THE UNIVERSITY OF GEORGIA
COOPERATIVE EXTENSION
Colleges of Agricultural and Environmental Sciences & Family and Consumer Sciences

Randolph County Extension Office
uge4243@uga.edu
103 East Church St., P.O. Box 282
Cuthbert, GA 39840

Phone Number: (229) 732-2311
Fax: (229) 732-3393
E-mail: bhaddock@uga.edu
Website: http://www.ugaextension.com/randolph/
Buster Haddock Cell Phone: (229) 310-1441

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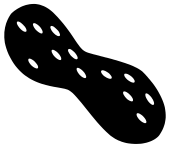
Randolph County Agricultural Newsletter

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Upcoming Dates

- **UGA Pecan Production Meeting** – Thursday, March 17th Dougherty County Extension Office125 Pine Avenue in Downtown Albany 6:30 pm - Sausages & Socializing 7:00 pm - Meeting begins - Dinner will be provided
- **3rd ANNUAL PEANUT PROUD FESTIVAL -** March 26 @ 10 a.m. - 4 p.m. Courthouse Square - Blakely

Current Climate Situation: The recent rains are certainly helping our groundwater situation, but we are still below average. We are still slated for La Niña and this prediction will be in effect until late spring before being re-evaluated. There are two schools of thought regarding what to expect. Many think it will change during early summer, but some research suggests that strong initial La Niña phases tend to last multiple years. The 30 day (from publication date) rainfall recorded at the USDA Multi-Crop Irrigation Research Farm in Shellman recorded 2.82” (30 year average is 5.24”) inches with a daily average temperature of 57.74ºF and an average daily maximum temperature of 71.21ºF. Average daily temperatures are about 2 degrees higher than the 30 year average. This eludes to the fact that we have moved away from the North Atlantic Oscillation and we are experiencing more traditional La Niña weather patterns. Rainfall totals are 50% lower than the 30 year average which is discouraging considering how much recharge is necessary to make it through the year. The average minimum temperature was 44.28ºF. The average 4” soil temperature over the last thirty days is 59.91ºF. The evapo-transpiration 30 day average is (.083) inches per day, which is below average. To monitor soil temperatures and weather information at various weather stations including the USDA Multi-Crop Irrigation Research Farm visit www.georgiaweather.net.

2011 Randolph County Extension Commodity Meetings Were A Success!!

WHEAT

Now Is The Time To Scout Wheat Fields For Diseases

By Buster Haddock

Wheat Stripe Rust is the most devastating of the diseases we face with wheat. It's an earlier season rust than the type we normally see. We need to be on the look out for it. We have had it here a few years ago bad enough to spray some fields with an early fungicide. It is an extremely aggressive disease You'll first see an area of the field looking yellowed and if you see this, go inspect it to see if rust is there. It'll come off yellowish on your hand if you rub over the affected spots. It is important to begin scouting our fields now for wheat diseases. A good practice is to scout them every three to five days. Make sure that when you are scouting **to look down into the canopy for disease** as it usually originates in the areas that don't dry easily, have low light and are cooler. If leaf rust is confirmed (prior to the boot stage) I would consider using a propiconazole (4 oz/ac) immediately then follow up with a low rate of strobilurin (ex. 6 oz Headline) at heading. If disease pressure continues to remain low then I would encourage growers to make a fungicide application at heading. In this case, I would price compare: Stratego 10 oz per acre, Quilt 10.5 to 11 oz per acre, Headline 9 oz or (Headline 6 oz + 2 oz Tilt) and use the most efficient application. An application at heading should protect the flag leaf and head throughout most of the important grain fill time. Stripe Rust is extremely aggressive and can have devastating affects on yield.

