Ag Notes | Webster County and Stewart County | April 2016

Dates to Remember

Saturday, October 15
Webster County 4-H
Fall Carnival

Vidalia Onions

$10 for 10 pounds
Order through
Wednesday, April 20

Pick up scheduled for
Wednesday, May 11

Place your order now but we will have extras!!

Cotton Production Guides

By Dr. Laura A. Griffeth, *County Extension Agent*

The 2016 Cotton Production Guides are finally ready and in the Webster County Extension Office in Preston. Stop by and get your copy, or give us a call to reserve one for you.

Pest Management Handbooks

By Dr. Laura A. Griffeth, *County Extension Agent*

The 2016 Commercial Pest Management Handbooks are available for purchase from our office now. They are spiral bound in 2 volumes but cannot be purchased separately. In addition to the hard copies, you will also receive a flash drive containing the information that can be loaded onto a computer or tablet (maybe?). The price is $50. Please contact our office if you are interested in purchasing these handbooks.

Updated Crop Comparison Tool

By Dr. Laura A. Griffeth, *County Extension Agent*

An updated version of the Crop Comparison Tool is available online at http://agecon.uga.edu/extension/budgets/cct/index.html, but it is also included in this newsletter. In the Excel format you can make changes in price, yield, and costs to be closer to your farm situation. It has a peanut price calculator to estimate true peanut price received and charts that compare two competing row crops and aid in pricing decisions.

Crop Weather Information

By Dr. Laura A. Griffeth, *County Extension Agent*

I know everything is itching to get started, but don't jump the gun too soon and plant into soil that is not ready for it. A great place to get information about weather and soil temperatures is the Georgia Automated Environmental Monitoring Network website at www.georgiaweather.net. You can look at current conditions and archived conditions and is a great source of soil temperatures at 2, 4, and 8 inches. I use the station at Plains when I'm looking for information for clay fields and use the stations at Dawson or Shellman if I'm dealing with a sandy field. Those are the closest locations to Webster and Stewart Counties. Take a look at the information available on this website.

Extension Planning One-On-One Trainings for Georgia Farmers

By Clint Thompson, *University of Georgia*

University of Georgia Cooperative Extension county agents will now come to farms to teach a series of pesticide-focused trainings to agricultural producers through a new, unprecedented training initiative.

In an effort expected to span the next three years, UGA Extension Agriculture and Natural Resources county agents will meet with growers at their farms to discuss topics critical to long-term sustainability. This unique, one-on-one training approach allows agents to bring tailor-made, research-based information from UGA right to growers' front doors.

The trainings focus on pesticide application (http://t.uga.edu/28h), herbicide-resistant weed prevention and management, pollinator protection and sound management program implementation for long-term sustainability. The farmer will determine the focus of much of the discussion, and the UGA Extension agent will assist in overcoming challenges.

"Many of our growers attend classroom-type meetings each winter to learn the latest agricultural information; however, those discussions often focus on a more regional or state perspective," said UGA Extension weed scientist Stanley Culpepper. "Our one-on-one trainings will focus on each grower's farm. This allows for prescribed recommendations at their best. Also, keep in mind that our agents live and work in these areas every day, so who is better suited to do the training?"

Culpepper stresses that one of the greatest values of these trainings will be the ability to communicate directly with the person applying the pesticides. In some situations, the farmer may not apply the pesticides, but may have hired an on-farm pesticide applicator. Sharing the latest research directly with applicators will improve on-target applications, which will protect the farm, its neighbors, the consumer and the environment.

UGA Extension works closely with the Georgia Department of Agriculture to help growers make wise decisions when applying pesticides. One of the greatest challenges is actually getting face time with non-farm owner applicators.

This training is expected to take anywhere from 15 minutes to no more than an hour. I know you're getting ready for planting season right now, but I wanted you to be aware of this project we'll work on together. It might be a good thing to do at lunch one day or in the shop during one of those rainy stretches. The information will be very useful to you and your applicators. If anybody is interested in getting started, give me a call, and we can set up a date and time.

-Laura

Cloverleaf DPA

By Dr. Laura A. Griffeth, *CEA*

Webster County4-Hers attended Cloverleaf District Project Achievement in Perry on Saturday, March 19. Savannah Matthews (6th grade) placed 1st in the Food for Health and Sport project, talking about healthy food and snacks. Jamie Rowland (6th grade) placed 1st in the Outdoor Recreation project and talked about ATV mud bogging. Morgan Harnage (6th grade) placed 1st in the Creative Stitchery project with her homemade and designed pillow case. Summer Johnson (6th grade) placed 1st in the Wildlife project, talking about the Okefenokee Swamp. Tara Music (5th grade) placed 3rd in the Target Sports project and talked about Wild Hog hunting. Ivey Patterson (5th grade) placed 2nd in the Dog Care and Training project, talking about the American Staffordshire Terrier. Lastly, Art Rowland placed (4th grade) 2nd in the Outdoor Recreation project with his speech on Outdoor Cooking. AnnMarie Marchbanks and Casey Willis went as teen leaders.

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Peanut Pointers

April 2016 – Volume 53 Number 4

Dr. Scott Monfort, editor

Temperatures Not Ready Yet

Dr. R. Scott Tubbs, Extension Cropping Systems Agronomist, and Dr. Scott Monfort, Extension Agronomist

A quick look at the soil temperatures across the peanut producing areas in Georgia shows that we are not ready to be placing seed in the ground yet. A handful of locations in the extreme southern part of the state have reached the 68 degree mark and sustained it for 3 days at the time of this writing (April 7), but there are cooler temperatures in the weather forecast that are going to drop the soil temperatures over the next 4 days. That is not enough time for the seed to emerge. At this time of year, it typically takes at least one week for seed to emerge, and if a seedling has not cracked the ground, it is susceptible to shock when temperatures dip rapidly.

With forecast low temps in the low 40's over the coming weekend (April 9-10), and then a widespread 80% chance of rain forecast for Tuesday-Wednesday (April 12-13), it is a big risk to be planting any peanut seed prior to April 15. Temperatures are supposed to warm up after that, so I anticipate planting will be in full swing shortly thereafter, likely the week of April 18. However, it is difficult to project weather forecasts more than a week in advance, so encourage growers to keep a close eye on both soil temperature and the extended forecast before dropping seed in the ground. And please resist the urge to plant earlier than April 15 as the current situation and forecast are not favorable for achieving an optimum plant stand.

