per acre on 745 acres of peanuts. In addition to peanuts, Dennis's operation also includes corn, soybeans, and cotton. He lives and farms on land that has been in his family for generations in and around Trotville, NC.

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Virginia Carolinas Peanut Promotions
serves as the promotion/ market development organization for North Carolina South Carolina and Virginia Peanut Grower Associations.

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Let The Good Things Grow

Marianne Catalano
Executive Director
Virginia-Carolinas Peanut Promotions

The New Year quickly started with the South Carolina Peanut Growers Annual Meeting held in Santee. We had a great line-up of speakers, 30+ sponsors and 300+ in attendance. We are eager to hear about the increase in planted acres in the coming weeks, and continued research approved by the South Carolina Peanut Board. With Premium Peanut expanding into the Palmetto State we're excited about this opportunity for our peanut farmers.

Moving into February I attended a few North Carolina peanut producer county meetings. Dr. David Jordan did an outstanding job of updating growers on peanut research, production and disease control. Ashley Collins informed growers on the National Peanut Board listening session occurring in March as well as spoke about the industry's sustainability initiative.

We are consistently growing and expanding our marketing efforts through radio advertisements and in-person activities. This March we partnered with iHeartMedia to promote peanuts via podcast messaging. We ran our message in major markets: Charleston, Charlotte, Greenville, Raleigh, Richmond, Fredericksburg and Washington, D.C. Our script was based on promoting the nutritional value in peanuts, celebrating March National Peanut Month. Our target markets in those major cities were based on females ages 19-54 who hold the purchasing power in their household. This promotion ran March 1-31 and we reached a large audience with over 619,199 impressions.

As we continue to expand our promotional efforts this year we created a partnership with three Chefs in the VC. The purpose of the partnership was to promote the versatility of peanuts. We partnered with Vivian Howard in promoting peanuts within two of her restaurants, the first *Chef & the Farmer* based in Kinston, North Carolina. Her newest restaurant, based in Charleston, South Carolina, *Lenoir* recently had their one-year anniversary. Both restaurants provide a farm to table vibe and her team put together a peanut themed dish to be placed on their menu to run all of March. *Chef & the Farmer* featured "Warm Pork, Peanut and Cabbage Salad with a Pickled Ginger Vinaigrette" and *Lenoir* featured "Smoked Trout Hush Puppies with Peanut Romesco".

In addition to working with Chef Vivian Howard we partnered with Chef Andrew Manning who works in a Richmond based restaurant. Chef Manning plays a key role in the culinary world in making magic on the plates, but also sourcing diligently from local farmers. Chef Andrew created two dishes the first featuring a "Scallop Peanut Crudo" and the second "Kimchi Peanut Bar".

This promotion ran in the restaurant and on the restaurant's & chef's social media pages. In providing a digital marketing message to consumers by enticing their followers to visit the restaurant to try each of the dishes mentioned above. We provided key messaging focusing on peanut production per state and nutritional facts. Our culinary promotion ran all of March, however many chefs have written to me, providing the feedback they received from their customers, and they are keeping many of the items on their menu continuing through the spring and into the summer.

Be sure to visit our social media pages to learn about what we are up to this coming summer. I am planning to visit many farms during planting season and will be out and about uploading content onto each of our pages for our followers to enjoy. I look forward to seeing many of you in the coming summer months at various conferences and events. To all farmers I wish you all the best this planting season.

Culinary Marketing Initiative

Dell Cotton, Chef Andrew Manning at Longoven, Marianne Catalano

Chocolate Peanut Butter Bars

Rockfish, Turnip, Dashi topped with Peanuts

Warm Pork, Peanut and Cabbage Salad with a Pickled Ginger Vinaigrette

Chef Justin Wright at Chef and the Farmer Mike & Cindy Belch, Marianne Catalano, Ashley Collins

Richard & Lillian Rentz, Chef Jared Hammond at Lenoir, Marianne Catalano

Smoked Trout Hush Puppies with Peanut Romesco

CO-OP NOTES

Thomas R. Cotton, Jr., Manager
Peanut Growers Cooperative Marketing Association

While your blood is flowing about now since you know it is time to plant something, this crop year is starting out to be a scary one. You had your two weeks or so of time to sign a contract and either accept or refuse it, and now you have to live with that decision. Refuse it and decide to plant more cotton or probably more beans. Accept it and know that you have locked in your price but have no control over your input costs. Yes, nervous times ahead.

What will help solve V-C area farmers concerns would be a repeat of last year's crops. In Virginia at least, I know we would take a repeat after strong yields on all of our major crops last year. After record or near record peanut crops last year, I think our neighbors in North and South Carolina probably feel the same way.

The initial peanut planting intentions was released by NASS in late March. This is a somewhat educated guess of what will be planted since it comes from phone surveys, but it is still a guess. Growers will continue to make substitutions in their crop mix I believe right up until planting. Regardless, it doesn't appear that acres are estimated to vary much from the levels seen in 2020 and 2021. There are predicted declines, such as in Florida and Oklahoma, and there are predicted acreage increases, such as in Mississippi (up 2000 acres) and in South Carolina (up 16,000 acres). As I said, don't read too much into this as time will tell.

Marketwise, carryout increased from the 2021 crop to reach the highest level in a couple of years. Usage is flat to up slightly overall. As always, weather could easily be the determining factor this year in whether that carryout from the 2022 crop will decline to more favorable levels.

I hope each of you has a successful planting season.

Over 20,000 Jars of Peanut Butter donated in March to Celebrate National Peanut Month

Peanut Proud is the peanut industry's humanitarian relief organization that works to supply peanut butter domestically to food banks, schools, after-school programs, and during emergency disaster relief efforts. Supported by various peanut industry stakeholders to ensure those in need have access to our most popular peanut product. Each pallet of Peanut Proud peanut butter contains 1,440 jars of peanut butter.

For the twelfth consecutive year, the Virginia Peanut Growers Association has donated peanut butter to the Virginia food bank system. Each year the Association has contributed two pallets and Peanut Proud provides an additional five for a total of 7 pallets. Through Feed More in Richmond, the pallets are distributed to the seven regional centers within Virginia's food bank system.

The North Carolina Peanut Growers Association partnered with Peanut Proud to donate seven pallets of peanut butter to the Food Bank of Central & Eastern North Carolina. "During a time when the demand on the food bank system continues to rise, we are grateful to make this donation to those in need. Peanut butter is a valuable product for food banks as it is nonperishable, contains a higher amount of protein than any other nut, and is a great source of several vitamins, minerals, and nutrients," said Ashley Collins, Chief Executive Officer of the North Carolina Peanut Growers Association.

Everyone is welcome to make tax-deductible contributions to Peanut Proud. Checks should be mailed to Peanut Proud, PO Box 446, Blakely, GA 39823. Visit www.peanutproud.org to learn more.

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South Carolina Peanut Board

To get started contact:
Eric Coronel
American Peanut Council
Director of Sustainability

www.sustainableuspeanuts.org
click 'Office Hours' tab to arrange a meeting
ecoronel@peanutsusa.com 229-339-1939

AMERICAN PEANUT COUNCIL
SUSTAINABLE U.S. PEANUTS

Warm Pork, Peanut and Cabbage Salad with a Pickled Ginger Vinaigrette

For the salad
1 pound ground pork
1 tablespoon olive oil
½ teaspoon Kosher salt
½ head green cabbage, sliced thin
2 carrots, julienned
4 scallions, sliced thin
1 ½ cups roasted peanuts, roughly chopped
Picked cilantro and mint to garnish

The dressing
2 tablespoons pickled ginger, roughly chopped
3 tablespoons pickled ginger juice
2 tablespoons fresh ginger, minced
2 tablespoons garlic, minced
½ cup lime juice
2 tablespoons fish sauce
¼ teaspoon red chili flakes
½ cup olive oil

1. In a bowl large enough to hold all the ingredients, toss the cabbage, carrots, scallions and peanuts together. Set aside.
2. In another bowl whisk the ingredients for the dressing together and set aside.
3. In a skillet over medium heat, brown the ground pork with the olive oil and salt until cooked through.
4. Toss the cooked pork into the bowl with the cabbage while the pork is still hot. Stir in the dressing.
5. Serve garnished with picked herbs and additional chopped peanuts.