Other wheat diseases will also begin to "creep" up soon as well. Perhaps the most common for our area is **powdery mildew**. This disease is a white colored mold that will usually originate at the soil line and work it's way up the plant. It is not particularly destructive until it damages the flag leaf. It is important to note that 80-95% of the nutrition for the wheat plant comes from the flag leaf, so disease damage to it will result in direct yield losses. **Glume Blotch** is another damaging disease that attacks the leaves and wheat heads once emerged. Lesions (spots) are initially water-soaked and then become dry, yellow, and finally brown. Lesions are generally oblong, sometimes containing small black spore producing structures called pycnidia. The lesions are often surrounded by a yellow halo. Lower leaves are generally more heavily infected, with lesions joining together to cause entire leaves to turn brown and die. If pycnidia are present on lower leaves when the uppermost leaf and the head begin to emerge, infective spores will move to the top of the plant in splashing rain even after a brief shower. If disease pressure is low and the flag leaf is protected, then it is a good practice to wait until the head emerges to apply a fungicide so it will have some protection.

Wheat leaf rust is another destructive disease. It is not as aggressive as stripe rust, but it is more aggressive than powdery mildew. It is similar to strip rust, but it is a darker shade of orange. Leaf rust is particularly damaging to some varieties we grow here in Randolph County. I have noticed that Pioneer 26R61 is fair on leaf rust, but I noticed a field last year that was severely damaged by the disease so be on the lookout. **Take-all** is caused by the fungus *Gaeumannomyces graminis* var. *tritici*. The fungus survives in infected hosts and host debris. Infection can occur throughout the growing season, and ideal temperatures for infection range between 50-68 degrees F. The disease is favored by neutral to alkaline, infertile (nitrogen- and phosphorus-deficient), and poorly drained soils. Fields planted to wheat two or more years are at more risk than rotated fields. This fungal disease builds up in the soil when wheat is planted in the same field two or more years. So if you have had several crops of wheat in the same field this disease may be a consideration. Unfortunately, the best defense of this disease is a seed treatment which is not an option at this time.

Other diseases that we have problems with is **Barley Yellow Dwarf Virus**. This disease is probably the most widely distributed virus in wheat. It is estimated to reduce yields by 5 to 25% each year. Aphids acquire the virus by feeding on infected plants for very short periods and then move to other uninfected plants. Infection can occur any time when viruliferous aphids multiply and migrate in fields. Crop rotation is less effective for barley yellow dwarf because aphids can transmit the virus between fields, and many grasses on which the aphids feed also harbor the virus. Leaves will take on a yellow appearance with red tints around the edges of

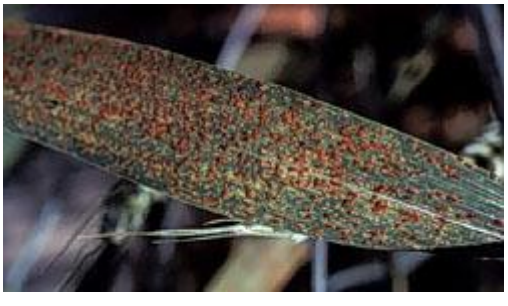
the leaves. I have noticed high numbers of aphids this year in wheat. In the past I have noticed that BYDV will show up in spots in the field. The best way to combat this disease is to control aphids by treating them when you are applying herbicides and fungicides.

A single, well-timed insecticide application of the insecticide lambda cyhalothrin (Karate Zeon, Silencer, and similar products) or gamma cyhalothrin (Declare) can control aphids, reduce the incidence of BYD and increase yields. In southern Georgia, the best treatment time usually is at full-tiller stage in early to mid-February. But, scout fields for aphids at 25 - 35 days after planting and during warm periods in January to determine if an insecticide application is needed. Lambda cyhalothrin / gamma cyhalothrin treatment at full tiller can be applied with top-dress nitrogen. OP insecticides, such as dimethoate and methyl parathion, also will control aphids but are not effective in preventing barley yellow dwarf infection. To sample aphids In spring, inspect 10 grain heads (+ flag leaf) per sample. Count all aphids on both the flag leaf and head for making control decisions. Sample plants at 8 to 16 locations per field. Treat when populations reach or exceed the following thresholds:

Stem elongation to just before flag leaf emergence: 2 aphids per stem.
Flag leaf emergence: 5 aphids per flag leaf.
Heading emergence to early dough stage: 10 aphids per head.
Do not treat for aphids after mid-dough stage.

Notice the charts below. They can be used to determine your own susceptibility to different diseases in different situations. Be sure to know your variety and what weaknesses it may have. Also be aware of the field and climate conditions that could bring certain diseases on.