A couple of other points to remind growers of before the planting season starts:

- Soil sample to know fertility and pH
- Understand risk of shorter rotations
    - Shorter rotations and limited inputs do not work well together
- Know limitations of varieties – maturity, disease resistance, growth characteristics
    - Late maturing cultivars tend to negatively impacted with later plantings (Late May to June)
- Try to be timely with pesticides (herbicides. Insecticides, fungicides)
- Minimize unnecessary applications of pesticides and unproven snake oils
- Irrigation – encourage growers to talk with Wes Porter about irrigation scheduling
    - Plant non-irrigated first where you can to make use of moisture

Preparing for Planting

Dr. R. Scott Tubbs, Extension Cropping Systems Agronomist

When we prepare for planting research plots, we have to be ready to go when the time comes – projects like planting dates require precise timing and we cannot afford undue delays or we might lose the desired effect we are trying to test. It is similar on the farm that when it is time to go, things must be in order to prevent delays that might not allow all of a grower's acreage to be planted in the optimum planting timeframe, thus costing money for yield declines from a late-planted crop.

In the past, we have had a number of things needing attention as we checked our equipment to prepare for planting. In one case, we had a mouse crawl down the neck of our seed hopper and form a "nest" in the metering box, between the cover and the seed plate. In another instance, paper was found lodged at the base of the drop tube where granular insecticides release into the furrow. We have had rocks lodge between the double-disk openers, tubes fail preventing appropriate pressure from the vacuum, and simple memory lapse where seed plates, scrapers, meter covers, and depth adjustment were not performed for peanut after last use from either corn or cotton planting. All of these things require time and attention prior to filling the seed hopper with the first peanut seed of the season. Some things require calibration, such as insecticide hoppers, spray tanks for inoculants, or other in-furrow applications as well. Applying these products requires attention to be sure they will be both effective and legal. Not calibrating can potentially result in over-application above the

labeled rate, which is illegal and could lead to toxicity issues, or under-application could result in ineffective rates being applied and the potential for pests to develop resistance to the control product.

Be sure to also check calibration of seed drop in the furrow. This is something commonly overlooked, under the assumption that the planter is planting at the seeding rate for which the gearing is set. The plate may be spinning at the appropriate speed, but it is only planting the correct seeding rate if every hole on the plate has a seed adhering to it. If suction from the vacuum is too low, or the equipment is traveling at a high rate of speed in the field, the chances of skips on the plate to occur is greatly enhanced, which can greatly reduce the desired seeding rate to sub-optimum levels even if you had 100% germination of the seed placed in the ground. However, considering there are a plethora of factors that can reduce germination percentage once the seed reach the ground, we want to be sure we are accurately placing the appropriate and desired number of seed in the furrow as much as possible.

There are many variables in play once seed are in the hoppers and the tractor is in operation. Take the opportunity to make sure it is all in good working condition so planting can be done as efficiently as possible once the optimum planting window and planting conditions are reached.

Georgia agricultural forecast for 2016 and beyond

Pam Knox, Agricultural Climatologist

El Niño has been the dominating atmospheric pattern driving the weather and climate in the Southeast for the past few months. Normally, El Niño brings wetter conditions to the region, with cooler conditions caused by the persistent cloudiness. This year has not been a perfect example, since although some areas of the Southeast saw well-above normal rainfall, the temperatures across the region have been above average due to conditions not associated with El Niño. Now that the El Niño is declining and on the way out, it's worth taking a look at what is likely to come next and how that will impact the growing season and perhaps even 2017.

Spring is typically the hardest time of year to predict what will happen in the eastern Pacific Ocean and the atmospheric patterns associated with El Niño and La Niña. Climatologists call this the "spring predictability barrier" because it is very hard to determine what will happen in the next few months as El Niño dies away. The computer models of what is likely to happen next are all over the place, with some indicating a second round of El Niño, some keeping conditions near neutral, and some predicting a swing to the opposite phase, a La Niña, in the next few months. We will need to wait for sure until around the August time frame to see how the ocean temperatures evolve; that will give us a clue as to whether La Niña will occur next winter.

So how do we determine what climate conditions are most likely going forward? Statistically, in five out of six years following a strong El Niño, the pattern has swung to a La Niña. This gives us some confidence that we may see a La Niña by late summer, although of course each event is unique and statistics are no guarantee of what will actually occur. It will take time to see the pattern shift to a classic La Niña event, and I expect to see El Niño moisture continue to be a factor in the climate at least for the next two to three months. By early summer, neutral conditions are likely to occur, and there is little predictability with that pattern in the summer. If La Niña develops, we should start to see it by late summer.

In La Niña years, late summer is often associated with drier and warmer conditions than usual. That reduces disease pressure but can cause problems for dryland farmers in filling the peanuts, although harvest conditions are often excellent. The one bug in the ointment is that neutral and La Niña years are also associated with above-normal tropical storm activity in the Atlantic Ocean. The paths of the storm depend on weather conditions at the time the storm develops, so we can't say anything at this time about where they are likely to go. However, areas that are in the path of the storms can expect to see rainfall of up to several inches, depending on the forward speed of the storms and exactly what their path is.

If La Niña develops this fall, I expect to see warmer and drier conditions than usual next winter across the Southeast. This is good for harvest but reduces the recharge of soil moisture and ground water in the area over

the winter months. That can set the stage for drought the following year, so we will have to watch carefully to see if drought redevelops in the region in 2017.

Disease Management Options of the 2016 Peanut season: Important Updates

Dr. Bob Kemerait, Extension Plant Pathologist, Dr. Albert Culbreath, Plant Pathologist, and Dr. Tim Brennamen, Plant Pathologist

Disease management options for a peanut crop are always important; however they are even more so in 2016. There are three CRITICAL issues that make your assistance, once again, to growers very important.

•The peanut acreage projected for Georgia in 2016 is 730,000 acres, only marginally down from 790,000 last year. Back-to-back large peanut plantings in Georgia will surely mean that some growers will have to reduce and even eliminate rotation between peanut crops. Short rotations often result in greater problems with leaf spot diseases, soilborne diseases, and nematodes.

