Ag Notes | Webster County and Stewart County | July 2016

Dates to Remember

Thursday, July 14
Sunbelt Ag Expo
Field Day
Moultrie

Saturday, October 15
Webster County 4-H
Fall Carnival

As Scheduled
One on one pesticide trainings

Disease Outlook

By Dr. Bob Kemerait, *Extension Plant Pathologist*

Peanut: We have entered the "danger zone" when management of leaf spot diseases and white mold becomes critical. These HOT temperatures and scattered rain showers coupled with irrigation can truly fuel a white mold outbreak. Also, now is a critical time in the management of leaf spot disease. Growers need to be prepared to use a TIMELY and APPROPRIATE fungicide program (e.g. based on Peanut Rx) to protect their crop. Dry weather can make white mold worse by inhibiting movement of the fungicide from leaves of the plant to the crown of the plant' the crown of the plant is a target for managing white mold. Timely irrigation, where available, is very helpful.

Cotton: With hot temperatures, growers may be more likely to note stress-symptoms resulting from damaged root and vascular symptoms caused by plant-parasitic nematodes and/or Fusarium wilt. While there is nothing to be done now, growers should note where nematodes and Fusarium wilt are causing damage in a field and let us help them make decisions for the next cropping season. PLEASE NOTIFY ME IF YOU FIND OR SUSPECT FUSARIUM WILT.

As the cotton crop continues to develop and approached bloom, remember that Target Spot can be a significant issue, especially along the Coastal Plain and where cotton vegetative growth is rank/excessive. Growers in such conditions, especially where target spot is currently detected or has been problematic in the past should consider options for management including timing of first application (as early as first bloom in some situations) and choice of fungicide.

BACTERIAL BLIGHT on cotton: We had a significant out-break of this disease in 2015, primarily on DPL 1454. We are now seeing it in 2016. It is too early to tell how much impact there will be for this season; if you find it let me know. We have nothing to spray to contain the disease- reducing leaf wetness periods (e.g. managing growth and irrigating at night) can help to slow the progress of the disease. I hope.

Corn: Southern rust is widely scattered across the Coastal Plain and I know that aggressive use of fungicides in early June helped to contain it and to slow the burn of the disease. Corn that has reached the dough stage and beyond is "safe"; later-planted corn is VERY MUCH at risk. **[We found a few "suspected" cases in Stewart and Randolph Counties but nothing confirmed. It's around.]**

Soybeans: We continue to follow the slow but sure development of soybean rust. It is my opinion that growers with good soybean yield potential should protect their crop no later than early pod set. Such a fungicide application can be timed with Dimilin and boron applications and JUST MAKE DOLLARS and SENSE.

Lesser Cornstalk Borers

By Dr. Mark Abney, *Extension Entomologist*

Over the last week I have received a number of calls and emails from agents, growers, and consultants indicating that LCB is becoming more prevalent in peanut fields. You will usually see lessers in the driest spots in the field first; look for plants that are wilted and/or have skips beside them and plants at the ends of rows. Checking these areas first can save a lot of scouting time…if the larvae are not here they are not very likely to be in other parts of the field.

LCB larvae are not always easy to find. Studies conducted in Alabama in the 1980's showed that the number of LCB moths in a field was a good predictor of future larval abundance. I am not sure we should go so far as to treat fields just because there are moths present, but we should be diligent about scouting for larvae in fields where we see moth activity.

LCB eggs take about 4 days to hatch, from hatch to pupa takes about 19 days, pupation lasts 9 days, and the adult female lives about a week and a half under hot conditions. A single female moth can lay up to 110 eggs.

Rainfall will help slow population growth, and we do not usually see LCB problems under pivots when adequate water is being applied. It is important to scout young peanuts under pivots as these fields will probably not be getting irrigated enough to keep the pest at bay. We do not want to see crown damage occurring in young irrigated peanuts. Once the water needs of the peanuts ramp up, vines lap the row middles, and pivots are running full steam, LCB should become rare in adequately irrigated fields.