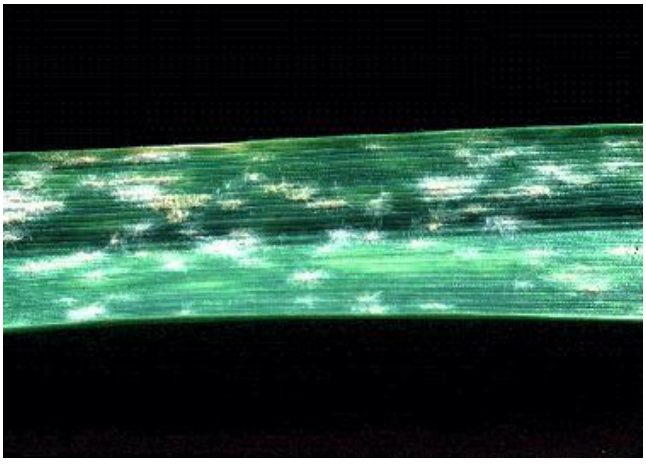
Stripe Rust of Wheat: notice the spores are aligned with the leaf veins.



Wheat Leaf Rust: It is a darker shade of orange than stripe rust.

Septoria Glume Blotch: Usually develops on lower leaves, but can eventually affect the wheat heads.

Barley Yellow Dwarf Virus: Is transferred by aphids ~ it is the most common wheat disease.



Powdery Mildew on wheat.

Table 1. Optimum temperature and moisture for the major diseases affecting wheat grown in Georgia DISEASE	**OPTIMUM MOISTURE**	**OPTIMUM TEMPERATURE**
Powdery Mildew	High Humidity	59-72
Leaf Rust	Free Moisture	59-72
Stripe Rust	Free Moisture	50-59
Leaf and Glume Blotch	Free Moisture	68-75
Take-All	Moist Soils	50-68

KNOW WHAT YOU PLANTED!!

Table 2. Characteristics of Recommended Varieties of Wheat													
		Resistance											
Variety	Planting Area1	Leaf Rust	Stripe Rust	Glume Blotch	Powdery Mildew	BYD	SBWM	Hessian Fly	Test Weight	Maturity	Straw Strength	Vernal Req	Awned
AGS 2000	S	fair	poor	fair	poor	fair	poor	good	good	medium	fair	short	Yes
AGS 2031	S	good	good	good	fair	fair	good	poor	good	medium	good	medium	No
AGS 2010	C	good	good	good	good	fair	good	good	good	medium	fair	med.lon g	No
AGS 2060	S	good	good	fair	fair	fair	good	good	good	early	fair	short	Yes
AGS 2020	S	good	good	good	good	fair	good	fair	good	early med	good	short	Yes
AGS 2026	S	good	good	good	good	fair	good	good	good	medium	fair	medium	No
AGS 2035	S	good	good	fair	fair	fair	good	good	good	medium	good	medium	Yes
Fleming	C	good	good	fair	good	poor	poor	fair	good	early	fair	Very short	Yes
Baldwin	C	good	good	good	fair	fair	good	good	good	med. Late	good	medium	Yes
P26R61	S	fair	goo	fair	poor	fair	good	good	good	mediu	good	mediu	Yes
SS 8641	S	good	good	fair	good	fair	good	good	good	medium	fair	med long	No
USG 3209	S	fair	good	fair	good	fair	good	poor	fair	medium	good	medium	No
USG 3592	P,M	good	poor	good	good	fair	good	fair	good	medium	fair	medium long	No
USG 3295	S	good	good	fair	good	fair	good	poor	good	medium	good	medium	No
Oglethorpe	S	good	good	good	fair	fair	good	good	good	medium	fair	medium	No
Coker 9553	P,M	good	good	fair	good	fair	fair	poor	good	early	good	medium long	Yes
Dominion	P,M	good	good	good	good	fair	good	poor	good	late	good	long	No
Jamestown	P,M	poor	good	fair	good	fair	good	poor	good	medium	good	medium	No
Magnolia	P, M	poor	good	fair	poor	fair	--	fair	good	medium	good	medium	Yes
SS 8308	P, M	poor	fair	good	fair	fair	good	good	good	medium	good	long	yes