Building Consumer Trust

Ashley Says

Ashley W. Collins
Chief Executive Officer
North Carolina Peanut Growers

Towns, cities, and suburbs all define urban areas. According to USDA definitions, 2,500 residents is the current number that delineates urban vs. rural populations. In 1950, 64% of people in the U.S. lived in urban areas; in 2022, estimates are that 83% of U.S. citizens will reside at an urban address, and 30 years from now, projections are that 90% of those who make up our country will live in what is defined as an urban area.

I grew up in a town with a population of 630; I currently live in a town with less than 600; my husband's hometown barely tips 600, and many of my friends are from towns of 1,000 people or less. I know many of you share similar, if not smaller, numbers for yourself.

Naturally, we are most comfortable around people with shared experiences, such as our hometown or community, and those tend to be with who we form close friendships. However, if nearly 90% of those who purchase and consume what we grow spend their days, weeks, and months without a reason to leave cities the size of Wilmington, Fayetteville, Charlotte, or Durham, we should make some fast new friends.

As a grower, you're busy and already have more than enough on your mind. Still, if we don't make time to sit side-by-side at the table with those outside our industry in the urban cities, towns, and suburbs, we may find ourselves no longer invited, welcomed to the table or as the safe and affordable choice to provide the meal. Consumers listen to those they like and trust, but they need to know who you are, or they'll never trust you.

A quick way to build trust is through facts and data. A factual approach is the fastest way for all of the industry to earn consumer trust. Leaning into sustainability and transparency initiatives will give check-off-funded commodity groups the tools to be your voice along the value chain. Be sure you learn more about the Sustainable U.S. Peanuts program and how you can sign up.

Another approach to building trust would be to meet these new friends where they are. When you can, grocery shop in a more populated town, chat with the person in the checkout line who has peanuts or peanut butter in their cart. Tell them how you play a role in the food system. Follow foodie social influencers, build rapport online, and respond when and if misinformation is shared. Endorse influencers who aren't from an agriculture background but accurately support the industry with their content.

On April 16, 2022, a few peanut growers, volunteers, and other association stakeholders spent the afternoon in one of N.C.'s more urban cities (Chapel Hill, N.C.) promoting peanuts for UNC vs. Georgia Tech baseball game. Our team greeted fans with a peanut butter spreader as they entered Boshamer Stadium. We shared peanut recipes, provided P.A. announcements about advancements in peanut allergy research, passed out squishy peanut stress relievers, hosted an in-game trivia contest, and sent fans home with a sample of N.C. Grown Peanuts. However, the most significant leap of all for a group that mostly prefer a different color scheme on gameday, we blended in with our new friends wearing NCPGA Carolina Blue baseball tees!

During the game, I chatted with a mom and dad and their three kids, who just the day before had Googled how peanuts grow to answer a curious son's question. Another mom whose son has a peanut allergy applauded our P.A. announcement on the topic of early introduction. While her son is now an adult, and she was aware of the LEAP study, she was excited about our work to get the message out to others. The day was filled with those in urban areas who were grateful to hear from their local farmer and food supplier. Thanks to the team who volunteered, the day would not have been as impactful without their participation and personal testimonies.

As you plant this year's peanut crop across rural North Carolina, I hope you consider opportunities to get out and about in the cities, towns, suburbs, and ballparks to build consumer trust in the work you do!

Disease Risk Avoidance Suggestions

Based on what I've heard, few growers saw significant losses to peanut disease in 2021. That's a good thing. You can thank long rotations and more disease tolerant peanut cultivars for a lot of that. Of course, if you didn't use fungicides there'd be problems, and in some cases, there were problems where fungicides were used. Usually these problems show up in fields with a shorter rotation (2-3 years) and where spray intervals are stretched beyond 14 days during periods of favorable weather for disease. Below are some disease risk avoidance suggestions so far as fungicide use is concerned.

Sometimes the first application is the most important…

Pulling the trigger on the first fungicide application on peanuts is often a point of debate. Some see it as a wasted effort on peanuts that haven't achieved row closure while some may hang too much faith on that first application and delay the second. Peanuts are susceptible to leaf spot, Sclerotinia blight, and southern stem rot at any time once peanuts emerge. It's the growth, canopy and environment interaction that drives the diseases that we see most often occur later in the season. With fungicides it's all about preventing, not reacting to, disease. generally I would recommend the first spray going out by 60 DAP (days after planting) or by July 10th under normal weather conditions. You don't have to use an expensive product, just an effective one, for the first fungicide spray. Bravo (chlorothalonil) is an excellent choice in my opinion as it is effective against leaf spot and can suppress fungicide-resistant inoculum that may have survived for the previous peanut crop. Once the first spray has been applied I recommend following the Virginia Leaf Spot Advisory on the Peanut-Cotton InfoNet for the LESD (last effective spray date) based on your area. The website for that is https://webipm.ento.vt.edu/cgi-bin/infonet1.cgi. The LESD will indicate how long that first spray will get you for most fungicides. I prefer going with a systemic fungicide for the next spray.

Miravis "can" be a 28 day leaf spot fungicide for most fields…

With the launch of the leaf spot fungicide Miravis, many growers have been able to stretch their leaf spot spray interval to 28 days, twice as long as with any other fungicide on the market. In most cases this works okay. Where it may NOT be okay is in fields on a 2-3 year rotation which may have higher levels of leaf spot pathogen inoculum potential. Even fields with longer rotations can be at risk with a 28 day spray interval if environmental conditions are almost continuously favorable for leaf spot development. So if you use Miravis at 60 DAP, and wet/humid conditions occur within 14 days of application, it may be wise to use a fungicide with a different MOA (mode of action) than Miravis before 28 days. If you do wait to apply Miravis again at 28 days and haven't sprayed any fungicides since the first Miravis application, it's a good idea to mix in an effective FRAC (fungicide resistance action committee) Group 3 fungicide with that second Miravis to help with any leaf spot that may have developed late in the 28 day spray interval. If there is even a small amount of leaf spot in the lower canopy at 28 days, Miravis alone will do little to slow it down so adding a strong FRAC Group 3 fungicide will provide some insurance. A good FRAC Group 3 fungicide for this tank-mix is Provost Silver.

David B. Langston, Jr.
Professor and Extension Plant Pathologist
Virginia Tech Tidewater AREC

If your "first" Miravis application is late, don't use it…

The above statement may seem kind of odd, however I have run into some growers that sprayed Miravis once at or after 90 DAP and had problems with leaf spot. That's because Miravis has NO curative or kick-back activity. So, any leaf spot already present before that single, late application of Miravis gets a free pass to spread and infect. It's not because Miravis is ineffective or that the leaf spot fungus has already developed resistance to it, it's because the fungicide simply doesn't work on established infections. Remember, fungicides are always more effective when applied preventively compared to after symptoms are visible. In the plant pathology world that's pretty much a given. Mostly FRAC Group 3 fungicides, and to some degree Bravo and sulfur, have curative or eradicant activity, respectively. Regardless what you spray, fungicide applications after disease symptoms occur will never be as effective as preventive applications. The take home here is if you use Miravis once, make it be an early or the first leaf spot spray.

That's about enough for now. I'll cover soilborne diseases in the next issue.

AROUND THE WORLD WITH PEANUTS

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Raman

Peanut Tacos with Poblano Cream Sauce & Pickled Onions

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The Peanut Institute

Virginia News

Thomas R. Cotton, Jr.
Executive Secretary
Virginia Peanut Growers Association

The Association's fiscal year will end on June 30 bringing to a close a recovery type year during which many events came back to life. I have recently noticed that February and March are somewhat back to normal as they historically are two of the busiest months due to some events but mostly due to meetings being held.

This past year we welcomed back our annual Peanut Night with the Richmond Squirrels, the State Fair and the VDACS Food & Beverage Show in Richmond. I was so glad that our state peanut production meeting, along with our Association's annual meeting, was in person in February with an excellent crowd. If you missed the research presentations, please contact your extension office for a link where you can view the presentations online. My thanks to the presenters and to Dr. Chappell at TAREC for making this possible.

At the annual meeting I talked about the crop we had here in Virginia this year as well as that of the V-C production area. South Carolina had a record yielding crop. North Carolina's was close to a record. In Virginia we have exceeded 4500 pounds per acre for a state average three times: 4517 pounds per acre in 2014, 4538 in 2017, and 4578 in 2019. While I initially thought we would set a record this year, when I adjust for tonnage grown in another state (NC) but graded here it looks like we will end up just short of 4500 pounds per acre for 2021. An excellent year as our quality was good as a result of mature peanuts being harvested in time compared to the dismal conditions of last year.

