

On The Farm

NEWS LETTER APRIL 2009

The Auburn University Agronomy Team including Regional Agents have a web site that may be helpful to you. It is www.alabamacrops.com The Auburn University Precision Ag Team has a website at www.alabamaprecisionagonline.com

Deer and Hog Mega Fence

By: Richard Petcher and Mr. Charles Dean, *Cotton Producer in Baldwin County*

Deer, hogs and other wildlife are doing extensive damage to our crops in Alabama. Results from a survey conducted in Southwest, Alabama on Wildlife Damage showed a 10 % loss to our crops caused primarily by deer and hogs. This damage is a \$16 million loss to our growers just in Southwest Alabama. Some fields have had to be abandoned totally. This problem is an ever increasing problem. Predictions are that growers who have no problem with deer and hogs someday will.

The costs of wildlife fence are prohibitive to most Alabama growers especially on rented land. However, a less expensive cost efficient fence, the deer and hog mega fence is being used by a few growers in Alabama and Mississippi who have claimed very good results. These growers include Charles Dean in Baldwin, Russell Hendrix in Washington and Loney Fortner in MS who has one 750 field of cotton that he deters deer and hogs with the mega fence. The fence is not totally guaranteed to keep deer and hogs out but is very effective, and growers are pleased. The deer and hogs that make it through the fence do not quickly attempt to get out and can then be eliminated with appropriate permission and methods.

Mr. Charles Dean in Little River, Northern Baldwin County farms with fields right on the Alabama River, and this area is historically the worst deer and hog infested area of Alabama. Farming looked like a losing battle. In 1984, he built his first fence that we now call the Deer and Hog Mega Fence. He has been very successful.

The Mega Fence: Loney Fortner Method: A three strand high tinsel electric fence is constructed around a field. The strand interval is 18 inches, 36 inches and 54 inches above the ground. Three feet out from this fence is a one strand high tinsel electric fence placed 18 inches above ground. The posts for the three strands are T posts placed 50-60 feet apart and the outside posts are rebar.

Charles Dean Method: A two strand high tinsel electric fence is constructed around a field. The strand interval is 24 and 48 inches above the ground. Three feet inside from the fence is a one strand high tinsel electric fence placed 24 inches above the ground. Both Loney Fortner and Charles Dean methods work. The idea of the two separate fences is to disorientate the deer and hogs. They hit one fence and continue through, but when they hit the second fence it gives them a second opinion and normally they decide it is not worth the shock just to eat a little cotton. The soil is sprayed under the fence with herbicides to be kept free from any grass or weeds that could possibly short out the fence. Once the fence is built it is plugged in immediately with a high mega charger. This charger does not need to be too big unless doing a large area. Cost of this type fence is approximately \$150 per acre on a square or rectangle 20 acre field. Over a five year period of time this would be a cost of \$30 per acre to control wildlife.

Deer String Fence: Charles Dean: This plan is very economical and easy to build. This plan also seems to be too simple to work. However, this plan has also been very successful for deer. Use fiber glass posts instead of rebar as the fiberglass will flex and bend, instead of the deer knocking the insulators off the posts and your fence grounding out. The string recommended for this is a copper string as it is 70 times more conductive than stainless steel. This string also gives a little more bend than wire. The beauty of this string also is that it will take a smaller fence charger and battery to push the same amount of current. The string needs to be placed 24 inches high above the ground for deer. Growers may want to try 2 strands of string to try to deter hogs. Make one strand around 10 inches and the other 24. Taylor Fence inc. at 205-594-597 are the manufacturers of the copper string and electric fence chargers.

Key Strategies: There are a few key strategies to this fence. If anyone has the idea that you can completely fence out deer and hogs they are wrong. And it would take more money than most growers would want to spend. Field border preparation is important. Make the borders as smooth as possible, as the deer and hogs will look for and go under at ditches and other low spots. Timing is very important: Put the fence up the day after you plant. The fence you put up must be hot the day you put it up. Deer and hogs are creatures of habit and once they break through a fence they will continue. Once your fence is up and hot, recheck it the next day and the next. The deer and hogs will tend to break it the first night or so. So do not neglect your fence. Keep it charged all the time. You will still need to check your fence periodically. When the crop is harvested, take down your fence immediately.

Results: Growers using this fence state there is no guarantee that it will work for you. However, they are very pleased with their own results. Again, I would like to express gratitude to Charles Dean, Russell Hendrix and Loney Fortner for their willingness to share their experiences in order to help other growers in Alabama. If you do give this fence a try, I would appreciate a report on your results.