•El Niño conditions, primarily rain events, have continued and will continue into the spring. Such conditions can affect both the impact of disease (for example, seedling diseases) and the appropriate tools to manage those diseases (for example, in-furrow fungicide applications versus early-emergence applications).

•Use of well-known and lesser-known products for management of peanut diseases will be prohibited on any peanuts bought by shelling companies like Birdsong and Golden this season. By now you are likely aware that the European Union has questioned residue studies on propiconazole (active ingredient in products like Tilt and also a component of Artisan) specifically on peanut. The uncertainty of this issue and its impact on sale of peanuts in Europe has lead Syngenta Crop Protection to announce it will not sell Tilt/Bravo for the peanut market in 2016. Now, companies like Golden Peanut and Birdsong are notifying growers not to use products containing propiconazole that will be sold to them.

Less commonly known is that the European Union has also raised questions about residues for a second class of fungicides on peanuts, the phosphites. Phosphite/phosphorous acid fungicides, like K-PHITE and ProPhyt, have been used in Georgia recently for management of Pythium pod rot, a disease that can be especially difficulty to control. Like peanuts treated with propiconazole, peanuts treated with phosphite-fungicides may also be rejected by the European Union.

•New products will be available to the growers, to include Elatus and AgLogic 15G. By now, most growers are likely aware that Elatus, a combination of azoxystrobin (Abound) and solatenol (an SDHI-class fungicide) will be available in 2016. This fungicide has performed well in our research studies. Fewer may be aware that a new aldicarb product, AgLogic 15G, will also be available in very limited quantities to growers in Georgia in 2016. While it is expected that AgLogic 15G will be very similar to Temik 15G in performance, this product has not been included in studies at the University of Georgia to date, but will be conducted in the upcoming season.

Below are recommendations for you, the Extension agents, based upon the points previously mentions.

Growers who are forced into short peanut rotations, i.e., where peanuts are planted in the same field in sequential years or with only a year of rotation between peanut crops, should recognize that such can increase risk to diseases and nematodes. Disease programs for such fields should be more aggressive both in the choice of products and in the timing of fungicide applications. Turning the land can offer some help in reducing losses to leaf spot and soilborne diseases. In-furrow applications of a product like Proline can help to reduce the impact of Cylindrocladium black rot (CBR). Early-season banded application of products like Proline or Abound, or using the 3-spray Elatus program (7.3 ox/A), are effective ways to aggressively start a white mold program earlier than one might otherwise. Including fungicides with systemic activity for leaf spot diseases is also appropriate in fields where diseases are at higher risk.

Peanut root-knot nematodes (Meloidogyne arenaria) can cause significant damage to a crop and are more problematic where time between peanut crops is reduced. Once the seed is planted, further management options are essentially unavailable, with the possible exception of a Propulse (13.6 fl oz/A) application at pegging time. Where peanut root-knot nematode is thought to be a problem, growers are encouraged to consider planting nematode-resistant varieties like 'Tifguard' and 'Georgia-14N'. They are also encouraged to consider use of the nematicide Telone II (4.5-6 gal/A) when planting a susceptible variety (like 'Georgia-06G) in moderate-to-high risk fields. They can also use Velum Total (18 fl oz/A) in fields where the root-knot nematode problem is less severe. Growers may also have access to AgLogic 15G.

The El Niño conditions are predicted to fade as we get further into our peanut planting window, but for now we continue to experience frequent rain event and, potentially, cooler soils. Such conditions increase the risk for Rhizoctonia seedling disease and also for CBR for which early-season infections lead to later season disease symptoms. The Dynasty PD seed treatment found on all commercial peanut seed is very effective in management of seedling disease; however, growers especially concerned about increased seedling disease may consider use of azoxystrobin (Abound or generic formulation) in the furrow for increased protection. Such can be safely mixed with inoculants. Growers concerned about CBR should consider using Proline, 5.7 fl oz/A, in-furrow at planting.

AgLogic 15G is labeled for use on peanut and cotton in Georgia in 2016 for management of nematodes. The active ingredient, aldicarb, has been imported from China and is being formulated in Georgia. However, it is not clear how much of the product, AgLogic 15G, will be available in 2016. AgLogic 15G will be distributed by Chem Nut Inc. (CNI) and will require those who use it to take a short test at the dealership before sale.

Use of products containing propicaozole will be problematic in 2016 based upon issues with the European Union. The decision by Syngenta Crop Protection to suspend sales of Tilt/Bravo coupled with the decision by companies like Golden Peanut and Birdsong to not accept products treated with propicazole and phosphite materials will affect our peanut growers. Below are recommendations that can be made to growers.

1. The only soilborne/white mold fungicide affected by the propiconazole issue has been Artisan. Artisan is a pre-mix of flutolanil and propiconazole. Growers can EASILY replace Artisan in their disease management program by selecting Convoy (flutolanil) and spiking with an appropriate leaf spot material. Use of Convoy maintains the efficacy of the flutolanil chemistry and adds flexibility in choice of leaf spot fungicide.

2. Phosphite/phosphorous acid-fungicides have been the products of choice for management of Pythium pod rot. If growers are a not allowed to use a phosphite for control of this disease, azoxystrobin (Abound and generics) may offer some limited benefit.
3. Loss of propiconaozle will affect leaf spot programs for many growers. Below are alternatives for use of Tilt/Bravo.

- Growers can replace Tilt/Bravo with Bravo (1 pt/A) + Alto (5.5 fl oz/A). The active ingredient in Alto is cyproconazole.
- Growers can replace Tilt/Bravo with chlorothalonil (1 pt/A) and Eminent (7.2 fl oz/A). The active ingredient in Eminent is tetraconazole; tetraconazole is not active against soilborne diseases.
- Growers can replace Tilt/Bravo with chlorothalonil (1 pt/A) and Topsin-M (5-10 fl oz/A). Note a tank-mix of chlorothalonil + Topsin-M should not be used more than twice per season.
- Growers can replace two early-season applications of Tilt/Bravo with a single application of Priaxor (6 fl oz/A) at approximately 40 days after planting.
- Growers can cautiously replace Tilt/Bravo with Absolute (3.5 fl oz/A). Absolute, from Bayer CropScience, is a premix of trifloxystrobin and tebuconazole.