Congratulations to our yield winners who you will see in another section of this publication. Our state winner, Greg Applewhite, continues the recent string of Southampton County winners. Let's hope the tremendous yields of Greg and our other winners will become the norm for the 2022 crop here in Virginia.

VIRGINIA ANNUAL MEETING HIGHLIGHTS

John Fowler receives his raffle prize of $1000 parts credit donated by Amadas Industries. Presenting the award to John is Bob Jones of Amadas.

Bob Jones of Amadas presents a cooler to prize winner Chris Parker.

Kyle Sturgis of Virginia Farm Bureau presents a $200 Farm Bureau warehouse gift certificate to Hunter Bosselman.

Starting Toward the Finish and Reducing Risk Where Feasible

Dan Anco
Extension Peanut Specialist
Clemson University

The beginning of a new growing season brings both excitement and appropriate caution. It is a time of making plans, occasionally revising those plans, and setting the year's wheels in motion to hopefully produce a profitable peanut crop. In each year, there is some element of assessing and accepting certain amounts of risk, with personal preference, experience, costs, and practical limitations with equipment, help, and numbers of acres all being relevant. Coming into 2022, we have behind us two growing seasons that were overall quite favorable for peanut. On top of this, 2021 was a record year for SC yield at around 4,180 lb/A based on FSIS tonnage. Another good note from last year is how seed quality for 2022 should again be very good overall. On the other hand, the price of inputs has in many cases increased, and as I also like to be optimistic, on a practical level it is neither with immutable certainty nor precision that we can detail in advance what kind of year we will see unfold in the months to come. Without further speculation, this makes for a year with more inherent risk. Accordingly, it is helpful to consider areas where we may be able to reduce, or at least acknowledge, risk and to shave down the pile of "ifs" that need to line up for a good crop.

Warm soils with adequate moisture are key for quick peanut seed emergence. We have used 65°F for three consecutive days at 4" depth as an effective guideline. This is a good baseline, and if we can wait for it, seed tend to emerge quicker when planted into soils that are slightly warmer at 68°F. Planting seed between 1.5 to 2" is usually ideal and splits the difference between getting into moisture that is deeper and maintaining protection against Valor injury if planted shallower. It is not uncommon, and can still be effective, to go after moisture and plant 3" deep. In some years we have even seen a bit deeper, though just because it was seen doesn't mean it was pretty. Planting deeper may help reach moisture, but we need to exercise care not to enter another challenge in the process of doing so. Seed quality being good should help with this, but we don't need to look too far back to see how time constraints can result in chasing moisture and planting 3" or more deep one week, only to see a cold front move in and bring with it cooler temperatures and heavy rains. This invites soil disease like rhizoctonia to give seed a frown that doesn't get turned upside-down. In-furrow fungicide like Abound (azoxystrobin) can help buffer some against this, but again, this isn't a silver bullet. J-rooting is more common under these unfavorable conditions as well, contributing to suffering stands.

Tight profit margins beg the question, what is necessary and what can we eliminate to save money? In protecting the investment of seed, inoculant for natural nitrogen fixation and insecticide for thrips continue to be important to include in-furrow. Both help us get off to a good start, and both are not easy or free to fix after the fact if we find a problem. Particularly with the cost of fertilizer this year, no one wants to have an inoculant failure or pay for an application of nitrogen later to try to "fix" (often with only limited success) a case of N deficiency. This is extremely critical for new ground but still important for land that has been in recent peanut rotation. Even in "normal" years, on new ground because of the importance of healthy nodulation we recommend doubling up on inoculant with both a liquid product and either a granular or seed treatment inoculant to reduce risk of one failing. Some growers have adopted this as a routine practice. Taking time for the basics like ensuring proper planter setup and calibration will more than pay for itself in reducing headaches.

What is one way to save on costs? **<u>Do not</u>** apply in-furrow fertilizers with peanut seed. Not only has our data shown it to be an ineffective (= waste) of money, but it can actually hurt peanut yield and cause further loss of value. One product we recently looked at, Riser, reduced stands by more than 50% using industry rates of 2 to 3 lb/A.

Figure 1. Stands 11 days after planting for Bailey II plots treated with varying amount of fertilizer in-furrow.

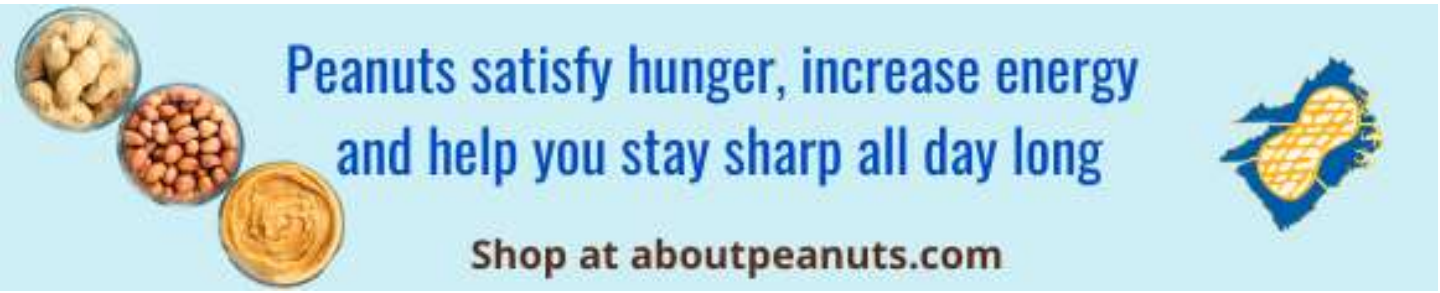
Table 1. 2021 yield following application of Riser fertilizer in-furrow at-planting in Blackville, SC.

Treatment	Yield (lb/A)	Grouping	Yield (lb/A) compared to NTC
Riser 1 lb/A, 5 gpa	3886	A	53
NTC	3833	A	0
Riser 0.5 lb/A, 5 gpa	3371	A	-462
Riser 2 lb/A, 5 gpa	3021	A	-812
Riser 3 lb/A, 12 gpa	1875	B	-1958
Riser 3 lb/A, 5 gpa	1823	B	-2010

Certain recently released runner varieties, including FloRun 331, Georgia 16HO, and TUFRunner 297, have had optimal economic values from digging date experiments ranging between 145 and 155 DAP over 4+ years. However, often there was not a marked gain from letting them sit until 155 DAP compared to when they were dug near 145 DAP. Pod maturity has been slow to reach traditional benchmarks of 70 to 80% orange + brown + black pods, often stalling near 50 to 70% for these varieties. This is one area we are looking into further this year, but in the meantime, longer maturing runners should ideally be planted before May ends to allow time to dig before November. Even if we budget 150 days, planting on May 30 puts 150 days at October 27. Depending on what kind of planting conditions May brings, this can be a challenging balance if we are planting both Virginia and runner types, since Virginias still benefit from an earlier planting to avoid leaf spot pressure.

Another question that has come up during meetings is when should we look at starting fungicide sprays at 30 DAP compared to 45 days? This depends also on our other production factors, field history, and how wet a year we get. Having an in-furrow product that also brings with it leaf spot protection (such as Velum or Thimet, for example) will help provide protection, but even then I usually like to consider those as helping to manage overall levels of leaf spot, which helps to slow development and lower total levels on the back end of the growing season. Factors that favor a fungicide application at 30 days include if we are in a field that it itself had or is nearby another field that had challenges with leaf spot within the last two years. An easy example of this is when a field is split and rotated in sections. While there is rotation occurring, the sections are near each other enough where spread across them can be quick. This is essentially the situation when volunteers are near the field we are planting to peanut. Volunteers often show leaf spot lesions the earliest in a year and serve as a source of spreading those spores to start new infections. We have seen this as early as the end of May in some years. Other situations generally benefiting from fungicide coverage nearer 30 DAP include Virginia types planted at the end of May or into June.

Extended fungicide intervals such as with Miravis is another area that has received specific attention and questions. For Miravis + Elatus or Miravis + tebuconazole, depending on the year we either had competitive control when these combinations were applied on a 21-day schedule compared to a 15-day schedule (2020), or these combinations applied on a 15-day schedule with a Bravo application in between had significantly better control and yield compared to the program using a 21-day schedule (2021). Performance on-farm has been both very good, and in other cases less than desirable. This has included with excellent farmers. We have had encouraging results this past year with applications of Miravis + Provost Silver (both at full rates) on a 28-day interval. Overall looking forward, we can reduce collective risk of our leaf spot management program if when integrating extended intervals, we limit this to one extended interval in an overall program, and our data so far suggests Miravis + Provost Silver would be a more robust combination along these lines.