Wheat Fungicide Spray Program

During the third week of March Powdery Mildew started in Southwest Alabama and is now present in almost every wheat and oat field in this area. Growers are encouraged to scout their fields and then make fungicide spray decisions. Powdery Mildew is an easy disease to control with a low rate of a fungicide like Tilt. Dr. Austin Hagan, Auburn University Wheat Pathologists stated that very little to no yield increase will be attained by spraying a fungicide to control Powdery Mildew until the plants are in the flag leaf stage. Some of our wheat is in the flag leaf and early head stage. If your wheat is still in the tillering stage, scout,

keep a close alert check on your field. If the Powdery Mildew is not too bad wait until the flag leaf early heading stage before spraying.

Small grain crop perspective in Southwest Alabama at this point looks good. Predicting yields is difficult as much will depend upon the weather from now through May.

If your small grain crop looks good do not hesitate to spray your crop with a fungicide and maximize your crops potential. Of all of the areas where wheat is grown in Alabama, South Alabama and especially Southwest Al it always pays to spray fungicides on small grains.

The research conducted by Malcomb Pegues and Dr. Katherine Burch at the Gulf Coast Research and Experiment Station give our growers some very valuable information. In 2004 and 2005 the results were similar. Every fungicide applied resulted in a 9 to 14 bushel yield increase and significant increase in wheat quality. In 2006 when disease pressure was at a low, the fungicide tests resulted in a 3 to 9 bushel yield increase and a significant increase in wheat seed test weight. As of today March 24, 2009 our disease pressure on wheat except for Powdery Mildew has been low, however if the moisture continues and the temperature increases so will the rust and other diseases.

Even though research so far has shown it pays to spray in Southwest Al. it is important for growers to know the disease package of the varieties in order to improve management practices.

Here is a chart of a few of the varieties and their disease package.

Variety	Leaf Rust	Stripe Rust	Glume Blotch	Powdery Mildew
AGS 2000	Fair	Poor	fair	Fair
USG 3209	Fair	Good	fair	Good
Pioneer 26R61	Fair	Good	fair	Fair
LA 841	Good	Good	good	Good

Fungicides can be looked at in three categories. Tilt 3.6E and Propimax EC are curative fungicides. These are best to use when the disease is already present. Quadris 2.08FL, Proline 480SC and Headline 2.09E are preventative fungicides. These fungicides are applied to give a longer term prevention of the disease. They typically give a two week and sometimes a three week protection. Quilt and Stratego 250EC are a mixture of both the curative and preventative fungicides.

Since disease pressure is expected to be high growers should scout their wheat once a week up until flag/boot stage. After that time twice a week scouting is recommended. The first application of a fungicide should go out at the flag leaf stage. You can apply a cheap fungicide first and wait and see or a quality fungicide first. This is a grower's choice. I would recommend a quality fungicide first and then possibly add another fungicide later if needed.

Foliar Nitrogen: Once wheat is in the flag leaf and early heading stage there is no benefit to adding foliar Nitrogen to the crop. Should a grower apply a foliar Nitrogen product to wheat when spraying with a fungicide? **No.**

Aphids are also present in our wheat and oat fields. The threshold for treatment is 5 aphids at the Boot/flag leaf stage and 10 aphids per foot at the head emergence stage. At the soft to hard dough stage trying to control aphids is of no value.

Hessian Fly: The Hessian fly destroyed more than their share of the wheat crop in this area in 2008. Bennie and Mat Watson have sprayed for Hessian fly this year in a few of their fields. They have stayed more in tune with the Hessian fly problem than any other growers that I know in this area. However, every grower is encouraged to scout for the Hessian fly. Fields on alert to scout for Hessian fly are wheat behind wheat fields and those fields planted in USG 3209, Coker 9663 and Coker 9553. Hessian fly have been reported in Headland, the Panhandle of Florida, Washington County and as mentioned have been found in Escambia County Alabama. Keep alert and keep scouting.

Terminate Your Crop: From time to time a grower is faced with the decision of continuing a wheat crop or terminating this crop. The tiller count method is the best method that I know of. In order to do this, at the full tillering stage of the wheat, count the number of tillers per square foot. A piece of PVC pipe made into a square foot is helpful. Take at least three random samples per area in question. Then count the number of strong tillers in this square foot. The weaker or smaller tillers will not make grain. If you have 75 good tillers, that means your crop will average around 75 bushels of grain. If you have 35 good tillers that correlates to 35 bushels per acres. Of course there are other factors to consider. However, this test is to give you an estimation of what your final crop yield would be and is then helpful in a grower's decision to continue or terminate the crop.