4. Special notes on leaf spot control for 2016.

- Growers who apply Proline (5.7 fl oz/A) in-furrow at planting can expect some limited early-season benefit for leaf spot control as well. Though this WILL NOT replace a fungicide application for leaf spot control, it will help to a limited degree.
- Growers who apply Proline as an early-season white mold application (e.g., 21 days after planting) will not need to apply another leaf spot fungicide until at least 45 days after planting.
- Growers who plant varieties in 2016 that are VERY susceptible to leaf spot, e.g., 'Georgia-13M' and TUFRunner™ '511' are advised when using strobilurin fungicides (like Abound and generic formulations of azoxystrobin) to tank-mix additional an additional fungicide for leaf spot control.

5. Lastly, included below is a preliminary list of fungicides that are not to be applied to peanuts for sale to at least one company in the peanut shellers/industry. It is likely appropriate for ALL shellers. These fungicides contain either propiconazole or a phosphite material. Fungicides not included on the list are Topaz, Agri-fos, and ProPhyt (phosphite materials) and Protocol, Propimax, Tilt and Bumper (propiconazole materials).

The below was included in Peanut Pointers with the permission of Birdsong Peanuts.

CONNECTION WITH THE GROWING OF PEANUTS FOR BIRDSONG, THE FOLLOWING IS A LISTING (NOT INTENDED TO BE AN EXHAUSTIVE OR COMPLETE LISTING) OF PRODUCTS CONTAINING CHEMICALS THAT MAY NOT BE APPLIED TO YOUR 2016 PEANUT CROP

Artisan	Nichino America, Inc.
Appear	Syngenta Crop Protection, LLC
Catamaran	Luxembourg-Pamol, Inc.
Confine Extra	Winfield Solutions, LLC
Fiata Stressgard	Bayer Environmental Science
Fosphite	JH Biotech, Inc.
Fungi-Phite	Plant Protectants LLC
Helena ProPhyt	Helena Chemical Company
K-Phite 7LP	Plant Food Systems
K-Phite7LP (CA)	Plant Food Systems
K-Phite 7LP T&O	Plant Food Systems
Montero	Novartis Crop Protection, Inc.
OxiPhos	BioSafe Systems
Phiticide	Drexel Chemical Company
Phoenix Jetphiter	United Phosphorus, Inc.
Phostrol	Nufarm Americas Inc.
Quali-Phite F	Control Solutions Inc.
Quanta	Helena Chemical Company
Rampart	Loveland Products, Inc.

Rampart T&O	Loveland Products, Inc.
Reliant	Quest Products Corp.
Resist 57	Actagro LLC
Reveille	Helena Chemical Company
TiltBravo	Syngenta Crop Protection, LLC
Viathon	Helena Chemical Company
Viathon (CA, NY & WA)	Helena Chemical Company
Whippet Fungicide	ArborSystems

UGA Note: Some other phosphite/phosphorous products not included in this list are Topaz, Agri-fos and Prophyt. Other propiconazole products not included are Tilt, Propimax and Protocol.

Peanut Thrips Management 2016
Dr. Mark Abney, Extension Entomologist

Peanut seed are going in the ground in Georgia, and that means thrips and thrips management questions are coming. The following is an updated version of the thrips management summary for 2016. This list is not all inclusive, but it provides information about some of the more popular management practices.

1. **Phorate (Thimet 20G) in furrow:** Thimet has been around for a long time, and we have years (decades really) of data that show Thimet does a good job of reducing thrips injury and that it can also reduce the incidence of tomato spotted wilt virus. Thimet is an organophosphate insecticide, and as with all pesticides, growers should read and follow label instructions carefully. Some phytotoxicity (aka "Thimet burn") is commonly observed when Thimet is applied to peanut, but this injury has not been associated with lost productivity.

2. **Thiamethoxam (CruiserMaxx Peanut) seed treatment:** Thiamethoxam is the active ingredient in CruiserMaxx Peanut seed treatment. Growers should be aware that moderate to severe thrips feeding injury has been observed on thiamethoxam treated peanut when thrips pressure is high. While we do not currently recommend an automatic foliar insecticide application for thrips on CruiserMaxx Peanut, we highly recommend that growers regularly scout their fields for the presence of adult and immature thrips beginning soon after seedling emergence. The presence of reproducing thrips may signal the need for a foliar insecticide application. Thiamethoxam does not reduce the risk of tomato spotted wilt in peanut.

3. **Imidacloprid (Admire Pro, Velum Total, various generics) liquid in-furrow:** Imidacloprid applied as a liquid in the furrow at planting has given good control of thrips in trials at UGA and other Southeastern universities in recent years. Imidacloprid has been shown to be compatible with most liquid inoculants and fungicides (not all combinations of products have been tested). Like thiamethoxam, imidacloprid will not reduce the risk of tomato spotted wilt in peanut. Growers should also take careful note of the formulation of the product they plan to use as rates vary by formulation. Applying a 2F product at a 4F product rate will result in significantly less active ingredient than the label recommendation. Velum Total contains both imidacloprid and an active ingredient targeting nematodes. Growers who want to use imidacloprid for thrips but who do not have a nematode problem do not need to invest in the additional AI, but should choose a stand-alone imidacloprid product (e.g. Admire Pro).

NOTE ABOUT INSECTICIDE RESISTANCE: Thiamethoxam and imidacloprid are in the neonicotinoid class of insecticides. Populations of tobacco thrips with reduced susceptibility to neonicotinoids were documented in 2015. No control failures have been reported in Georgia to date. Resistance monitoring will continue in 2016.

4. **Acephate (Orthene) foliar spray:** Orthene will still kill thrips, and we use it regularly in GA when at-plant insecticides "run out of steam". The problem associated with leaving off an at-plant application in favor of a foliar spray alone is timing. This approach requires careful scouting (something that is much less common on our peanut acreage than it should be) and the ability to get into the field on short notice to make an application. Given the hectic schedule of most growers in the spring and the potential for unfavorable weather, being able to cover large acreage with a foliar application is a gamble most growers should avoid.

No matter what thrips management tactic is chosen, scouting is still a good idea. Nothing provides 100% control 100% of the time, and the only way to know if a problem is developing is to monitor fields regularly. Price of inputs will be an important factor in decision making in 2016. We need to be sure not to cut labeled rates in an effort to save money…reduced rates will likely lead to reduced efficacy and can ultimately cost more in supplemental treatments and/or lost productivity. Another thing to consider is that peanuts planted before May 10 are at an increased risk for tomato spotted wilt virus; none of the insecticides registered for thrips control in peanut will reduce the risk of the disease except Thimet.