Dry and Hot Season Effect on Yield and Seed Quality of Peanut

Maria Balota
Pathology, Physiology
and Weed Sciences
Virginia Tech Tidewater AREC

Depending on the growth stage, peanut requires one to two inches of water weekly. In Virginia, these requirements are hardly met, even in, otherwise, rainy years. For example, our program determined that dry conditions in the late part of the season, i.e. beginning seed to beginning maturity, can reduce peanut pod yield up to 60% in old and currently grown cultivars; this agrees with the State production data. Constant daily temperatures in excess of 95 °F during mid-season can further affect seed production by causing pollen sterility and development of a reduced number of pods per plant. Finally, dry and hot conditions can either delay or accelerate pod and seed development, depending on the timing of these events.

Starting in 2019, as part of the Peanut Variety and Quality Evaluation (PVQE) project, we explored the response of the most promising breeding lines to dry and hot conditions by using two rainout shelters. These shelters were dedicated each year to the evaluation of soil moisture and high temperature effects on yield and quality of the best preforming breeding lines tested in multi-state trials. The average yield, grade and gross return per acre from 2020 and 2021 are shown in Table 1.

Table 1. Performance of Bailey II and promising breeding lines under heat and absence of rainfall and irrigation from mid-July to mid-Aug under rainout shelters. The test was performed at the Virginia Tech's Tidewater Agricultural Research and Extension Center in Suffolk, VA. Two-year averages (2020-2021) are presented below.

	LSK	FM	Fancy	Water	ELK	Super ELK	SS	OK	DK	SMK	Total Kernels	Support Price	Yield[1]	Value
Variety						**%**						**$/lb**	**lb/A**	**$/A**
Bailey II	2.0	3.1	90a	7.4	64a	21a	5.1	2.3	1.9	63a	72a	0.18a	3555a	627a
N14001	2.4	3.7	89a	8.2	60a	21a	4.6	3	3.2	60a	71a	0.17a	3446a	586a
N14002olJ	2.2	5.5	89a	7.7	53a	22a	4.8	2.3	3.6	58a	68a	0.16a	2880a	455a
N16012	2.4	4.2	89a	8.0	52a	16a	4.2	3.1	3.2	57a	68a	0.16a	3269a	509a
N16021	2.8	5.1	87a	8.7	48a	15a	3.4	3.6	2.8	56a	67a	0.16a	2641a	425a
N17036	3.2	4.2	87a	7.6	59a	21a	4.0	2.5	2.3	59a	68a	0.17a	2988a	504a
N17037	3.0	5.4	87a	8.3	58a	17a	3.5	2.4	3.1	61a	70a	0.17a	2980a	508a
N17045	2.1	3.0	88a	7.7	55a	19a	3.4	2.6	2.6	60a	69a	0.17a	4049a	672a
N17047	2.6	4.6	87a	8.3	56a	17a	4.6	3.3	2.8	58a	69a	0.17a	2976a	486a
Mean	**2.5**	**4.3**	**88**	**8.0**	**56**	**19**	**4.2**	**2.8**	**2.8**	**59**	**69**	**0.17**	**3198**	**530**
LSD	-	-	**7**	-	**11**	**7**	-	-	-	**11**	**7**	**0.02**	**1861**	**358**

[1]All yields are net, adjusted to 7% standard moisture and foreign material is deducted.
[2] Means sharing the same letter(s) are not statistically different, at P=0.05 based on the Fisher's LSD test.

In comparison with rainfed plots of the same lines grown at the same location in 2021, yield was decreased in average by 30% in rainout plots, but this varied depending on the line. For example, Bailey II and line N17045, both showing the highest yield under heat and drought stress under the shelters across two years (Table 1), showed a yield decline of only 20%, as where line N17047 40%. This result represents an indication that variability for summer heat and drought stress exists within the lines in the pipeline for release and, hopefully, our testing under rainout shelters can add value to the PVQE testing.

BIRDSONG PEANUTS

612 Madison Avenue
Suffolk, VA 23434
757-539-3456

North Carolina Peanut Growers 5000 lb. Luncheon

The North Carolina Peanut Growers recognized all growers who averaged 5,000 lbs./acre with a luncheon at the Roanoke Country Club in Williamston on March 11. Sixty-five growers and guests were in attendance, including three generations from Fisher Farms Partnership in Nash County.

A total of 44 operations were recognized for achieving the milestone of an average yield of 5,000 lbs., and 19 operations achieved 60 or more points through a combination of peanut yield and acreage. Dr. Jeff Dunne joined NCPGA CEO Ashley Collins in awarding certificates.

North Carolina
2021 County Peanut Production Champions

Bertie County
Colerain Farming Partnership
6,531 lbs. - 217 acres

Bladen County
McDuffie Farms
6,190 lbs. - 295 acres

Chowan County
Joseph H. Ward
6,313 lbs. - 223 acres

Columbus County
W&S Farms Inc.
6,271 lbs. - 367 acres

Gates County
Dennis Trotman
6,780 lbs. - 745 acres

Halifax County
Latros Farms
5,579 lbs. - 501 acres

Hertford County
Earl White & Son
6,530 lbs. - 385 acres

Lenoir County
William Brent Herring
5,165 lbs. - 119 acres
(Pictured with Steve Killette, (L) Row Crop Agent Lenoir County)

Martin County
Ben Cowin
6,083 lbs. - 244 acres

Nash County
Fisher Farms Partnership
5,192 lbs. - 350 acres

Northampton County
Johnny Sykes Jr.
6,210 lbs. - 71 acres
(Pictured with Craig Ellison (L) County Extension Director Northampton County)

Perquimans County
Edward Winslow
5,452 lbs. - 158 acres

Pitt County
David Rogister
5,158 lbs. - 240 acres

Washington County
Albemarle Beach Farms, Inc.
5,547 lbs. - 311 acres

Wayne County
Sutton Brothers, Inc.
5,980 lbs. - 153 acres

Wilson County
Scott Farms
4,808 lbs.
822 acres

South Carolina 2021 County Peanut Production Champions

Colt Farms, Inc. & B.C. Farms of South Carolina, Inc.
641.1 acres - 6,620lbs. per acre

Triple G Farms
451.6 acres - 5,666lbs. per acre

Delano Kneece & Sons, Inc.
389 acres - 5,156lbs. per acre

Jameson Farms
582 acres - 5,313lbs. per acre

Ralph and Lyle Rentz
54 acres - 5,056lbs. per acre

Richard Rentz
118.5 acres
5,020lbs. per acre

Stuckey Brothers Farms, LLC
168 acres - 5,390lbs. per acre

Virginia 2021 County Peanut Production Champions

Dinwiddie County
Double B Farms
Billy Bain & Austin Hale
172.7 acres - 5,240 lbs. per acre

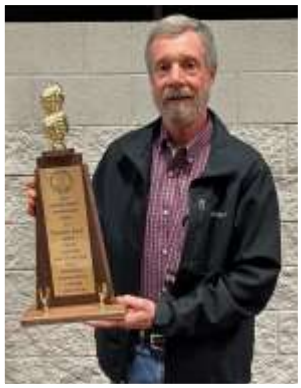
Greensville County
F & F Farms
Dathan, Ian & Joseph Fajna
199.9 acres - 5776 lbs. per acre

Isle of Wight
Oliver Farms
Tyler, Jimmy & J V Oliver
196.2 acres - 5876 lbs. per acre

City of Suffolk
Goodman Farms
Larry & Wayne Goodman
37 acres - 6,221 lbs. per acre

Southampton County
Applewhite's Acre
Greg Applewhite
35 acres - 6,769 lbs. per acre

Surry County
Beechland Farms II Partners
Steve Berryman, Mac Berryman & Bobby Richards
636.16 acres - 5,638 lbs. per acre



Sussex County
Woodview Farms
Chris Parker
128.8 acres - 6,013 lbs. per acre

Can You Trust Science?

Rick Brandenburg
Extension Entomology Specialist
North Carolina State University

These are certainly challenging times we live in. However, my guess is, that there have been thousands of articles written over the past one hundred years that start out exactly like that. It's all about your perspective and of course, influenced by which news media outlet you watch or listen to. A lot of people get very frustrated when they watch the news because they really don't know what to believe or who to trust. This has certainly carried over into the public's trust or mistrust of science and scientists. The mixed messages people receive regarding topics like climate change, COVID-19, vaccines, masks, flu shots, GMOs, glyphosate, and on and on and on cause us all to shake our heads in disbelief.