For growers who plan to use a foliar insecticide for LCB control there are a couple things to keep in mind. Insecticides will not be effective if they do not reach the target. I would not bother spraying for LCB with less than 15 gallons of water per acre; 20 gallons would be better. I am not aware of any studies that have been done, but spraying at night would almost certainly increase the likelihood of killing LCB with foliar insecticide applications. I am fully aware that suggesting night sprays and increasing spray volumes will give most growers a case of indigestion, but these could be the difference between getting control and wasting time and money.

Georgia Planted Acres

Crop	2014	2015	2016
Cotton	1,380,000	1,130,000	1,300,000
Peanuts	600,000	785,000	765,000
Corn	350,000	330,000	400,000
Soybeans	300,000	325,000	265,000
Total	**2,630,000**	**2,570,000**	**2,730,000**

Source: USDA NASS Southern Region June Acreage Report, June 2016

Spittlebugs

By Dr. Lenny Wells, *Extension Pecan Specialist*

Spittlebugs can be quite obvious in an orchard when they move in. While spittlebug can be alarming, they almost never cause any economic damage, and growers should not worry about them in most cases. The spittlebug nymphs are found clustered together beneath the frothy mass you see at the base of nut clusters and on the ends of the branches. Two generations normally occur each season in the southeast. The bottom line here is that it takes a LOT of spittlebugs to do any economic damage. There is little evidence that spittlebugs damage a pecan crop. I know of an orchard that had a high spittlebug population nearly season long last year and made over 1400 lbs per acre without spraying for spittlebugs. Over the last 12 years I have only seen one case where spittlebug control was warranted. If you dig into the frothy mass of spittle and see the nut clusters becoming water soaked (not just wet, but the shuck tissue turning brown), control may be warranted because the nuts can become so water-soaked that they drop off. But again, it's a very rare occurrence that it becomes this bad. Imidacloprid is the material of choice for those who are determined to spray for this pest.

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Peanut Pointers
July 2016 – Volume 53 Number 7
Dr. Scott Monfort, editor

July Peanut Pointers
Dr. Scott Monfort, Extension Peanut Agronomist

July. We tend to think July is the half way mark for the season, but the truth is we have a long season ahead of us due to the late plantings throughout the state. There are many acres that are lapped and are setting pods, while others are barely 8 to 10 inches wide and struggling to grow. The good news is a majority of the crop looks good with a large part of the area receiving some rains over the last couple of weeks. However, there are many dry areas that need rain. In some of these areas, a few peanuts have stopped growing and blooming as well as showing signs of elevated leaf burn (with some leaf scorch) as a result of applications of different combinations of adjuvants, herbicides, fungicides, and foliar fertilizers being made in extremely hot and dry conditions (mid to upper 90's and bright sunny days). A few of these fields have lost more than a third of their leaves. You can caution growers regarding potential burn as a result of these applications, but it's not something you can eliminate due to weeds and diseases need to be addressed. One thing I noticed has been foliar fertilizers are being recommended in these situations to turn the dry land field around. The problem is the peanuts have shut down due to lack of moisture and are not going to recover until they receive rain. The use of the foliar fertilizer is only costing the growers money and adding to the excessive foliar burn. The best thing to do is to not add these products to their fungicide or herbicide applications under these conditions. Growers can also limit burn by not spraying during the middle of the day (again this might not be an option as growers have a lot of acres to cover).

Entomology
Dr. Mark Abney, Extension Entomologist

July is the month when the most serious insect problems in peanut usually begin to surface. Over the coming weeks we will be getting a lot of questions about three cornered alfalfa hoppers, foliage feeding caterpillars including redneck peanut worm, lesser cornstalk borers, two spotted spider mites, potato leaf hoppers, and just about anything else you can imagine that might possibly eat peanut plants or just hang out in a peanut field.