Corn the First Thirty Days

Nitrogen Application: Most growers in Southwest Al. use a starter fertilizer or broadcast fertilizer with some Nitrogen in it pre-plant. For most corn growing areas a "rule of thumb" is that it takes 1.3 pounds of N to make one bushel of corn. We are blessed in this area, as many growers here have proved that they can make 150 bushel corn on less Nitrogen than the formula of 1.3 lb N/ bushel. In this area many growers are making respectable corn yields on 1 lb. N/ bushel of corn. On our dry land corn most growers feel like their water runs out before their Nitrogen does anyway. A key for side-dressing corn is to understand that corn only uses 10 % of its total N in the first 30 days. When corn is a little over 12 inches high or in the V6 growth stage is when rapid uptake of N begins. Be sure to have your corn side-dressed by this time.

Scout for Insects: It is a good idea to scout your corn for insects particularly in the first thirty days after planting and especially in those fields that are at risk. Those fields would be the fields planted into cover, especially clovers. Chinch bugs over winter on winter weeds, grassy ditches and fallow fields and are particularly worse in dry weather. They can cause severe damage from feeding on the root and the base of the stem. Protection from the seed coating like Poncho 250 may wear off before the chinch bugs arrive. Stink bugs are heavy in our row crop system of wheat, corn, cotton and peanuts. Early feeding of stink bugs on young plants may occur. Look for suckering of young plants. Seed treatments also help on stink

bugs but as they wear off you may need to apply a foliar insecticide. There are a few other insects to look for as you scout.

Peanut Cultivars and Seed Sizes

Dr. John Beasley, *UGA Peanut Agronomist*

There will be seed of 13 peanut cultivars available to producers in 2009. There is a tremendous amount of variability in seed size of these 13 cultivars. This variability results in differences in seeding rates when sown at 6 seed per foot of row in the single row pattern and 3 seed per foot of row in the twin row pattern. For example if a bag of 'Georgia Green' seed were averaging 825 seed per pound and planted at 6 seed per foot of row on 36-inch rows, then the seeding rate would be 106 pounds per acre. If Florida-07 seed are running 650 seed per pound, then the seeding rate would be 134 pounds per acre, which is 28 pounds of seed per acre more than Georgia Green.

I have arbitrarily grouped the runner-type peanut seed into three categories, small-seeded runners, medium-seeded runners, and large-seeded runners. There are no exact figures for grouping these but for the purposes of setting up the 13 cultivars being sold in 2009, I have set the following ranges for small, medium, and large-seeded runners.

Small-Seeded Runners – 800+ seed per pound

Medium-Seeded Runners – 700-800 seed per pound

Large-Seeded Runners – less than 700 seed per pound

In the table below I calculated the average seed count per pound from the irrigated peanut trials at Tifton, Plains, and Midville in the 2008 University of Georgia Statewide Variety Trials. I used the seed counts from the irrigated trials since all peanuts grown for seed should be irrigated. The number of seed per pound will vary from year to year. As it turned out, the 2008 data was more "normal" than other years.

Cultivar	Seed per Pound*
Large-Seeded Runners	less than 700
Georgia-06G	628
Florida-07	638
Georgia-07W	647
AP-4	648
Tifguard	652
McCloud	670
AT 3085RO	685
Medium-Seeded Runners	700-800
Georgia-03L	710
Georgia Greener	724
AP-3	747
Georgia-02C	775
Small-Seeded Runners	800+
Georgia Green	804
York	842

*Average seed per pound from irrigated peanut trials at Tifton, Plains, and Midville in the 2008 University of Georgia Statewide Variety Trials.

In the past few years, the seed size of AP-3 and Georgia-03L has been more in the 675-700 seed per pound per range. It could be that one of you producers in 2009 will have seed of these two cultivars that run closer to 675 seed per pound than above 700. In fact, the seed sizes above may or may not be close to what you producers purchase in 2009. However, our experience has been that the cultivars listed as "Large-Seeded Runners" are consistently large seeded.

Many of the new runner cultivars have much larger seed size than Georgia Green. Therefore, it will take 20-30 pounds of seed more of these cultivars to plant an acre compared to Georgia Green.

APPLIED SCIENCE REPORT

On Farm variety testing and research can be very helpful and make good field demonstrations for agronomic practices in our area. Research is conducted at the university and research stations. These however, are done on grower's fields and typically on a larger scale. Often they are as much a part of a verification program for our area as they are research. Results were recorded and published in Regional News Letter and Auburn University web site. I would like to thank each grower and sponsor for their hard work in conducting these tests that are so helpful to our area row crop producers.