So let me try to muddle through a couple of these topics and give you my perspective. You can read what I think and accept it as is, modify it to meet your perspective, or you have the option of rejecting it completely. As long as you don't call anyone in my family any rude names, I will not hold your opinion against you and will still gladly sit down and eat barbecue and drink some sweet tea with you any time you want!

Let's talk for a minute about climate change. This has been a big, hotly-debated topic that has been taken over by politicians trying to score points with their supporters. That is unfortunate, but it's certainly not the first time nor the last that a "controversial" topic has been hijacked by politicians. I've spent a lot of time reading research publications on climate change and trying to understand for myself what it means. I've also talked to a lot of scientists who study this topic and whom I trust. My conclusions, based on my efforts to understand the topic, are that climate change is a serious threat that will seriously impact agricultural production in eastern North Carolina in the next fifty years.

Now I fully realize that I just lost a few of you. Some of you uttered some unmentionables and others perhaps even questioned my integrity and sanity. However, my conclusions based on my efforts to understand the topic are that climate change will significantly impact farming in North Carolina. Some of you may be saying "Al Gore was wrong. He said we'd all be burning up by now." Yes, Al Gore was wrong. However, Al Gore was never a climate scientist. He was doing what politicians often do and that was gaining an advantage by taking a side on a controversial topic.

I've actually met with the scientist who developed the climate models for the Paris Climate Agreement. I am sure, once again, people may get a little irritated that I mention the Paris Climate Agreement. I am not wise enough to fully understand the value of that agreement, but what I do know is that the scientist who led the effort to develop the models is a really smart guy, who has no hidden agenda. He seemed to be a really down-to-earth person, who is only trying to make the world a better place for the next generation.

Some will say that climate change has always been taking place, why get concerned about it now? Yes, records indicate that climate change has been going on as long as people have been taking notes on the weather. However, that fact doesn't mean it isn't important. That is sort of like saying people have been dying in car accidents for as long as we've had cars and using that as an excuse for not trying to make cars and roads safer. In addition, I can't tell you the number of times I have heard people say that scientists' findings are based on how much funding they get from a particular agency. That is an old argument that is used when the person doing the arguing has no other evidence and I can tell you from my perspective that one really gets under my skin.

I could spend a lot of time with charts illustrating the warming climate in North Carolina and detailed predictions for the next 25 and 50 years as well as observed changes we have seen in pests across the state. But my desire here isn't to twist your arm to think in any particular way, but rather to get you to simply consider your sources of information. If it's from social media, there's a good chance it isn't accurate. One of the building blocks that the Cooperative Extension Service is built on is unbiased, research-based information. That is as true in Iowa or Colorado as it is here in North Carolina. Ask us. We are

here to help. Every land grant university is focused on creating agricultural systems that work well under this changing climate with its wide weather fluctuations. This supports our ability to provide a safe and reliable food system. It is something we must do.

The second point I want to make focuses on the confidence you can have in the folks from NC State University (or Clemson or Virginia Tech for that matter). I've been doing this job for 41 years now and over the course of those four-plus decades I've met a lot of really good people, from farmers to dealers, to county agents, and university specialists. By far and away, they are all great people who I trust, have confidence in, and would welcome as a neighbor. There's probably been a bad egg or two in the mix, but either I never met them or I've forgotten about them.

My experience with state extension specialists (like me), who generate the data to solve our problems and produce the recommendations that our competent county agents pass along to you, is an outstanding group. They are committed to their jobs, their clientele, and to serving the public and North Carolina agriculture, just like our county agents. In most ways, they are just like you in their roles in the community, love for their families and friends, and efforts to be a good person who provides value to society. But we are also scientists who get berated in the media many times, most of it without merit.

I just want to make a point that when you get a recommendation from an extension specialist, my forty-plus years of experience tells me, you can trust it. It is based on research, trials, and testing, and most likely discussed among colleagues before it is ever presented at a field day, production meeting, or put into a recommendation. Scientists are not evil people, science is not their god, nor do they have hidden agendas. As I wind down my career, I hate that people who have devoted their careers to helping others and in our case, helping farmers, are often placed in such a negative light. It has made it so some young people no longer want to pursue careers in science, including the agricultural sciences.

When people spread misinformation it adds to the discrediting of science. Science hasn't always been right, but I can tell you it is more accurate than people's opinions shaped by social media and politicians. Rely upon your Cooperative Extension Service. They are people committed to serving and helping.

Now I feel better!

A Picture Is Worth A Thousand… Data Points

Dr. Jeffrey C. Dunne
Peanut Breeding and Genetics
North Carolina State University

Over the past couple of years, the peanut breeding program at North Carolina State University has been focused on capturing high quality, phenotypic data in an effort to design molecular markers that would aid in the selection for prominent traits of interest. These molecular markers would allow us to efficiently identify peanut breeding lines with higher yields, improved pod and seed quality, disease resistance and other stress tolerances in the various stages of the breeding pipeline. Recently, we had the opportunity to display some of the work we have been conducting on pod and seed characterization; mainly, our new approach to estimating pod and seed sizes through image analysis.

Traditionally, our program collects grade samples from replicated yield trials at three testing locations [Peanut Belt Research Station, Lewiston-Woodville, NC; Upper Coastal Plain Research Station, Rocky Mount, NC; and Border Belt Tobacco Research Station, Whiteville, NC] and then the samples are analyzed/classified using a standardized Virginia-type pod roller and vibratory shaker with grates sized for Virginia-type seed sorting. In total, the process takes roughly 20 mins per sample and we typically run about 1,000 grade samples per year i.e. three locations x two replications x 150 breeding lines. To me, it seemed like a laborious, but necessary process for understanding the diversity of pod and seed sizes within the peanut breeding program; however, we thought this might be an opportunity update this method. Therefore, our objective in developing this imaging

procedure was to create a consistent and more efficient process for collecting pod and seed size data.

For each grade sample, a representative number of pods or seeds are laid out on a platform and high-resolution camera with well-positioned lighting captures an image of the pods or seeds (Figure 1). After the image is captured, a novel software package developed by one of our master's level graduate students (Nick Garrity) analyzes the sample and outputs estimated pod and seed lengths, widths, length-width ratios, Hunter L color scores, and other shape measurements (Figure 2). Through this method, we have reduced the potential grading time by 10-12 minutes per sample, improved the precision of the pod and seed size measurements captured and created a permanently stored data file for additional reference. So how do we plan to use this for developing molecular markers? By improving the precision of the measurements collected, we can use this imaging method to characterize a segregating breeding population developed from a cross where their pod and seed sizes are contrasting. For example, to identify regions in the genome or molecular markers targeting the genes controlling these traits, we would want to cross two lines, one small and one big. The resulting progeny from the cross will range in pod and seed size and we can identify the region in the genome controlling the trait based on their genetic differences. For this project, we are working with a population developed from Bailey II x N11020 (Figure 3; reference pbg-program.herokuapp.com for line comparisons).

Figure 1. Imaging platform used for capturing pod and seed sizes

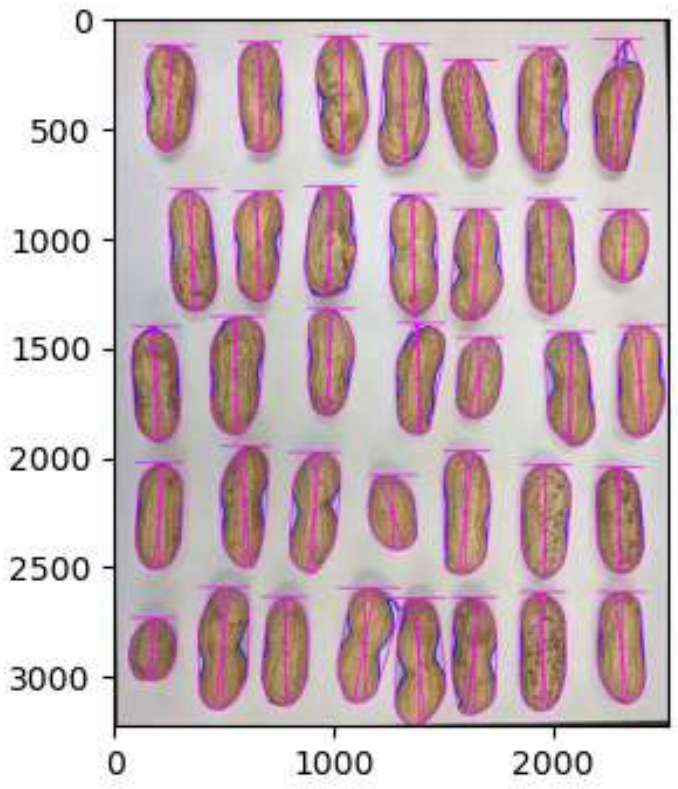


Figure 2. Estimating pod length and width using a Python software package in the NCSU Peanut Breeding & Genetics Program.