SUMMARY OF SOUTH GEORGIA CROP ENTERPRISE ESTIMATES, 2016

By A.R. Smith, W.D. Shurley, UGA Extension Economists, Department of Agricultural & Applied Economics; and N.B. Smith, Clemson University Agribusiness Extension Crop Economist

April 2016												
Conventional Tillage	**IRRIGATED**					**NON-IRRIGATED**						
	Cotton	**Peanuts**	**Corn**	**Soybeans**	**Grain Sorghum**	**Cotton**	**Peanuts**	**Corn**	**Soybeans**	**Grain Sorghum**	**Int Mgmt Wheat**	**Wheat**
EXPECTED YIELD per ACRE	1,200 lbs	4,700 lbs	200 bu	60 bu	100 bu	750 lbs	3,400 lbs	85 bu	30 bu	65 bu	75 bu	55 bu
EXPECTED SEASON AVG PRICE	$0.70 /lb	$370 /ton	$4.25 /bu	$8.60 /bu	$4.04 /bu	$0.70 /lb	$370 /ton	$4.25 /bu	$8.60 /bu	$4.04 /bu	$5.00 /bu	$5.00 /bu
GROSS RETURN per ACRE	$840	$869	$850	$516	$404	$525	$630	$361	$258	$263	$375	$275
VARIABLE COSTS per ACRE												
Seed	101	103	94	50	21	101	103	51	50	13	51	31
BWEP	2					1						
Fertilizer & Lime*	115	64	245	65	137	86	64	95	65	86	108	79
Chicken Litter												
Chemicals	86	158	49	61	28	82	142	52	25	28	36	24
Custom Application												
Hand Weeding	15	15				15	15					
Scouting	10	10				10	10					
Fuel and Lube**	23	31	14	11	14	23	31	14	11	14	18	10
Repairs and Maintenance	31	46	19	15	19	31	46	19	15	19	19	12
Irrigation***	64	48	64	40	32							
Labor	26	31	13	10	13	23	31	13	10	13	15	8
Insurance	18	19	13	9	20	26	27	25	15	18	14	15
Land Rent												
Other												
Interest on Operating Capital	16	17	17	8	9	13	15	9	6	6	8	6
Gin & Warehouse (net after cottonseed)	-10					-7						
Drying and Cleaning		63	61		31		45	26		20	7	5
Marketing and Fees		15					11					
TOTAL VARIABLE COSTS per ACRE	$497	$620	$589	$269	$322	$405	$540	$303	$197	$215	$277	$188
RETURN ABOVE VARIABLE COST per ACR	$343	$249	$261	$247	$82	$120	$89	$58	$61	$47	$98	$87
BREAKEVEN PRICE (Variable Cost)	$0.41 /lb	$264 /ton	$2.94 /bu	$4.49 /bu	$3.22 /bu	$0.54 /lb	$318 /ton	$3.57 /bu	$6.55 /bu	$3.31 /bu	$3.69 /bu	$3.43 /bu
BREAKEVEN YIELD per ACRE (Variable Co	710 lbs	3,352 lbs	139 bu	31 bu	80 bu	579 lbs	2,917 lbs	71 bu	23 bu	53 bu	55 bu	38 bu
FIXED COSTS per ACRE												
Machinery and Equipment	150	136	67	57	65	150	136	67	57	65	66	42
Irrigation	125	125	125	125	125							
Buildings												
Miscellaneous Overhead	25	31	29	13	16	20	27	15	10	11	14	9
TOTAL SPECIFIED FIXED COSTS per ACRE	$300	$292	$222	$195	$206	$170	$163	$82	$66	$75	$80	$51
TOTAL COST EXCL. LAND & MGT per ACR	$796	$912	$811	$464	$528	$575	$704	$386	$263	$291	$356	$240
RETURN TO LAND AND MGT per ACRE	$44	-$43	$39	$52	-$124	-$50	-$74	-$24	-$5	-$28	$19	$35
BREAKEVEN PRICE (Total Costs)	$0.66 /lb	$388 /ton	$4.05 /bu	$7.74 /bu	$5.28 /bu	$0.77 /lb	$414 /ton	$4.54 /bu	$8.77 /bu	$4.47 /bu	$4.75 /bu	$4.36 /bu
BREAKEVEN YIELD per ACRE	1,138 lbs	4,934 lbs	191 bu	54 bu	131 bu	821 lbs	3,799 lbs	91 bu	31 bu	72 bu	71 bu	48 bu

* Expected fertilizer $/lb. of nutrient: **N= $0.47 P= $0.40 K= $0.35**

** Season Average Diesel fuel price: **$1.80** per Gallon

*** Average of diesel and electric irrigation application costs. Electric is estimated at $7/appl and diesel is estimated at $9/appl when diesel cost $1.80/gal.

UGA extension

SUMMARY OF SOUTH GEORGIA CROP ENTERPRISE ESTIMATES, 2016

By A.R. Smith, W.D. Shurley, UGA Extension Economists, Department of Ag. & Applied Economics; and N.B. Smith, Clemson University Agribusiness Extension Crop Economist