I can tell you now, that most of the questions we will get will not have easy answers. Some things that we do know are:

1. We tend to spray caterpillar infestations when they are below threshold. This may help us sleep better at night, but it does not provide economic benefit to the grower. If I had a nickel for every time I went to a field that was supposed to have 5 to 6 caterpillars per row foot only to find 1 or less, I would have a pocket full of nickels. There are a lot of factors that go into making insecticide applications in peanut, and not the least of these is when is the next scheduled fungicide application. It is almost always easier to make the decision to treat than not to treat, but we should try to help growers avoid unnecessary applications.

2. Spider mites have been hanging around on cotton this year, and they can devastate non-irrigated peanuts in hot dry years. We need to be diligent about checking peanuts for the first signs of spider mite infestations. Once mites are identified in a field, we should avoid the use of pyrethroids in that field and watch to see if the mites begin to spread. If mites are moving, and the forecast calls for continued hot dry weather it is time to treat. Coverage will be critical to achieving control. A miticide application in 10 gallons of water per acre is most likely a waste of time and money; increase the water, increase the pressure, kill the mites.

3. Three cornered alfalfa hoppers (TCAH) are going to be in fields. Our threshold work does suggest that this insect can cause yield reduction in peanut, but I have seen some very high yielding peanuts with a lot of TCAH stem girdles. If spider mites and TCAH are in the same field, let the TCAHs eat. Anything we spray on TCAH will

almost certainly make the mites worse, and that is not what we want to do. Otherwise, pyrethroids are still the first choice for TCAH in peanut. If you have fields where pyrethroids do not seem to provide good control of this insect please let me know.

4. I have received plenty of calls about lesser cornstalk borers in the last two weeks. The weather will be the biggest factor determining what happens from here. If it is hot and dry we could be in for problems; if we get some timely rain, populations are not likely to explode.

For timely updates about insect management in peanut subscribe to the Peanut Entomology Blog at http://blog.extension.uga.edu/peanutent/

Climate update for July and beyond

Pam Knox, Agricultural Climatologist

El Niño is now officially gone, and we are in neutral conditions. The question is: What happens next? In almost every case after a strong El Niño, the conditions swing quickly to the opposite phase, La Niña. And in fact, almost every single climate model used to predict El Niño and La Niña shows that La Niña is expected to occur by late summer and last through next winter. Most models indicate it is likely to be a moderate La Niña, which means the strongest effects will be seen in southern Georgia and surrounding areas, with fewer effects in the north. Statistically, we can look at the impacts of La Niña by looking at composites of past years when La Niña was present. They show that late summer, fall, and winter are all periods when precipitation is less than normal across most of Georgia, and with the dry, sunny conditions temperatures are likely to be above normal. This will most likely last until next spring, which could leave soil moisture lacking at the start of the next growing season in 2017. In addition, La Niñas are one of the key factors in the development of drought, and the recent droughts in 1998-2002, 2007-2009, and 2011-2013 were all during or at least were initiated by La Niña events. That means dryland producers will have to watch spring soil moisture conditions next year very carefully, and irrigators should expect to do more irrigation than usual next growing season.

The wild card in these predictions is the tropics. In neutral and La Niña years, the Atlantic tropical season tends to be more active than usual. If a tropical storm comes over your area, you could see a lot of rain over a short time period. Otherwise, dry conditions are more likely. No hurricane season predictions are currently capable of identifying where (or if) tropical systems will impact land, so you will need to watch that as the season progresses.

If you want to see some of the composites used to look at La Niña impacts, here are two sources I use:

http://www.cpc.noaa.gov/products/precip/CWlink/ENSO/composites/
http://agroclimate.org/tools/Regional-Yield-Maps/ and other online tools at that site

Keep in mind that every year is distinct and it is always possible for an individual year to go against the statistical probabilities.