**Recommended for use as forage only. 1. S=statewide, C=coastal plains only, P,M= piedmont and mountains

CORN

March Corn Planting

Dewey Lee

Soils are warming enough in some areas of south Georgia to establish corn however, I would not be in too much of hurry. Land preparation is behind due to recent rains and night and daytime temperatures have been slow to warm. Cold fronts have also been associated with these rainfalls, thus soil temperatures are slightly behind on average. Under these conditions, (cold, wet soils) growing degree (heat units) accumulation is minimal and seedling growth is slow. Poor root production, slow nutrient uptake, slow recovery to any injury (insect, nematodes, disease, and environment) typically increase when planting in cold, wet soils. In addition, more sidewall compaction occurs when planting in wet soils which further limit root growth. Hopefully, fields will begin drying soon. Encourage growers to begin the corn production season with good management practices. Have them review the following checklist.

1. **Make sure the soil pH is 6.0 or better.**

2. **Check soil temperatures.** They should be at least 55 to 60 degrees F at the 2 inch soil depth for 4 days in a row prior to planting. Soils in a conservation tillage system will be slightly cooler than conventional planting systems. Do not plant in wet soils as the planter coulters and press wheels can easily cause sidewall compaction and reduce early season root growth.

3. **Plant seed at least 1.5 to 2 inches deep**. Planting shallower can easily reduce nodal root production and subject them to excess wetting/drying events, herbicide and insect injury and sidewall compaction problems. This condition can lead to “rootless corn”.

4. **If nematodes** (root-knot, stubby roots, and sting) **are known to exist** in the field at damaging levels, then **apply an at-plant nematicide to reduce potential yield loss.** Seed treatments such as Poncho 250 or Cruiser do not have any activity on nematodes.

5. **Use the appropriate seeding rates** for the hybrids (based on company recommendations). If your yield goal is 200+ bushels and your irrigation abilities can meet the peak demand, then adjust the seeding rate to the highest recommended rate. Usually this will be 32,000 + kernels per acre. If your irrigation system can not meet the demand, then plant at the lower recommended rate for irrigated fields (26,000 to 28,000 kernels per acre). Planting rate recommendations most often range from 18,000 to 22,000 kernels per acre depending on soil types (sandy to clay, respectively).

6. **Use a starter fertilizer.** In reviewing most old literature, economic responses to starter fertilizer in corn did not always occur. All of the research work was conducted with late or long growing season hybrids. Today’s hybrids are shorter and accumulate growth more rapidly than hybrids 20 + years ago. Research today indicates in coastal plains soils, corn responds equally to nitrogen and phosphorus in early planted fields, particularly in very sandy soils. I suggest using 7 to 8 gallons of 32% or 28-0-05 with 6 to 7 gallons of 10-34-0 applied in a 2 X 2 configuration next to the row. Do not apply any closer as salt injury to the seedling roots can occur from the fertilizer.

8. **Plant slowly (2 to 4 mph).** Planting slowly improves depth control and seed placement. The best corn producers across the country insist that proper seed placement within the row is a key to successful high yield production. Slower planting improves singulation and individual seed placement and spacing in the row thus reducing intra-row competition.

Year	Planted Acres	Irrigated Acres	% Irr. Acres
2000	240,000	140,000	58
2001	220,000	120,000	55
2002	290,000	160,000	55
2003	290,000	155,000	53
2004	280,000	155,000	55
2005	230,000	125,000	54
2006	280,000	155,000	55
2007	530,000	290,000	55
2008	370,000	225,000	61
2009	420,000	285,000	68
2010	370,000	244,000	66

Table 3. Percent of Corn Crop Being dedicated to Irrigated Land in Georgia.

Table 8. Approximate Plant Populations at Various Row Widths and Plant Spacing within a row.