April 2016										
Strip-Tillage	**IRRIGATED**					**NON-IRRIGATED**				
	Cotton	**Peanuts**	**Corn**	**Soybeans**	**Grain Sorghum**	**Cotton**	**Peanuts**	**Corn**	**Soybeans**	**Grain Sorghum**
EXPECTED YIELD per ACRE	1,200 lbs	4,700 lbs	200 bu	60 bu	100 bu	750 lbs	3,400 lbs	85 bu	30 bu	65 bu
EXPECTED SEASON AVG PRICE	$0.70 /lb	$370 /ton	$4.25 /bu	$8.60 /bu	$4.04 /bu	$0.70 /lb	$370 /ton	$4.25 /bu	$8.60 /bu	$4.04 /bu
GROSS RETURN per ACRE	**$840**	**$869**	**$850**	**$516**	**$404**	**$525**	**$630**	**$361**	**$258**	**$263**
VARIABLE COSTS per ACRE										
Seed	111	103	94	50	21	111	103	51	50	13
Cover Crop Seed*										
BWEP	2					1				
Fertilizer & Lime**	115	64	245	65	137	86	64	95	65	86
Chicken Litter										
Chemicals	100	169	56	72	28	96	155	55	36	28
Custom Application										
Handweeding	15	15				15	15			
Scouting	10	10				10	10			
Fuel and Lube***	20	24	11	10	11	19	24	11	10	11
Repairs and Maintenance	29	38	16	14	15	29	38	16	14	15
Irrigation****	56	40	56	32	24					
Labor	22	25	10	9	10	20	25	10	9	10
Insurance	18	19	14	9	20	26	27	23	15	18
Land Rent										
Other										
Interest on Operating Capital	16	16	16	8	9	13	15	9	6	6
Gin & Warehouse (net after cottonseed)	-10					-7				
Drying and Cleaning		63	61		31		45	26		20
Marketing and Fees		15					11			
TOTAL VARIABLE COSTS per ACRE	**$503**	**$600**	**$581**	**$270**	**$306**	**$419**	**$531**	**$297**	**$205**	**$207**
RETURN ABOVE VARIABLE COST per ACRE	**$337**	**$269**	**$269**	**$246**	**$98**	**$106**	**$98**	**$64**	**$53**	**$55**
BREAKEVEN PRICE (Variable Cost)	$0.42 /lb	$255 /ton	$2.91 /bu	$4.50 /bu	$3.06 /bu	$0.56 /lb	$313 /ton	$3.50 /bu	$6.84 /bu	$3.19 /bu
BREAKEVEN YIELD per ACRE (Variable Cos	718 lbs	3,246 lbs	137 bu	31 bu	76 bu	599 lbs	2,869 lbs	70 bu	24 bu	51 bu
FIXED COSTS per ACRE										
Machinery and Equipment	134	111	59	54	56	139	111	59	54	56
Irrigation	125	125	125	125	125					
Buildings										
Miscellaneous Overhead	25	30	29	13	15	21	27	15	10	10
TOTAL SPECIFIED FIXED COSTS per ACRE	$284	$266	$213	$192	$196	$160	$137	$74	$64	$66
TOTAL COST EXCL. LAND & MGT per ACRE	**$787**	**$866**	**$794**	**$462**	**$502**	**$579**	**$669**	**$371**	**$269**	**$274**
RETURN TO LAND AND MGT per ACRE	**$53**	**$3**	**$56**	**$54**	**-$98**	**-$54**	**-$39**	**-$10**	**-$11**	**-$11**
BREAKEVEN PRICE (Total Costs)	$0.66 /lb	$368 /ton	$3.97 /bu	$7.70 /bu	$5.02 /bu	$0.77 /lb	$393 /ton	$4.37 /bu	$8.97 /bu	$4.21 /bu
BREAKEVEN YIELD per ACRE	1,124 lbs	4,682 lbs	187 bu	54 bu	124 bu	827 lbs	3,610 lbs	87 bu	31 bu	68 bu

* Value only if cover crop is not harvested, i.e. wheat for grain, etc.

** Expected fertilizer $/lb.of nutrient: **N= $0.47 P= $0.40 K= $0.35**

*** Average of diesel and electric irrigation application costs. Electric is estimated at $7/appl and diesel is estimated at $9/appl when diesel cost $1.80/gal.

**** Season Average Diesel Fuel Price: **$1.80** per Gallon

UGA extension

Ten Civilizations or Nations That Collapsed From Drought
By: Jeff Masters, March 21, 2016
Weather Underground

Drought is the great enemy of human civilization. Drought deprives us of the two things necessary to sustain life--food and water. When the rains stop and the soil dries up, cities die and civilizations collapse, as people abandon lands no longer able to supply them with the food and water they need to live. While the fall of a great empire is usually due to a complex set of causes, drought has often been identified as the primary culprit or a significant contributing factor in a surprising number of such collapses. Drought experts Justin Sheffield and Eric Wood of Princeton, in their 2011 book, Drought, identify more than ten civilizations, cultures and nations that probably collapsed, in part, because of drought. We should not grow overconfident that our current global civilization is immune from our old nemesis--particularly in light of the fact that a hotter climate due to global warming will make droughts more intense and impacts more severe. So, presented here is a "top ten" list of drought's great power over some of the mightiest civilizations in world history--presented chronologically.

C**ollapse #1. The Akkadian Empire in Syria, 2334 BC – 2193 BC.** In Mesopotamia 4200 years ago, the great Akkadian Empire united all the indigenous Akkadian-speaking Semites and the Sumerian speakers, and controlled Mesopotamia, the Levant, and parts of Iran, sending military expeditions as far south as present-day Oman. A team of researchers discovered a large increase in dust 4200 years ago that likely coincided with a 100-year drought that brought a 30% decline in precipitation to Syria. The drought, called the 4.2 kiloyear event, is thought to have been caused by cooler sea surface temperatures in the North Atlantic. In this image, we see Stele of Narâm-Sîn, king of the Akkadian Empire, celebrating his victory against the Lullubi from Zagros. Limestone, c. 2250 BC, Louvre Museum. Image credit: Marie-Lan Nguyen.

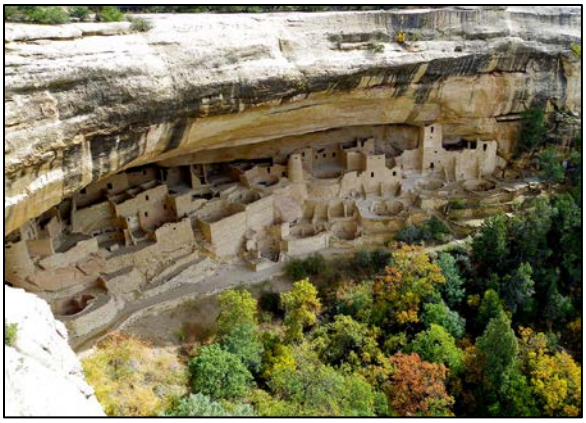
Collapse #2. The Old Kingdom of ancient Egypt, 4200 years ago. The same drought that brought down the Akkadian empire in Syria severely shrank the normal floods on the Nile River in ancient Egypt. Without regular floods to fertilize the fields, poor harvests led to reduced tax income and insufficient funds to finance the pharaoh's government, hastening the collapse of Egypt's pyramid-building Old Kingdom. An inscription on the tomb of Ankhtifi during the collapse describes the pitiful state of the country when famine stalked the land: "the whole country has become like locusts going in search of food…" In this image, we see two great structures from the Old Kingdom: The Pyramid of Khafre and the Great Sphinx of Giza. Image credit: wunderphotographer Jeff41.