Figure 3. Pods harvested from N11020 in the greenhouse (Summer, 2021)

The Perfectly Sustainable Peanut!

NEWLY RELEASED DATA REPORTS THAT
3.2 GALLONS OF WATER IS USED TO
PRODUCE ONE OUNCE OF SHELLED PEANUTS.

Water Usage

US WATER USAGE PER OUNCE, BASED ON BLUE WATER (IRRIGATION) FOR THE PERIOD 2000/2016 AND GREY WATER (TO ASSIMILATE APPLIED NITROGEN) FOR 2004/2013, GALLONS PER OUNCE:

PEANUTS (shelled)	ALMONDS (shelled)	PISTACHIOS (shelled)	WALNUTS (shelled)
3.2 GALLONS	28.7 GALLONS	23.6 GALLONS	26.7 GALLONS

TO GROW 1 OUNCE

Sources: CA Department of Food and Agriculture; Food and Agriculture Organization of the UN; Mekonnen, M.M., University of Alabama; and USDA

VISIT NATIONALPEANUTBOARD.ORG FOR MORE DETAILS ON WATER USAGE AND SUSTAINABILITY.

National Peanut Board

Moving Into 2022 After A Good Peanut Crop

This past winter at our peanut production meetings, I spent time discussing a key comment and question I received from several people in January. The comment with a question was: *Seems like I did everything right, but my yields just were not where I think they should have been. What did I do wrong?* Moving into 2022 after a good peanut crop had some folks asking themselves (and others) why their yields seemed to be lower than their neighbors were. That is always a tricky way to do things, to compare ourselves to those around us. Life is complicated. In this column, I am going to go back through each of these with the hopes that you can reconsider some of your practices and bump your yields up a bit more. By the time you read this some of these suggestions will be coming on the late side, but here we go. I have expanded on the heading for each of these that I used in my slides this past winter.

David Jordan
Extension Peanut Specialist
NC State University

Often compared with last year or a neighbor (just not the same) – Comparing peanut yield from year to year is a challenge and so is comparing with your neighbor. I do not even know where to begin on the neighbor comparison so I will jump to the next bullet.

Rainfall patterns (just a few miles can matter) – We certainly know how spotty rain can be and there were many places in the state in 2021 where just a few miles apart really mattered in terms of catching a key rain. I was at the Peanut Belt Research Station a few times in late summer and I could see rain in the distance. The station needed the rain but it did not get it. It could be that you are comparing rainfall patterns and not the practices you used in 2021.

Variety mix (generally, Bailey II is better than Sullivan) – When we start comparing yield in fields or with others we need to keep in mind that some of the comparison may be a variety comparison and not the other practices we are using in peanuts. Much of our data shows that Bailey yields more than Sullivan does by a few hundred pounds per acre. In addition, there are data sets that show the difference between these at even greater amounts. Certainly both can yield the same, but I do not recall seeing many data sets where Sullivan yielded more that Bailey. Moreover, our data shows that Bailey II often yields more than Bailey. Before you decide to make major changes in production and pest management practices (outside of variety selection), make sure you are not comparing varieties when judging your decisions. The percentage of one variety compared with another on a farm might be the reason for differences in yield.

Got about 3 plants per foot of row overall (some areas might have lower populations) – Our recommendation is to establish 4 or 5 plants per foot of row. If you are planting in late April or early May, I suggest planting 6 seed to make sure you get 5 plants (this helps with spotted wilt.) If you have been easing back on seeding rates to save money, there is a good chance your yields can be lower. Starting with a lower seeding rate can result in some spots of the field with yield-limiting plant populations. With three or fewer plants, we often get a measurable reduction in yield.

Inoculant (worth 5% even on rotated ground) – Inoculant cost is roughly 1% of the total production cost. Even when you would not see a response above ground, our data shows a 4:1 return on investment from in-furrow sprays even in rotated ground. The return is much greater in new ground. You might be leaving 200 pounds per acre in rotated ground by leaving off the in-furrow spray.

Tillage (reduced till can be lower in some parts of fields in some years) – We have about 30% of farmers in NC in some form of reduced tillage. Most folks that have moved in that direction have worked out the issues and are committed to this system. Nevertheless, keep in mind that we can have issues in reduced tillage when it comes to digging losses in dry years. In 2021, we had a good year to get the crop harvested in a timely manner. When this happens, I often think we have some yield loss in reduced tillage or conventional tillage in flat ground because of digging losses. It is just the nature of digging Virginia market types on dry soils. The deeper you have to dig the more soil comes through the digger and the greater the digging losses we can have in dry soils. Peanuts in conventional tillage systems with beds often have the least

amount of pod loss during digging across most weather and soil moisture conditions.

Soil-borne pathogens and disease (difficult to see these above ground) – What goes on below ground can be easily missed unless we take the time to look closely. There is always the chance we can have good leaf spot control but lose some yield due to stem rot and Sclerotinia blight unless we look close and adjust our fungicide programs accordingly.

Average pH for the field is on the low side (areas with low pH can yield even lower when gypsum is applied) – I have spent a lot of time on this during the past few years. We can be losing significant yield if our pH is not high enough. We can even take a yield hit from applying gypsum if our pH is too low. At pH 6 with gypsum yield is 26% higher (based on research from years ago) compared with pH 5.6 with gypsum. That is a major shift! Lime fields to get a pH of 6.2 to make sure all spots in the field have pH values greater than 5.8. The bacteria in inoculant (or native bacteria in soil) that fixes nitrogen is much more effective when soil pH is higher.

Potassium was a little high (interferes with calcium uptake) – This is another topic I have spent a lot of time on at meetings. If the soil test calls for K, it should be applied. Incorporate it into the rooting zone. Do not skimp on the gypsum. I do not think this is a major contributor to lower yields unless you apply large amounts of K. We have applied 250 pounds of Potash per acre on the soil surface and not observed an adverse impact of K on yield or quality.

Zinc index was marginal (average of 250 means some spots might be higher) – Zinc can be a major issue in some fields, especially in the central coastal plain. Even when the zinc index is below 250, there is a good chance there are areas with higher levels of zinc. The average is the average and can be misleading in terms of risk. You could be experiencing some yield loss in areas where the zinc index is greater than 250 even though the average for the field suggests that everything would be fine.

Postemergence herbicides applied during flowering under stressed conditions (Cobra and Ultra Blazer) – We certainly need to control weeds to protect yield. Sometimes this means we need to apply contact herbicides when peanuts struggle to grow out of the injury from the herbicides. We cannot change our approach to weed control a great deal with the herbicides we currently have in peanuts, but when we apply contact herbicides later in the season under dry conditions, we can take a yield hit of a few hundred pounds. However, the weeds might take 800 pounds from us if they are not controlled.

Thrips injury and Gramoxone injury (can handle one but not both) – If you have a lot of thrips damage and decide to apply paraquat you are very likely to get a substantial yield hit. With imidacloprid performing less effectively across some areas of the state, we may be applying paraquat to peanuts that have too much thrips injury. This could be costing us yield.

Wet year and rootworms (low areas might have some damage) – Going forward we do not have chemical alternatives to chlorpyrifos. Variation in soil texture and drainage in fields, especially in wet years, could be causing us reductions in yield in those spots from rootworms. There is no solution to this reality at the present time.

Dug a week earlier than I should have (5%) – I think this is a major culprit to yield loss. You cannot dig all of your peanuts at the same time and with our acreage, weather patterns and digging/harvesting capacity we just cannot get every field dug at the right time to maximize pod yield, market grades and financial return. Still, the more acres you have that are dug too early or too late may explain lower yields. Coming back to your neighbor again, you might do some math here to see how many diggers and combines are running for their acreage compared with what you are doing. Some investment here might make a difference.