Within row Plant Spacing (inches)	Row Width in Inches				
	20	30	36	38	40
4.5			38,700	36,700	34,800
4.7			37,100	35,100	33,400
5.0		41,800	34,800	33,000	31,400
5.3		39,400	32,900	31,100	29,600
5.5		38,000	31,700	30,000	28,500
5.7		36,700	30,600	29,000	27,500
6.0		34,800	29,000	27,500	26,100
6.2		33,700	28,100	26,600	25,300
6.5		32,200	26,800	25,400	24,100
6.8		30,700	25,600	24,300	23,100
7.0		29,900	24,900	23,600	22,400
7.3		28,600	23,900	22,600	21,500
7.5		27,900	23,200	22,000	20,900
7.8	40,200	26,800	22,300	21,200	20,100
8.0	39,200	26,200	21,800	20,600	19,600
8.3	37,800	25,200	21,000	19,900	18,900
8.5	36,900	24,600	20,500	19,400	18,400
8.8	35,600	23,800	19,800	18,800	
9.0	34,800	23,200	19,400	18,300	
9.3	33,700	22,500	18,700	18,700	
9.5	33,000	22,000	18,300		
10.0	31,400	20,900			
10.3	30,500	20,300			
10.5	29,900	19,900			
10.7	29,300	19,500			
11.0	28,500	19,000			
11.5	27,300	18,200			
12.0	26,100				
12.5	25,100				
13.0	23,200				
13.5	23,200				
14.0					
14.5					
15.0					

Field Corn Weed Management Strategies

By Dr. Eric Prostko

The most effective weed management programs in corn use a combination of cultural, mechanical, and chemical control strategies. Cultural practices include such factors as planting date, planting rate, and row spacing. Cultural practices improve weed control by enhancing the competitive ability of the field corn.

Mechanical practices, such as cultivation, are a non-chemical method for controlling weeds between rows. A multitude of herbicides are labeled for use in field corn and can be applied preplant incorporated (PPI), preemergence (PRE), postemergence (POST), and post-directed (PDIR). A complete update on the herbicides recommended for use in Georgia can be found at the end of this section.

Atrazine

The foundation of weed management systems in all field corn production systems is atrazine. Atrazine provides broad-spectrum control of many weeds with excellent crop safety. Atrazine can be applied PPI, PRE, or POST (up to 12" tall). Numerous pre-mixtures are available that contain atrazine + a grass herbicide (Bicep, Bullet, Guardsman, Lexar, Lumax, etc). Generally, these pre-mixtures will provide broad spectrum weed control when applied PRE. However, they are usually not very effective for the control of Texas panicum. In order to protect both surface and groundwater, it is important to read and follow the label regarding the use of atrazine. When atrazine is applied PRE + POST, a total of 2.5 lb ai/A can be applied per year (2.5 qt/A of 4L or 44 oz/A of 90DF). When atrazine is applied only POST, a total of 2.0 lb ai/A can be applied per year (2 qt/A of 4L or 36 ozs/A of 90DF).

Herbicide/Insecticide Interactions

Growers who prefer or need to use organophosphate (OP) soil insecticides (Counter, Lorsban) should not apply certain postemergence herbicides if these insecticides are used or severe crop injury can occur. Herbicides that interact with OP soil insecticides include Accent, Basis Gold, Beacon, Callisto, Exceed, Option, and Steadfast. This interaction does not occur with other types of soil insecticides (Force, Furadan) or seed treatments (Poncho, Cruiser).

Herbicide/Disease Interactions

Growers who need to control johnsongrass should make sure that the planted corn hybrid has acceptable tolerance to maize dwarf mosaic virus (MDMV) and/or maize chlorotic dwarf virus (MCDV). Insect vectors (aphids, leafhoppers) will move from herbicide treated johnsongrass to the corn crop resulting in the increased incidence of these diseases.

Herbicide Resistant Weeds

Herbicide resistant weed species can become a serious problem in fields when a single herbicide or herbicides with similar modes of action are used repeatedly. This phenomenon has been documented in Georgia with Palmer amaranth (pigweed) and other weed species (Table 2). Populations of Palmer amaranth have been found in the state that are resistant to atrazine, glyphosate and/or ALS-inhibiting herbicides. Check with your county extension agent for updated information about the distribution of herbicide resistant weeds in your area.