Collapse #3. The Late Bronze Age (LBA) civilization in the Eastern Mediterranean. About 3200 years ago, the Eastern Mediterranean hosted some of the world's most advanced civilizations. The Mycenaean culture was flourishing in Greece and Crete. The chariot-riding Hittites had carved out a vast empire encompassing a large part of Asia Minor and the Middle East. In Egypt, the New Kingdom was at its height. However, around 1200 BC, these Eastern Mediterranean civilizations declined or collapsed. Researchers studying grains of fossilized pollen shows that this collapse coincided with the onset of a 300-year drought event. In this image, we see the fall of Troy (complete with the famed Trojan Horse), an event recounted in Greek mythology at the end of the Bronze Age, as represented by the 17th century painter Kerstiaen De Keuninck. Image credit: Wikipedia Commons.

Collapse #4. The Maya civilization of 250 – 900 AD in Mexico. Severe drought killed millions of Maya people due to famine and lack of water, and initiated a cascade of internal collapses that destroyed their civilization at the peak of their cultural development between 750 – 900 AD. In this image, we see the Mayan ruins at Xunantunich. Image credit: wunderphotographer novembergale.

Collapse #5. The Tang Dynasty in China, 700 – 907 AD. At the same time as the Mayan collapse, China was also experiencing the collapse of its ruling empire. The Tang Dynasty--a golden age of literature and art in Chinese civilization--began to weaken in the eighth century and fully collapsed in 907 AD. Sediments from Lake Huguang Maar in China indicate a sudden and sustained decline in summertime monsoon rainfall. Agriculture in China depends upon the summer monsoon, which supplies about 70% of the year's rain in just a few months. In this image, we see the world's largest sitting Buddah, the 71-metre (234-feet) tall Leshan Giant Bubbha, built in 713 AD in the Chinese Tang Dynasty, in China's southwestern city of Leshan, in Sichuan province. Image credit: Liu Jin/AFP/Getty Images.

Collapse 6. The Tiwanaku Empire of Bolivia's Lake Titicaca region, 300 – 1000 AD. The Tiwanaku Empire was one of the most important South American civilizations prior to the Inca Empire. After dominating the region for 500 years, the Tiwanaku Empire ended abruptly between 1000 – 1100 AD, following a drying of the region, as measured by ice accumulation in the Quelccaya Ice Cap, Peru. Sediment cores from nearby Lake Titicaca document a 10-meter drop in lake level at this time. In this image, we see tourists exploring the Tiwanaku archaeological site in Tiahuanaco, Bolivia. Image credit: AIZAR RALDES/AFP/Getty Images.



Collapse 7. The Ancestral Puebloan (Anasazi) culture in the Southwest U.S. in the 11th – 12th centuries AD. Beginning in 1150 AD, North America experienced a 300-year drought called the Great Drought. This drought has often been cited as a primary cause of the collapse of the ancestral Puebloan (formally called Anasazi) civilization in the Southwest US and abandonment of places like the Cliff Palace at Mesa Verde National Park in Colorado. The Mississippian culture, a mound-building Native American civilization that flourished in what is now the Midwestern, Eastern, and Southeastern United States, also collapsed at this time. Cliff Palace image credit: wunderphotographer Amtnspirit.

Collapse #8. The Khmer Empire based in Angkor, Cambodia, 802 – 1431 AD. The Khmer Empire ruled Southeast Asia for over 600 years but was done in by a series of intense decades-long droughts interspersed with intense monsoons in the fourteenth and fifteenth centuries. The climatic evidence comes from a seven-and-a-half century reconstruction from tropical southern Vietnamese tree rings. In this image, we see the ruins of Baphuon, a temple-mountain dedicated to the Hindu God Shiva in Angkor. Image credit: Jean-Pierre Dalbéra.

Collapse #9. The Ming Dynasty in China, 1368 – 1644 AD. China's Ming Dynasty--one of the greatest eras of orderly government and social stability in human history--collapsed at a time when the most severe drought in the region in over 4000 years was occurring. Speculation is that a weakened summer monsoon driven by warm El Niño conditions in the Eastern Pacific was responsible for the intense drought, which led to widespread famine. An inscription found carved on a wall of Dayu Cave in the Qinling Mountains of Central China dated July 10, 1596, during the 24th year of the Ming Dynasty's Emperor Wanli, said: “Mountains are crying due to drought.” Image credit: L. Tan.

Collapse #10. Modern Syria. Syria's devastating civil war that began in March 2011 has killed over 300,000 people, displaced at least 7.6 million, and created an additional 4.2 million refugees. A key contributing factor in the civil war was the nation's devastating drought that began in 1998. The drought brought Syria's most severe set of crop failures in recorded history, which forced millions of people to migrate from rural areas into cities, where conflict erupted. This drought was almost certainly Syria's worst in the past 500 years and likely the worst for at least the past 900 years. In this image, we see Kurdish Syrian girls among destroyed buildings in the Syrian Kurdish town of Kobane on March 22, 2015. Image credit: Yasin Akgul/AFP/Getty Images.