Finally, at the meetings I shared that I was reading a book about Jimmy Carter. It was a great read and I learned a lot about him from that book (*Jimmy Carter, A Life* by Jonathan Alter.) Jimmy Carter was many things, including a peanut farmer, governor and president. It's not often you see a peanut variety listed in a book like this (Virginia Bunch 67) and that opened the door for me to talk about the variety Bailey and the person whose name it carries. Almost a generation has passed since the person this variety was named for passed away – Jack Bailey. Like Jimmy Carter, Jack was many things including a plant pathologist, mentor, father and friend. I gained much from my short time with and around Jack. The variety Bailey, and now Bailey II and likely Bailey III will continue to be testaments to his contributions to peanut plant pathology. He had great stories too, and sometime in the next few years I am sure I will share one of those again (*The Tale of Spider Mites and the Leaf Spot Advisory: How One Picture Reveals Almost Everything*.)

Contribution of Starwheels to Peanut Digging Losses

Kendall R. Kirk, Ph.D.
Precision Agriculture Engineer
Clemson University

Tests supported by the South Carolina Peanut Board and conducted by Clemson University over the past several years have suggested that the inversion assembly on the peanut digger is responsible for a substantial portion of yield losses incurred during digging. These tests have generally suggested that losses increase as vine loading increases; we also suggest this to be the primary reason that PGR treatments in large bush peanuts often increase yields (we have not found PGR treatments to affect peg strength). We believe that the inversion assembly of the today's peanut digger has a maximum volumetric vine flow rate, limited as a function of inversion rod setting.

At a given vine size, there is a specific ground speed at which the vine flow rate through the digger is equal to the maximum permissible vine flow rate past the inversion rods. From this point, either increasing ground speeds or increasing vine size will generate vine flow rates through the other regions of the digger in excess of the vine flow rate past the inversion rods, which will generally remain unchanged. The result is compression of the peanut rows in the digger between the inversion rods and the end of the conveyor, since mass flow rate into the digger must equal mass flow rate out of the digger. The particular region of the digger where vine compression occurs is above the starwheels.

As vines are compressed above the starwheels, their linear velocity decreases, since their apparent density is higher. Since the vine velocity decreases in the region between the end of the conveyor and the inversion rods (above the starwheels), but the starwheel tip velocity remains unchanged, the relative velocity of the starwheel tips is greater than that of the vines. The result of this differential velocity is sloughing/raking off of pods at the starwheels, which can result in significant (hundreds of pounds per acre) yield losses.

We conducted investigations in 2018 and 2019 in remotely sensing relative reductions in vine speed above the starwheels using radar technology and high speed photography. The general findings were that radar sensors could be used to indicate vine speed, but that turbulent behavior of vine tops made stable and consistent readings challenging. Furthermore, even if radar or camera vine speed detection could be implemented as a feedback-based control methodology, the costs would be large relative to the benefits.

Five years of studies that we have conducted have demonstrated yield recovery to significantly benefit from reduced digging ground speeds. Prior a test conducted in 2021 and the culmination of results from these other studies, the mechanism for losses as a function of increasing ground speed was unknown. As stated earlier, increasing ground speed will result in an increased volumetric vine flow rate, at any given vine size, which may approach and will at some point exceed the maximum allowable vine flow rate past the inversion rods.

The test conducted in 2021 which suggests that these theories are correct was designed to compare yield in the presence of starwheels and also in their absence. Prior efforts by our group to do this failed to adequately account for starwheel-born losses because they did not take into account the losses incurred from peanut vine separation as plants fell from the back of the conveyor when the starwheels were removed. As a plant is separated from an adjacent plant, pods intertwined between the two plants are dislodged from the plants and therefore not recoverable by the combine. To demonstrate this, fifty plant pairs were manually ripped apart while standing on a clean tarp, to capture the losses. The mean loss from each pair of plants was 25 g; this translates to 750 lb/ac if the frequency was once per 3-4 plants or once per foot. As a side note, this also helps to explain the mechanism from increased losses when the conveyor speed is in excess of the ground speed: prior theories suggested that losses were a function of "ripping the plants from the ground," although this simple test suggests that ripping a plant from an adjacent plant may be equally or more important.

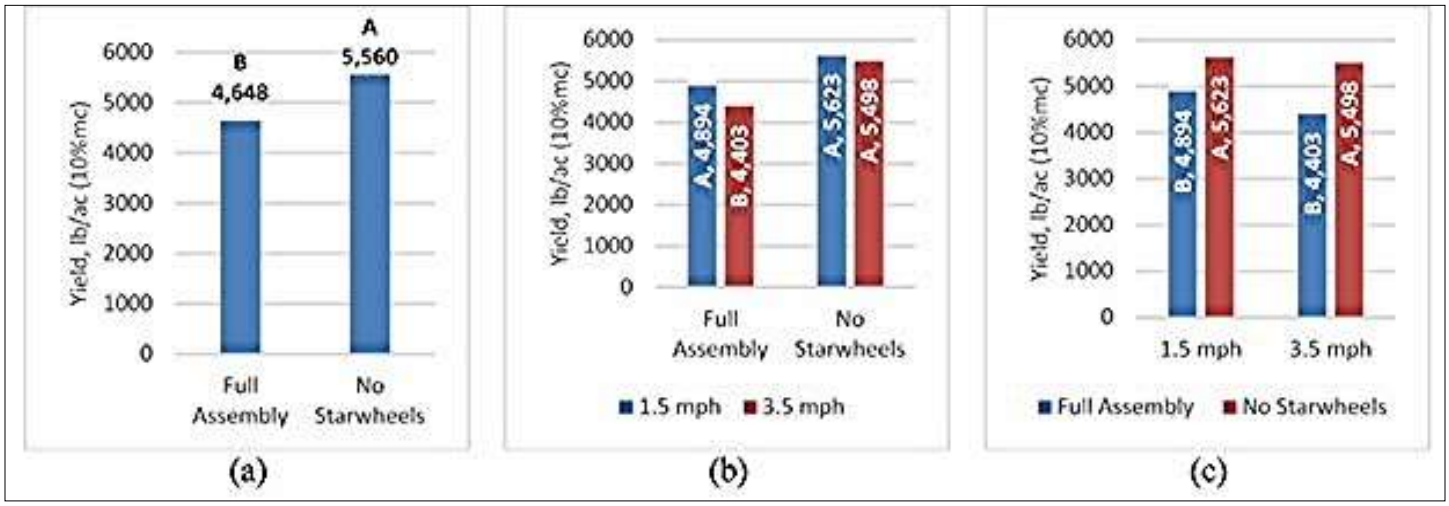
After recognizing that significant pods would be lost due to plant separation if plants were allowed to freely fall from the conveyor in the absence of starwheels, we designed a test where those lost pods could be captured by a "diaper" positioned beneath the end of the conveyor. This allowed us finally and accurately demonstrate losses attributed to the starwheels. The test used two ground speeds (1.5 and 3.5 mph) and two assembly treatments (with and without starwheels). Since the peanuts and plants were captured by the digger diaper in the treatments without starwheels installed, field drying was not an option. Peanuts were threshed green with a stationary combine for all plots and moisture contents were measured to correct yields to dry weights.

The results from the digger diaper test were alarming, and revealing in un-

derstanding mechanisms responsible for peanut digging losses. The results from this test are shown in Figure 1. Across ground speeds, the starwheels were found to be significant in yield effect and responsible for 912 lb/ac yield loss (Figure 1a). Within assembly treatments (Figure 1b), ground speed had a significant effect on yield recovery (491 lb/ac) for the full digger assembly, but the yield differences as a function of ground speed were insignificant (125 lb/ac) when the starwheels were removed. This insignificance as a function of ground speed suggests that losses incurred as a function of increasing digger speed (as demonstrated in 13 site years of Clemson research, 166 lb/ac lost for every 1 mph above 2.0 mph in virginia type peanut) are largely due to the starwheels. Finally, Figure 1c shows losses as a function of digger assembly treatment, within each ground speed grouping, with both groupings demonstrating highly significant differences. At 1.5 mph the starwheels were responsible for 729 lb/ac in yield losses and at 3.5 mph they were responsible for 1,095 lb/ac in yield losses. Even at (often) impractically slow ground speeds, the starwheels are responsible for over $150/ac in revenue loss.

Today's peanut digger is largely the same design as that used by many farmers' parents and grandparents, over 50 years ago. The results presented here suggest that there is plenty of room for improvement and we believe that they also point to the assembly that would result in the greatest gain from improvement.