Table 13. Herbicide Resistant Weeds in Georgia Weed	Year	Herbicide(s)	Site of Action
goosegrass	1992	Treflan	Tubulin protein
Prickly sida	1993	Scepter	ALS enzyme
Italian ryegrass	1995	Hoelon	ACCase enzyme
Palmer amaranth	2000	Cadre, Pursuit	ALS enzyme
Palmer amaranth	2005	glyphosate	EPSP synthase
crabgrass	2007	Poast	ACCase enzyme
Palmer amaranth	2007	atrazine	PS II
Italian ryegrass	2008	Osprey, PowerFlex	ALS enzyme

Table 14. Herbicide Programs for Managing Glyphosate and ALS-Resistant Palmer Amaranth in Field Corn.1 Corn Hybrid	Preemergence	Postemergence	Layby as needed
Conventional	Atrazine**	Prowl2 + Atrazine + Crop Oil	2,4-D5 or Banvel/Clarity4,5or Status10
Conventional	Bicep II Magnum3, or Bullet, or Guardsman, or Lariat, or Lexar	Atrazine or Banvel/Clarity4,5or 2,4-D5 or Aim or Callisto or Laudis or Status10	2,4-D5 or Banvel/Clarity4,5or Status10
Liberty Link	Atrazine**	Ignite + atrazine7	2,4-D5 or Banvel/Clarity4,5or Status10
Liberty Link	Dual II Magnum6 or Outlook or Micro-Tech	Ignite + atrazine7	2,4-D5 or Evik or Banvel/Clarity4,5or Status10
Roundup Ready	Atrazine**	glyphosate + atrazine or Banvel/Clarity4,5or Status10; Expert8 or Sequence9 or Halex GT11	2,4-D5 or Banvel/Clarity4,5or Status10
Roundup Ready	Bicep II Magnum3, or Bullet, or Guardsman, or Lariat, or Lexar at 66% normal rate	glyphosate + atrazine or Banvel/Clarity4,5or Status10; Expert8or Sequence9 or Halex GT11	2,4-D5 or Banvel/Clarity4,5or Status10

[1] Glyphosate- and ALS-resistant Palmer amaranth are very serious concerns. An aggressive management program is necessary to slow spread of resistant biotypes and to reduce selection pressure in areas currently not infested with resistant biotypes.

[2] Generic brands of Prowl (pendimethalin) are available and perform similarly.
Bicep II Magnum is a pre-mixture of *S*-metolachlor and atrazine. Less expensive, generic brands containing metolachlor and atrazine are available (Parallel Plus, Stalwart Xtra). These generic brands may not provide the same length of residual control as Bicep II Magnum (which contains *S*-metolachlor).

[3] Generic brands of Banvel (dicamba dimethylamine salt) are available and perform similarly.

[4] Use extreme caution to avoid drift to sensitive crops, such as cotton, tobacco, soybeans, and vegetables. Use only amine formulations of 2,4-D. Follow all label directions for drift management.

[5] Generic brands containing metolachlor are available (Me-Too-Lachlor-II, Parallel, Stalwart-C). However, these generic brands may not provide the same length of residual control as Dual II Magnum (*S*-metolachlor).

[6] Also available in a pre-mixture sold under the trade name of Liberty ATZ.

[7] Expert is a pre-mixture of glyphosate + *S*-metolachlor + atrazine.

[8] Sequence is a pre-mixture of glyphosate + *S*-metolachlor.

[9] Status is a pre-mixture of dicamba + diflufenzopyr + isoxadifen.

[10] Halex GT is a pre-mixture of glyphosate + *S*-metolachlor + mesotrione

**** When atrazine is applied PRE + POST, a total of 2.5 lbs ai/A can be applied per year (2.5 qts/A of 4L or 44 ozs/A of 90DF). When atrazine is applied only POST, then a total of 2.0 lb ai/A can be applied per year (2 qts/A of 4L or 36 ozs/A of 90DF)**.

PEANUTS

Managing peanut root-knot nematodes (*Meloidogyne arenaria*) in 2011

Bob Kemerait

The peanut root-knot nematode is an important and serious problem in many fields in Georgia. Found most often in sandier areas of a field, the peanut root-knot nematode causes economic losses by damaging the developing root system, by forming galls on the pegs and weakening them at harvest, and by causing significant deformations of the pods. Rotation with cotton helps to reduce levels of peanut root-knot nematodes in a field; however this plant-parasitic nematode can also infest corn, soybeans, and other crops grown in our region.