Peanut Update: Midseason Disease Management Considerations

Dr. Bob Kemerait, Extension Plant Pathologist

For most peanut farmers in the state, the month of July marks the midway point of the season and a critical period to insure that the crop is protected from diseases like leaf spot, white mold, and Rhizoctonia limb rot. By this time, approximately 60 days after planting, the peanut plants have developed to a point where they are shaded by a significant canopy of foliage and the pegs and pods are present. The dense canopy not only traps humidity and extends leaf-wetness periods near the crown of the plant but also forms a barrier for movement of

fungicides to the same area. High humidity, extended leaf wetness, and barriers to fungicide deposition all add to conditions favorable for the development and spread of important diseases.

Our current weather forecast for much of Georgia includes very hot temperatures coupled with high humidity and chance for afternoon storms. These conditions are perfect for development and spread of white mold, perhaps the most important disease facing peanut farmers now. To make matters worse, extreme temperatures like we will experience this month may also create conditions favorable for "underground white mold" where symptoms of the disease (wilt, presence of white fungal growth) are less evident in the plants even as the disease destroys pods and pegs just below the soil surface.

The number one question we in UGA Extension are typically asked by peanut growers this time of year is, "Which peanut fungicide program is best?" The simple answer is, "The best fungicide program is one that includes fungicides appropriate for the disease risk and one that is timely and insures adequate coverage of the peanut plant." This is a very true statement. Unfortunately, what growers REALLY want is a "recipe" for choice of fungicide for each spray date.

In truth, there is no single best fungicide program for peanuts, but below is a list of pointers to consider in developing the best program for a specific field.

1. Use Peanut Rx to determine risk to leaf spot and white mold diseases. High risk fields require more aggressive fungicide programs.

2. Growers should carefully recognize that the variety planted in a field may increase (or decrease) risk to specific diseases. For example, 'Georgia-13M' and TUFRunner™ '511' are more susceptible to leaf spot. I would recommend that a leaf-spot fungicide program for such varieties would include products, or combination of products, that have both protective and systemic activity. I would also avoid a fungicide program that depends too heavily on strobilurin fungicides that are not pre-mixed or tank-mixed with fungicides of other modes of action. Planting a variety like 'Georgia-12Y' provides excellent resistance to leaf spot, white mold, and tomato spotted wilt but not to a Rhizoctonia limb rot. If a grower plants Georgia-12Y, he should use a fungicide program proven effective for management of limb rot.

3. Growers should include a "complete" fungicide program for management of leaf spot and soilborne diseases. The loss of propiconazole (Tilt, Bumper, etc.) complicates choices in a fungicide program, but there are good alternatives.

4. I cannot give a grower a single "best program". However, I can say that as long as the grower uses a complete fungicide program, stays on time and take measures to best time an application (days since last application, use of irrigation, approaching rain, nighttime sprays, etc.) that he can expect to be reasonable successful.

5. This is NOT to say that all fungicides are equally effective for disease control. With particular attention to white mold, tebuconazole may be inexpensive, but other chemistries can be more effective. I am particularly impressed these days by the activity of the SDHI class of fungicides (either alone or in combination with strobilurins) for the management of white mold).

6. Lastly, if a grower is not satisfied with the results of his fungicide program during the month of July, then he may consider switching to a more aggressive program. However, it is CRITICAL to stay ahead of disease midseason; falling behind now makes it very difficult to "catch up" and likely results in some yield loss.

Assess Disease Risk in Your Field and Develop a Peanut Rx

This worksheet will lead you through the four-step process of determining your disease risk level in order to customize a Peanut Rx™ for your individual field using the reverse side of this worksheet and with the assistance of your Syngenta representative.

For each of the risk index factors, identify which option best describes the situation for your field and add the index value associated with each choice to obtain your overall disease risk value. This worksheet does not contain all of the varieties included in the 2016 Peanut Rx or the notes that accompany each factor. To view the complete 2016 Peanut Rx, visit the University of Georgia peanut website at **www.ugapeanuts.com**.