Figure 1



Peanut Leadership Academy Class XII - Session II - Albany, Georgia

This class is made up of twenty-five peanut growers and sheller representatives from across the Virginia Carolinas, Southeast and Texas. Class XII held their first session in Starkville, Mississippi back in December 2021. The second session was held in Albany, Georgia the first week of March 2022. This session was held in conjunction with the American Peanut Shellers Industry Spring Conference.

During the second session of the program, the class began by learning their different personality shapes from Trudy Gill Leadership & Development. She was followed by Darlene Cowart of Birdsong Peanuts, who provided a food safety update. Their first day ended with an industry issues discussion. The second day, the class took a trip to Tifton to tour the KMC facility. Mr. Roy Moore, Director of Sales & Marketing, showed them a video clip of the type of equipment that is produced at the facility. The class then went behind the scenes on a guided tour through the facility. Following the KMC tour the group traveled to UGA Tifton Campus office to hear Dr. Scott Monfort and Dr. Tim Brenneman provide a peanut research overview. Lastly, the group visited MANA Nutrition plant where Mr. Allen Galbraith gave an introduction of Mana's initiatives and provided a tour of the plant.

On the last day of session II everyone attended the American Peanut Shellers Industry Spring Conference. This conference covered many topics such as current peanut trends, an overview of the expansion of the Savannah Port, an introduction to boiled peanut processor Hardy's Peanuts, and more. Overall, this was an excellent session and everyone is looking forward to attending their next session in Lubbock, Texas this August.

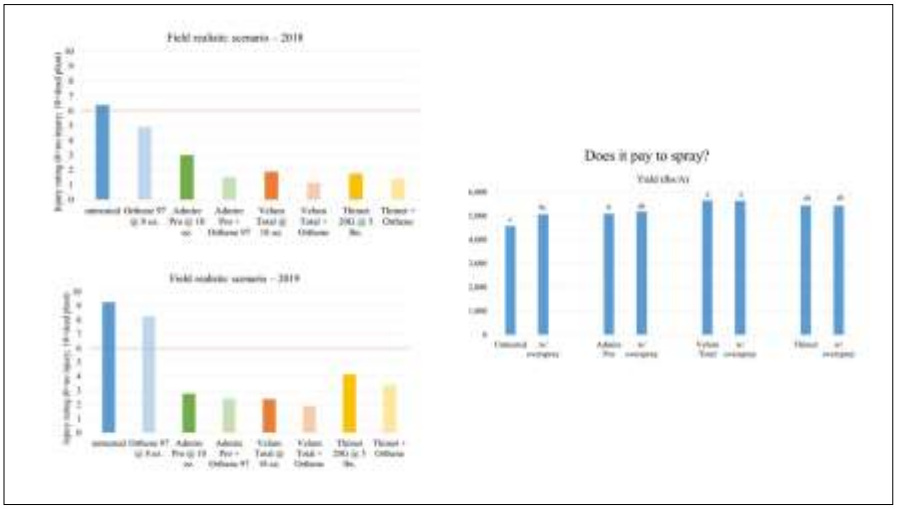
VC Representatives (L to R)
John Layton, Drew Monahan,
Charles Rogers, Brad Ward

Supply Chain Issues Plus Rising Costs Are Limiting Insecticide Product

Supply chain issues plus rising costs are limiting insecticide product choice already this season. I encourage you, if you are considering a reduced-cost insecticide strategy this season, to use an in-furrow thrips product and, based on scouting, apply foliar products only when needed. Acephate (trade name Orthene) is an automatic application for many Virginia/North Carolina peanut producers, but its utility and value are variable and season dependent.

In Virginia peanuts, thrips feeding injury causes maturity delays which, especially coupled with herbicide injury, can reduce yield. Tomato spotted wilt virus, although present in our region, is rarely our top concern with thrips management. In-furrow applications of imidacloprid (trade name Admire Pro), phorate (trade name Thimet), or aldicarb (trade name AgLogic Aldicarb) are often capable of suppressing thrips injury below economic levels without a foliar application in most years (see associated figures). Some regions of North Carolina have thrips with resistance to imidacloprid and phorate or aldicarb will perform better.

A foliar spray is useful when plant growth is poor or slow, and or materials are not moving well within the plant (i.e., hot/dry, or cool/wet weather). Acephate, cyazypyr (trade name Exirel), and spinetoram (trade name Radiant or Intrepid Edge) are good choices for thrips control. Oxamyl (trade name Vydate) has not provided adequate foliar control in prior Virginia research. Keep in mind that our region experiences the heaviest thrips pressure of any peanut growing region and those products that perform well in other regions may not do so under our most extreme conditions. Foliar sprays alone (of any material), without an at-plant application, can require two applications for adequate control.



Sally Taylor
Assistant Professor
Row Crop Entomology
Virginia Tech Tidewater AREC

To summarize, save costs by reducing foliar insecticide use, but do not skip in-furrow thrips treatments. Reminder - there is no chlorpyrifos (trade name Lorsban) for southern corn rootworm control this season. Managing for early maturity will help prevent losses from this mid- to late-season pest. Do not apply remaining stores of chlorpyrifos – this is off-label and residues are likely to be detected. I discourage you from targeting adult beetles with foliar sprays because this strategy rarely works and has a high risk of costing money when secondary pests are flared. Reminder – Velum does not contain imidacloprid for thrips control, only remaining stores of Velum Total do.

Happy planting!

USO PARTNERSHIP

The USO provides programs, entertainment, and services at more than 250 USO locations worldwide. USO centers provide a warm and comforting place where service members can connect to loved ones via Internet or phone, play a video game, catch a movie, have a snack, or just put their feet up and relax. Our region offers a wide variety of military bases located along the coastal plains in each of our three states. With agriculture playing a major role in each of our three states we feel compelled to give back to those who give so much.

Virginia Carolinas Peanut Promotions created a one ounce pack of peanuts that is processed and packaged from Hubbard Peanut Company. We distribute a box of 250 packs of peanuts to USO centers in Charlotte & Fayetteville, North Carolina; Chester, Alexandria, Norfolk, Newport News, Virginia Beach, Virginia and Columbia, South Carolina. Our troops are thankful for receiving such a generous donation and they upload photos onto their social media as well as provide us handwritten thank you cards.

We look to continue this promotion and partnership with USO centers for another year in giving back to our troops.

2022 Cooper River Bridge Run

Another year and another Health & Fitness Expo has come and gone promoting peanuts at the Charleston Cooper River Bridge Run. This was a two-day expo for runners to pick-up their race day packets and visit with each of the exhibitors. The expo had 50 exhibitors and the race had over 29,000 people signed up to run the race. The South Carolina Peanut Board approved to sponsor a booth space at this expo. With this sponsorship, we gave out South Carolina packs of peanuts, peanut swag, peanut recipes, and nutritional information donated by The Peanut Institute. Marianne Catalano, Marketing Specialist and Stephanie Crowe, Administrative Assistant with the South Carolina Department of Agriculture represented South Carolina peanut farmers while working the booth at the expo. Buddy McNutty came to visit during the expo to hand-out peanuts and stickers.

Follow Us on Social Media

"Stay up to date with our weekly social media messages. We share recipes, peanut facts, promote our VC peanut retailers and give insight on how/where peanuts are grown. Be sure to follow us throughout this summer to get a sneak peek inside of peanut farming 101."

New Free Resource for Peanuts in K-12

Like many industries, schools are facing unprecedented issues due to the fallout from the pandemic. Supply chain challenges and labor shortages are pushing school nutrition staff to the limit. In this climate, managing food allergies becomes all the more important, and peanut butter, in particular, can help be part of the solution for schools.

To advocate for safely serving peanuts in schools and to help manage them as a food allergen, the National Peanut Board created PeanutsinSchools.org. It is a one-stop-shop for school nutrition directors, staff, brokers, brands, nurses and administration and others seeking resources on this issue.

Iconic Billboard Gets A Makeover

The well known billboard in Virginia located on Route 460 between Wakefield and Waverly.

Save the Date

August 16:
Peanut Night hosted by the
Virginia Peanut Growers Association
Richmond Flying Squirrels vs Binghamton
The Diamond Stadium, Richmond, VA

September 8:
South Carolina Peanut Field Day

September 8:
North Carolina Peanut Growers
Annual Meeting and Field Day

September 13:
North Carolina Peanut Growers
Whiteville Field Day