In addition to rotating a field away from peanuts and other host-crops, management of peanut root-knot nematodes in our production fields is best achieved by planting the highly resistant variety 'Tifguard' or the judicious use of nematicides like Telone II and Temik 15G. Though production of Temik 15G was reported by Bayer CropScience to end in 2014, recent developments in the manufacture of the active ingredient (aldicarb) in Temik now result in a significant reduction in production of this nematicide in 2011. It is believed that if production resumes in late March, the Temik available in 2011 will be about 40% of what it has been in the past and that only the "gypsum" formulation, not the "corn cob formulation" popular with our growers, will be available.

Growers who plant peanuts in fields where damage from the peanut root-knot nematode is expected or even "suspected" must consider use of 'Tifguard'. The resistance in this variety approaches immunity and 'Tifguard' yields as well without Telone II or Temik 15G as it does when these nematicides are used with Tifguard so long as thrips are effectively controlled. Some growers are hesitant to plant Tifguard because of the perception that a) it does not yield as well as other varieties such as 'Georgia-06G', 'Georgia Greener' and 'Georgia-07W' and b) the variety suffers from "weak peg strength" that leads to higher yield losses at harvest. In response to these criticisms, growers must recognize that a) when grown in true nematode-infested fields, the yield potential of Tifguard without use of a nematicide typically exceeds the yield potential of other varieties planted with nematicides, and b) the perception of "weak peg strength", though widespread, is unproven and may not be as problematic as some believe. Note: Though Tifguard does not need to be protected with a nematicide, it is necessary to treat Tifguard for control early-season thrips.

Many peanut growers across Georgia rely upon use of Temik 15G (10 lb/A in-furrow and 10 lb/A at pegging time) to manage peanut root-knot nematodes. Given that the availability of Temik 15G will be severely limited in 2011, growers should reserve the use of Temik for fields where a) nematodes are considered the most serious problem and b) the grower is unable (or unwilling) to plant Tifguard or to treat with Telone II. Fumigation with Telone II, typically at 4.5 gal/A in-row or 6-9 gal/A broadcast, is a powerful tool for managing plant-parasitic nematodes not only in the peanut crop, but in other agronomic crops as well. It is anticipated that a number of peanut farmers in Georgia who could benefit from the use of Telone II but who have resisted fumigating for a variety of reasons will now decide to adopt the practice. In difficult situations, fumigation with Telone II provides significantly better control of nematodes than does Temik 15G. Growers who fumigate with Telone II must remember that this product can provide excellent control of nematodes but does not control thrips.

Two other products are labeled in Georgia for the management of root-knot nematodes affecting the peanut crop. These include the biological product “NemOut”, a formulation of spores of a fungus that parasitizes the eggs of the root-knot nematode, and “Enclosure” (iprodione) that is a product more familiar to us as the fungicide “Rovral”. Limited field studies conducted at the University of Georgia and the University of Florida on the use of NemOut have produced somewhat hopeful results when applied at 0.3 lb/A in-furrow followed by 0.3 lb/A at pegging time. Growers who would like to try NemOut in 2011 should do so with care to ensure that the living spores in the product are kept viable (alive) and at rates between 0.3 and 0.6 lb/A both in-furrow and at pegging time. NOTE: There is still much to learn about the true efficacy of NemOut. Our trials on Enclosure have been more limited and UGA Cooperative Extension is awaiting further results before developing recommendations for use of the product on peanuts.

COTTON

Managing Plant-Parasitic Nematodes Affecting Cotton in 2011

Bob Kemerait

Losses attributable to plant parasitic nematode affecting cotton are an important and serious problem in many fields across Georgia. Found most often in sandier areas of a field, the southern root-knot nematode causes economic losses by forming galls on the root system leading to damage that affects not only the growth of the roots, but also the uptake of nutrients and moisture. Typical symptoms of damage to a cotton crop from the southern root-knot nematode include galling on the roots, stunting, and foliage with inter-veinal chlorosis. Although the reniform and Columbia lance nematodes do not form galls like the southern root-knot nematode does, these plant parasitic nematodes can also cause severe yield losses and stunting in cotton fields. Rotation with peanuts helps to reduce damage from all nematodes affecting cotton and rotating cotton with corn also helps to reduce populations of the reniform nematodes. Unfortunately, rotation of cotton with soybeans, corn, and many vegetable crops will not reduce the levels of southern root-knot nematodes.