Step 1: Assess Your Disease Risk

Variety Selection				
Variety[1]	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	
Bailey[3]	10	15	10	
Florida-07[2]	10	20	15	
Florida Fancy[2]	25	20	20	
FloRun™ '107'[2]	20	25	20	
Georgia-06G	10	20	20	
Georgia-07W	10	20	15	
Georgia-09B[2]	20	25	25	
Georgia-12Y	5	15	10	
Georgia-13M1,2	10	30	25	
Georgia-14N[1,2,4]	10	15	15	
Georgia Green	30	20	25	
Georgia Greener[3]	10	20	20	
Tifguard[4]	10	15	15	
TUFRunner™ '297'[1,2]	15	25	20	
TUFRunner™ '727'[2]	20	15	15	
TUFRunner™ '511'[1,2]	20	30	15	

Planting Date				
Peanuts are planted:	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
Prior to May 1	30	0	10	0
May 1 to May 10	15	0	5	0
May 11 to May 31	5	5	0	0
June 1 to June 10	10	10	0	5
After June 10	15	10	0	5

Plant Population (final stand, not seeding rate)				
Plant stand:	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
Less than 3 plants/ft	25	NA	0	NA
3 to 4 plants/ft (3)	10 (15)	NA	0 (0)	NA
More than 4 plants/ft	5	NA	5	NA

At-plant Insecticide				
Insecticide used	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
None	15	NA	NA	NA
Other than Thimet® 20G	15	NA	NA	NA
Thimet 20G	5	NA	NA	NA

Row Pattern				
Peanuts are planted in:	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
Single rows	10	0	5	0
Twin rows	5	0	0	0

Tillage				
Tillage type	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
Conventional	15	10	0	0
Reduced	5	0	5	5

Classic® Herbicide				
Classic usage	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
Classic applied	5	NA	NA	NA
No Classic applied	0	NA	NA	NA

Crop Rotation (with a non-legume crop)				
Years between peanut crop	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
0	NA	25	25	20
1	NA	15	20	15
2	NA	10	10	10
3 or more	NA	5	5	5

Field History				
Have you had a problem controlling these diseases?	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
No	NA	0	0	0
Yes	NA	10	15	10

Irrigation				
Does the field receive irrigation?	Spotted Wilt Points	Leaf Spot Points	Soilborne Disease Points	
			White Mold	Limb Rot
No	NA	0	0	0
Yes	NA	10	5	10

[1] Adequate research data is not available for all varieties with regards to all diseases. Additional varieties will be included as data to support the assignment of an index value are available.
[2] High oleic variety
[3] Varieties Georgia Greener and Bailey have increased resistance to *Cylindrocladium* black rot (CBR) than do other varieties commonly planted in Georgia.
[4] Tifguard has excellent resistance to the peanut root-knot nematode.

Step 2: Calculate Your Severity Points

Fill in the following table to calculate your severity points for each of the four major peanut diseases given the 10 determining factors. Total each column to establish your disease index values.

	Spotted Wilt	Leaf Spot	White Mold	*Rhizoctonia* Limb Rot
Variety				
Planting Date				
Plant Population				
At-plant Insecticide				
Row Pattern				
Tillage				
Classic Herbicide				
Crop Rotation				
Field History				
Irrigation				
Your Total Index Value				

Step 3: Interpret Your Index Values

Once you've calculated your index values, utilize the following information to interpret your risk level situation.