Rampaging Radioactive Wild Boars Causing Havoc

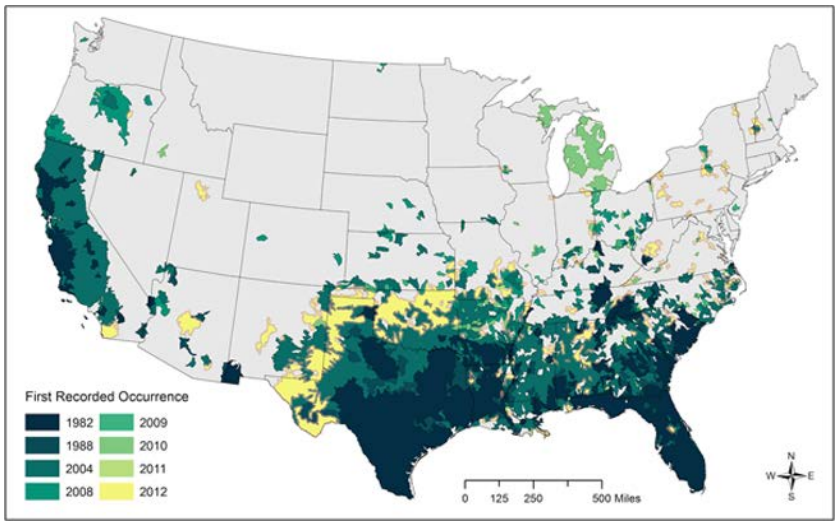
Lynne Hayes, Growing America

Friday, April 8th, 2016

As if a nuclear disaster wasn't overwhelming enough in the Fukushima region of Japan, now the farmers who live in the area are being overrun by wild boars—thousands of them—with razor sharp tusks. And to top it off, they're radioactive. In the four years since the disaster, the boar population has increased by 330 percent. In the 12 mile radius of the "exclusion zone" alone, there are an estimated 13,000 radioactive boars thriving.

Apparently, the boars have taken up residence in abandoned homes and are raising their litters there, according to scientists from the Fukushima University Environmental Radioactivity Institute. In an interview with Japanese newspaper, Mainichi, assistant ecology professor, Okuda Keitokunin, said, "Wild boar along have been taking advantage of the evacuation zone, entering vacant houses in areas damaged by the [disaster], and using them as breeding places or burrows."

Hunt them down and kill them you say? That hasn't been too effective. Starting as young as six months, female boars produce about 5 or more piglets per litter and in a good year can have 2 or more litters. Plus, they're full of radiation, so not only can't they be eaten, they must be buried in concrete pits much like any disposed of radioactive material. That has created an even bigger problem in Japan—mass graves that were built to hold 600 boars each are already full and there is a shortage of people qualified to cremate them.



Before you breathe a sigh of relief that wild boars are someone else's problem, consider this. Though not radioactive, according to the USDA, the United States is home to more than 5 million feral hogs. These 'cousins' of the wild boar are capable of devastating damage to crops and can seriously upset the balance of our ecosystem.

Feral, or wild, hogs compete with native wildlife for hard mast (e.g., acorns from oak trees). They're known for carrying and transmitting more than 30 different kinds of diseases to humans, livestock and other wildlife. Their rooting speeds leaf litter decomposition, and the nutrient loss has a terrible impact on seedling survival. They also can make mincemeat out of wire goat and sheep fencing. What's more, their wallowing activity creates muddy runoff that can ruin creeks and streams.

As for crop damage, Wildlife Specialist Bronson Strickland, who works with Mississippi State's Center for Solving Human-Wildlife Conflicts, says they can destroy a crop before it is even out of the ground. "I know one farmer who just gave up trying to grow corn after a passel of hogs destroyed 210 acres while he was on vacation for a week," recalls Strickland. "Feral hogs can completely destroy a crop before the seed even germinates." To put it into even more perspective, Strickland says that 200-lb. hogs walking up and down the rows of planted seed can rip apart hundreds of acres in one night because they eat 3 to 5 percent of their body weight every day. According to an Associated Press report, that kind of damage adds up to a whopping $1.5 million annually.

Currently, feral hogs can be found in at least 39 states, with the highest population residing in Texas (around 2.6 million). And the news gets worse. A study by Texas A&M University found that the number of feral pigs in the state is likely to triple in five if serious efforts aren't made to reduce feral-pig populations. Unfortunately, our feral hogs are as difficult to kill as the wild boars of Fukushima. Recreational hunting of feral hogs might make for a fun afternoon, but it's absolutely ineffective at curbing the problem. The wild pig has no natural predator, and experts say you'd have to kill 70 percent of the population every year just to keep up with the birth rate.

So what is being done to stop the onslaught here in the U.S.? Trapping works well in areas with a moderate pig population, but wild pigs travel in large groups of 8 – 15 animals called “sounders” by the way. So it’s not easy to catch a bunch at once. Plus, pigs are darn smart, so they actually learn how to avoid traps if they have a close call. On a side note, according to a Texas A&M Extension FAQ, “wild pigs can run up to 30 mph. They can jump over fences less than 3 feet high and have ‘climbed’ out of pig traps with walls 5 to 6 feet high.” The best traps are circular—wild pigs will pile up in corners then climb over each other to escape.

Aerial shooting from helicopters has also been tried with some success. Texas agents kill 25,000 pigs a year and half of them are shot at from the sky. New Mexico has tried a method where they put a radio collar on one member of a sounder, and then let that pig lead them back to the larger group. State agents managed to kill 687 wild pigs in one year and actually wiped them from 10 of the 17 counties with pig populations. In Georgia, the state Departments of Agriculture and Natural Resources help match up farmers with hunters willing to help eliminate the hogs from their property through the Hunters Helping Farmers program.

One of the more innovative methods is getting the wild pigs to consume sodium nitrite in bait food (yes, the very preservative found in bacon). It’s been used with good success in Australia and New Zealand and is currently in trial use through a USDA program. A paper posted online by the USDA states, “The toxin, sodium nitrite, a common meat preservative that prevents botulism, had previously been shown to be a quick-acting and low-residue toxicant for feral pigs in Australia and has since been patented.”

With regard to crop damage and the environmental impact, individual states and the USDA have been working to collect data and distribute grants to fight them. In Alabama, the USDA's Natural Resources Conservation Service is giving farmers in 16 counties grants to help them fight the wild pig scourge. The $100,000 is Environmental Quality Incentives Program money for farmers in 16 counties through Alabama's Wild Pig Damage Management Program. As part of the public education effort, Mississippi State University has a Landowner Survey to collect data about hog damage from landowners to help shape programs in the future.

Wild hogs are an invasive species. The domesticated breed was brought to the US by Spanish explorers in the 1500s for hunting. Other settlers brought over their own pigs in the 1600s for food, allowing them to graze free-range. Of course, many took off for the hills. Years later, hunters brought the Eurasian wild boar to our country, also for sport. Then nature took its course, and the result of years of crossbreeding is the highly adaptable feral swine that’s wreaking havoc on our farmland today.

To learn more about our country’s feral pig problem and what you can do to help, be sure to check out http://wildpiginfo.msstate.edu/index.html