In addition to rotating a field away from cotton and other host-crops, management of southern root-knot nematodes in our cotton fields is best achieved by integrating use of the partially-resistant varieties like PHY 367WRF and ST 5458B2RF with the judicious use of nematicides like Telone II and Temik 15G. In field studies conducted at the University of Georgia, use of PHY 367WRF and ST 5458B2RF not only resulted in lower gall-damage than in non-resistant varieties, but also reduced end-of-season populations of the southern root-knot nematode as compared to plots planted to susceptible varieties. Growers should note that while these two varieties with partial resistance to the southern root-knot nematode can become an important component of an integrated program to manage the southern root-knot nematodes, they will not offer any protection against other types of nematodes, like the reniform, Columbia lance, or sting.

Though production of Temik 15G was reported by Bayer CropScience to end in 2014, recent developments in the manufacture of the active ingredient (aldicarb) in Temik now result in a significant reduction in production of this nematicide in 2011. It is believed that if production resumes in late March, the Temik available in 2011 will be about 40% of what it has been in the past and that only the “gypsum” formulation, not the “corn cob formulation” popular with our growers, will be available. In the absence of Temik 15G, it is hoped that growers who have resisted adoption of fumigation with Telone II at 3 gal/A will consider doing so now. Certainly there are costs associated with use of Telone II; however no product currently available in cotton

production offers the same level of protection against all parasitic nematodes affecting the crop. Additionally, Dow AgroSciences had obtained a label for the at-plant application of Telone II when environmental conditions are favorable and the company is also working to develop variable-rate strategies and risk management zones where fumigation only occurs where nematode populations warrant the treatment. In difficult situations, fumigation with Telone II provides significantly better control of nematodes than does Temik 15G. Growers who fumigate with Telone II must remember that this product can provide excellent control of nematodes but does not control thrips.

In addition to Telone II and Temik 15G, cotton growers in Georgia also can use seed-treatment nematicides AVICTA Complete Cotton from Syngenta, AERIS Seed-Applied System from Bayer CropScience, and Accelron N from Monsanto for control nematodes. AVICTA Complete Cotton and Accelron N both contain abamectin (Avicta) and thiomethoxam (Cruiser); however the Syngenta product uses azoxystrobin (Abound or Quadris) for additional seedling disease control whole Monsanto uses pyraclostrobin (Headline) for additional seedling disease control. Although I have not tested Acceleron N or pyraclostrobin for use as cotton seed treatments, I have tested AVICTA Complete Cotton and AERIS Seed-Applied System. In my studies, at lower nematode populations, both AVICTA and AERIS can be comparable in efficacy to Temik 15G at 5 lb/A for management of nematodes. As nematode populations increase, Temik 15G, 5 lb/A provided better early season management of southern root-knot nematodes and increased yields over the seed treatments. From these studies, both AVICTA and AERIS can be used effectively in the management of nematodes, but not with the same spectrum of activity that Temik 15G, 5 lb/A, had. Though I have more experience with AVICTA Complete Cotton than with AERIS Seed-Applied System, in comparative studies the products have performed similarly. Note: Use of a post emergent application of Vydate CLV (17.0 fl oz/A) may help in the management of nematodes and thrips when used to compliment a seed treatment.

2011 Recommendations for management of plant-parasitic nematodes.

1. Rotate field with non-host crops.
2. Where southern root-knot nematodes are a problem, consider planting PHY 367WRF or ST 5458B2RF.
3. Fumigate with Telone II, 3 gal/A where appropriate.
4. Use what Temik 15G is available in areas with more damaging nematode populations and save seed treatment nematicides for other areas.
5. Determine as QUICKLY as possible how much seed you will need treated with a seed-treatment nematicide (see above for options) and order ASAP.
6. Talk with representatives from DuPont to learn how VYDATE CLV (17.0 fl oz/A) may be used in conjunction with Temik 15G and seed treatments for additional management of nematodes and thrips.

Sincerely,

Buster Haddock

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ANR Agent
Randolph County