	Spotted Wilt	Leaf Spot	White Mold	*Rhizoctonia* Limb Rot
Low Risk	≤ 65	10-35	10-25	TBD
Moderate Risk	70-110	40-60	30-50	TBD
High Risk	≥ 115	65-100	55-80	TBD

When tomato spotted wilt virus incidence is high statewide or in your region, even fields with a low risk level may experience significant losses. Consider the following recommendations to reduce your spotted wilt risk level:

- Use less susceptible varieties
- Adjust your planting date
- Consult the complete Peanut Rx for additional options that may also provide limited benefit

Step 4: Develop Your Peanut Rx

Once you have calculated your total risk for each fungal disease, utilize the most conservative fungicide program as your guide for customizing a per-field prescription spray program with the assistance of your Syngenta representative. Syngenta-recommended fungicide spray programs for each risk level are included on the reverse side of this worksheet.

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The Most Extreme Rainfall in All 50 States
Brian Donegan, June 29, 2016

After the recent flooding in West Virginia (third deadliest in West Virginia history), many are probably wondering how much rain can fall where they live. The highest 24-hour rainfall totals on record for each state, according to the National Oceanic and Atmospheric Administration (NOAA), may be surprising.

Heavy rainfall and flooding should be taken seriously. Flooding has killed an average of 82 people per year, according to NOAA, making it the second most deadly weather-related hazard over the last 30 years, just behind heat. Almost half of all flash-flood deaths occur in motor vehicles. You should never drive into flooded areas, as it only takes 18 inches of water to float a typical vehicle.

It is no surprise that the states with the most extreme 24-hour rainfall totals are located in the Southeast and along the Gulf Coast, as these are the areas most likely to take a direct hit from a tropical storm or hurricane.

The most extreme 24-hour rainfall total on record in the U.S. is 42.0 inches near Alvin, Texas, between 7 a.m. July 25 and 7 a.m. July 26, 1979. This absurd amount of rain was in conjunction with Tropical Storm Claudette. Surprisingly, that 42-inch amount may actually be a bit low, as the weather observer reported his rain gauge overflowing at the 1 a.m. reading. The 43 inches of rain from Tropical Storm Claudette is typically acknowledged as the U.S. national record 24-hour precipitation amount, but that value was estimated in a post-storm survey and is, therefore, not used in this analysis.

The second highest 24-hour rainfall total on record in the Lower 48 is 32.5 inches, measured at Dauphin Island Sea Lab in Alabama between July 19-20, 1997, and associated with Hurricane Danny. This is the greatest 24-hour rainfall that has been directly observed at an officially-established observation station within the contiguous U.S., though higher "unofficial" totals have been measured like the one in Texas.

Georgia's highest 24-hour rainfall total occurred on July 5 – 6, 1994 in Americus and was associated with Tropical Storm Alberto. Over the course of four days after landfall, the forward motion slowed and stopped, only to loop back over the same area. Over 27 inches fell in Americus during the entire event.

Some of the lowest extreme rainfall totals are in the Northern Plains, Rockies and Great Basin. For example, the most extreme 24-hour rainfall total on record in Utah is only 5.1 inches, the lowest of all 50 states. This is because these areas are well-removed from ocean influences, including tropical storms and hurricanes, and have a rather dry climate overall.

Most of the Northeast has 24-hour rainfall extremes between 10 and 15 inches, with the exception being Massachusetts at 18.2 inches. Additionally, these extremes generally took place during the summer months or early in the fall.

In the Southeast, the 24-hour rainfall extremes are mainly between 20 and 25 inches. The exception there is South Carolina with a 24-hour extreme of 14.8 inches, observed at Myrtle Beach and associated with Hurricane Floyd on Sept. 16, 1999.

Remember, all it takes is one tropical system or a line of training thunderstorms to put any of these records in jeopardy. Never underestimate the power of flooding and the damage it can cause.


Photo credit: Niki Whitley


Photo credit: Suzanne O'Connell

Journeyman Farmer
Certificate Program

UGA Extension is launching the ***Journeyman Farmer*** program that provides a comprehensive training for beginning farmers. The program includes a three step training:

Step 1 - Small Farm Business Planning
Step 2 - Vegetable Production
Step 3 - Hands-on Production

Sign Up **Now** for the 1st Step - **Small Farm Business Planning**!
Spaces are limited.