Utilizing Winter Cover Crops to Reduce Inputs and Enhance Cotton Producers Profits

Tim Tucker, *Cotton Producer, Monroe County*

Richard L. Petcher, *REA in Agronomy, Southwest Alabama*

Dr. Edzard van Santen, *Dept. of Agronomy and Soils, Auburn University*

Dr. Kathy Lawrence, *Dept. of Entomology & Plant Pathology,*

Dr. Andy Price, *USDA-ARS-NSDL, Auburn, AL.*

Dr. Dale Monks, *Auburn University Cotton Agronomist*

On December 6, 2007 a five acre field was planted with 11 different treatments of small grains, legumes, brassicas and mixtures of several. The treatments were Black Oats, Rye, Wheat, Crimson Clover, AU Homer Lupin, Turnip, Rufus, Liform, Lupin/Black Oat, Crimson/Black Oat and Fallow. The plots were replicated four times in randomized complete block design. Nematode tests were taken during the previous cotton growing season and nematodes were found in adequate amounts to study the nematicidal affects of these treatments. In April 2008 a field tour of this cover crop test was held with 25 attending. Later in April the cover was killed and the field stripped and the cotton planted into the cover in May. Starter fertilizer of 30 N and P and K were applied to all plots. The non legume test plots were also side-dressed with additional 60 pounds of N. During the growing season nematode samples again were taken. Cotton was harvested on October 20th. Results: The Rufus plots had 66 % less nematodes than the other plots. The AU Homer Lupin as a winter legume cover crop yielded 195 pounds more lint cotton per acre than the traditional treatment of fallow and then 90 N and P and K according to soil sample.

Treatment	Yield in lb/acre at 38 % gin turn out	Differences in yield	Differences in nematodes
AU Homer Lupin	1123	195 lb more cotton than fallow + 60 N	
AU Homer Lupin + Soil Saver Oats	1007	79 more cotton	
Rufus Radish	949	21 more cotton	66 % less nematodes than other plots
Fallow + 60 N	928		

Appreciation is expressed to: Tim Tucker for conducting this experiment on his farm, to the Alabama Cotton Commission for sponsoring this test and to Al Wright with PhytoGen Seed for providing the cotton seed for this test.

This experiment is being continued with Dr. Edzard van Santens lead and Auburn Team with Tim Tucker. Of primary interest are the improved yields to the cotton behind the Lupins. The Lupins provided both Nitrogen and bio-tillage for the cotton. Also of major interest are the reduced counts of nematodes in the cotton behind the Rufus radish. This experiment is also being conducted by Randy Akridge at the Huxford Branch of the AU Experiment Station. Seven types of Rufus radish are being studied for their nematicidal and bio-tillage effect. Rufus radish is used in Europe as a trap crop for nematodes.

Shank Placement on a Paratill™ Affects Cotton Yields

Francisco Arriaga, Kip Balkcom and Randy Raper

USDA – Agricultural Research Service, Soil Dynamics Research Laboratory, Auburn

Richard Petcher, Regional Extension Agent in Agronomy

John Cook and Steve Dunn, producers in Monroe County

In 2005, we started an experiment at the E.V. Smith Research Center near Shorter, designed to investigate how shank placement on a conservation tillage implement with parabolic shanks (Paratill™) affects cotton and corn yields. A corn-cotton rotation was established with both phases of the rotation present each year. Results from this work showed cotton yields increased by approximately 10% for 3 consecutive years, but little impact was found in corn yields. The next step was to verify our small plot findings on the farm. Thanks to the curiosity and willingness of Cook's Farm, a 40 acre field near Evergreen was used to validate our cotton results on-farm during the 2008 season. Cotton yields were 11% greater with the alternate shank placement (964 vs. 1,073 lb lint/acre). This difference is similar to the results observed at E.V. Smith. Lint quality parameters were similar, with a micronaire average of 4.7 and fiber length of 1.10 (staple 36). On-farm research can be very useful to corroborate small plot research findings. We would like to express our gratitude to Cook's Farm, The Alabama Wheat and Feed Grain Commission, The Alabama Cotton Commission, and Mark Braxton with Monsanto, Delta-Pine Seed Company for their support.

Bio-Tillage: This is a word that means a crop or some other means other than tractor and machinery are actually preparing the soil for the next crop. The Lupins and Rufus radish have deep tap roots. As these plants die their roots decay leaving the soil very porous allowing the next crop to easily send down their roots. There are many plants that do this to certain extents. Brown top millet is excellent for improving soil structure. Many of us have heard Dallas Hartzog and Dr. David Wright talk about earth worms and how they plow the soil. Earth worms too are another form of bio-tillage. High rates of gypsum also make the subsoil more loose and friable. New methods of bio-tillage are becoming more important to us in agriculture today.

Cover Crop Craze: There is an increased interest among growers around the world who have begun to understand the benefits of including cover crops into their rotation. The March 2009 issue of "The Furrow" magazine by John Deere is titled "Cover Crop Craze". It has some excellent information in it.

Again, hope this information is of interest and is helpful to you.

Sincerely,



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