Journeyman Farmer
Certificate Schedule:

Small Farm Business Planning:
August 2016 in Dougherty County

Vegetable Production:
January 2017 in Dougherty County

More Information at:
www.SustainAgGA.org

WHEN:
4-Day training.
Tues., Aug. 16, 9am – 12pm
Thurs., Aug. 18, 9am – 12pm
Tues., Aug. 23, 9am – 12pm
Thurs., Aug. 25, 9am – 12pm

WHERE:
Dougherty County Extension
125 Pine Ave., Candy Room
Albany, GA 31701

TO REGISTER: Contact Dougherty County Extension Office (229) 436-7216

Supported by: USDA NIFA

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Causes of Bermudagrass Decline

By Carole Knight
Bulloch County CEA

Bermudagrass decline is a term that broadly describes the gradual thinning and sometimes the outright loss of grass stands over time. The term is broad because the problem is often linked to several different causes. These primary causes are often exacerbated by extreme environmental stresses like drought, heavy rainfalls, harsh winters, and late spring freezes. Let's look at some of the primary causes.

Poor Fertility
Probably the number one cause of bermudagrass stand decline is the lack of an appropriate fertility program. Although nitrogen (N) is an important nutrient in forage production, it is often the only nutrient applied. Potassium (K) and Phosphorus (P) are essential for forage production and persistence. Grass requires phosphorus for photosynthesis, energy, cell division, carbohydrate production, protein synthesis, root development and early growth, winterhardiness, and nitrogen fixation. Potassium plays an equally, if not more important role in improving the crop's tolerance to drought, minimizing susceptibility to disease, and promoting rhizome and stolon production. In most cases potassium is the limiting factor in a forage fertility program.

Low Soil pH
Low soil pH causes a problem by creating the opportunity for toxic levels of certain nutrients, such as aluminum, to be absorbed by the plant. This can burn back fine root hairs and prevent root growth. Low soil pH also reduced the availability of other important nutrients, such as phosphorus, potassium, magnesium, calcium, and others. Essentially, low soil pH staves the plant of water and other nutrients.

Overgrazing / Mowing too close
When pastures are overgrazed, it places excessive pressure on forage resources. Heavy, continuous grazing can decrease plant vigor, just as mowing hayfields too closely can. Grass plants must be given adequate rest times between grazing / cuttings and be left with enough green leaf material to replenish depleted nutrient stores.

Soil Compaction
With frequent use of heavy machinery in hayfields and excessive animal foot traffic in pastures, soil compaction can become an issue. Georgia soil types, particularly in the Piedmont, can be low in organic matter and are predisposed to compaction. Compacted soil particles create a barrier holding air and water from passing through. It results in soil layers that are difficult for roots to penetrate and thus reduces grass productivity.

Overseeded Cool Season Forages
Many bermudagrass production systems utilize cool-season annual forages, like ryegrass to supplement nutrition programs in the fall and winter. In years where the ryegrass is extremely productive well into the time when bermudagrass begins to emerge from winter dormancy, it can compete with the bermuda for sunlight, moisture and nutrients. Particularly, a heavy growth of ryegrass during the spring can remove a large amount of potassium from the soil, thus reducing the amount available for the newly emerging bermudagrass.

Pest Pressure
Invasive weeds can dominate pastures, compete with grasses, and reduce the productive capability of bermudagrass. Insect infestations, like fall armyworms, grasshoppers, and grubs, can have a devastating effect on grass production and cause severe damage. Most often these pest pressures combines with other stressors, like drought and poor fertility, can lead to decline.

It is important to understand that the loss of bermudagrass stands is often a combination of numerous stressors that ultimately lead to grass death. Proper management and a good fertility program and help keep bermudagrass decline from becoming an issue. For more information on how to properly manage pastures and hayfields go to georigaforages.com or talk to your local county extension agent.