

IPM NEWSLETTER

Update for Field Crops and Their Pests

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Cotton Crop Update (Chris Main, Assistant Professor)

The Tennessee Ag-Statistics service reports that 90% of bolls are open compared to 90% last year and ahead of the five year average of 79%. Seven percent of the crop has been harvested compared to 9% a year ago with a five year average of 8%. Harvest picked up over the weekend and substantial acres should be out of the field by the end of this week. Cotton quality is good to excellent for the early crop. Quality should increase as more cotton from our northern counties (where growing conditions were better) get to the classing office. According to USDA AMS 13,511 bales have been classed. Table 1 below lists the summary of classing results for Tennessee as of September 28, 2006.

Table 1. Summary of classing results for Tennessee, September 28, 2006.

	% of Total Bales	
Color Grade	11&21	22.9
	31	58.0
	41	7.4
Staple Length	30	0.1
	31	1.2
	32	7.3
	33	26.0
	34	38.1
	35	22.7
	36	4.5
	37	0.1
	Average	33.9
Micronaire	Below 38	0.2
	38-42	17.7
	43-49	65.9
	50 or >	16.3
	Average	46
Strength	26 or <	8.5
	27-29	54.5
	30 or >	36.8
	Average	29
Total Bales Classed (09/28/06)		13,511

Wheat Crop Update (Chris Main, Assistant Professor)

As we head into fall, cotton and soybean harvests are well under way and it is time to start planting wheat. A few basics of wheat production we should review are outlined below to help us get off to a good start with this years wheat crop:

1. Planting date (October 15 to November 15): Historically wheat planting date coincided with the date in which we are free from Hessian fly [*Mayetiola destructor* (Say)]. In Tennessee the Hessian fly free date is October 15 for most locations. Hessian fly lays eggs on wheat and larval feeding damages the stem and reduces plant vigor resulting in weak, stunted plants, which may die during winter. The best way to prevent Hessian fly damage is by observing planting date recommendations. Straw destruction and wheat resistance help control this pest, but once an infestation develops, there is no rescue treatment.

Planting should allow enough time for seedlings to become well rooted and have 3 to 4 inches of shoot growth prior to the onset of winter.

Some research suggests that delaying planting till later in the recommended window can help reduce the chance of having an infestation barley yellow dwarf virus.

2. Fertility: Fertilizer and lime needs should be applied according to soil test recommendations. Typically wheat will require 15 to 30 pounds of nitrogen, 40 to 80 pounds of P₂O₅ (phosphorous), and 20 to 40 pounds of K₂O (potash) per acre at planting. Wheat should be top dressed with 30 to 60 pounds of nitrogen per acre from February 15 to March 15.

3. Seeding rate and depth: Wheat seed should be drilled $\frac{3}{4}$ to $1\frac{1}{2}$ inches deep into a firm seed bed with adequate moisture to insure uniform emergence. Seeding rates depend on many factors including condition of the seedbed, time of seeding, method of seeding, quality of seed, and size of seed. Typically wheat grown for grain should be seeded at a rate of 1 to 1.5 bushels per acre. A good target population should be 26 to 30 seed per square foot or about 1.2 million seed per acre. To achieve this stand be refer to the tables below for seed drill calibration and seeding rate.

Drill row width	Length of row needed for 1 ft ²	Seed/row ft to equal 26 seed/1ft ²	Seed/row ft to equal 30 seed/1ft ²
6	24.0	13	15
7	20.6	15	17
8	18	17	20
10	14.4	22	25

Seed size*	Seeding rate (pounds/acre) % germination and expected survival		
	90%	80%	70%
Small	65	75	85
Medium	75	85	95
Large	95	105	120

Wheat Weed Control (Larry Steckel, Assistant Professor)

When it comes to ryegrass control in wheat fall applications are the best option. One reason for this is that wheat is more susceptible to yield loss from ryegrass that emerges with it in the fall than ryegrass that emerges in the spring. In addition ryegrass is easier to control when it is just getting established than when it has tillered out in the spring.

There are now four herbicides labeled for ryegrass control in wheat. The four herbicides are Hoelon, Osprey, Axial and Finesse Grass and Broadleaf. Hoelon has been widely used for ryegrass control and unfortunately much of the ryegrass in Tennessee is now Hoelon resistant. Osprey was introduced a couple of years ago and has performed very well controlling ryegrass particularly Hoelon resistant ryegrass. The rate of Osprey is 4.75 ozs/A. Be sure to add a 0.5% NIS plus a spray grade ammonium sulfate (AMS) or 32% nitrogen solution. The new kid on the block is Axial. Axial is in the same herbicide family as Hoelon and at first glance one would think that all Hoelon resistant ryegrass would also be resistant to Axial. In our research here at Jackson that has not been the case. My colleagues in Arkansas have also reported good ryegrass control with Axial. Still our ryegrass sample size has been small and there could be a few fields of Hoelon resistant ryegrass in West Tennessee that will have some percentage of the population show cross-resistance to Axial. Right now we just do not know. We do have ongoing research designed to provide some answers to this question. The rate of Axial is 8.2 ozs/A + Adigor adjuvant 9.6 ozs/A. The Adigor adjuvant comes in the case with the Axial.

Finesse Grass and Broadleaf was just labeled this past month in Tennessee. It can be applied post emergence only. The rate to provide control of 1 to 4 tiller ryegrass is 0.75 to 0.9 oz/A. A NIS surfactant at a 0.25% is recommended. We really have not looked at this herbicide in research. My colleague Bob Scott in Arkansas has seen good ryegrass control with Finesse provided there is rainfall shortly after application. The label states that only STS soybeans can be double cropped behind wheat that has had a Finesse application.



Redvine Management

I often get calls on how to control redvine in different crops. The only timing that has a chance of providing acceptable control is in the fall after harvest. The reason for this is that perennial weeds are translocating nutrients down to the root stock where they are stored up for use during the winter. Herbicides applied at this time will readily move down to the roots along with the nutrients. Dicamba (Clarity, Banvel, Rifle etc.) in research has provided the best control of redvine applied in the fall at 2 qts/acre. Only cotton, corn and grain sorghum can be planted 120 days after 2 qts of dicamba. Distinct is dicamba mixed with another chemical that helps concentrate dicamba in the plants growing point. As a result it can be applied at much lower rate than dicamba alone. The minimum Distinct use rate for Redvine control is 6 oz/A to a maximum 10 oz/A. A 120 day waiting period between a Distinct application is required before another crop can be planted. All dicamba containing products require NIS at a 0.25%. Typically in heavily infested fields, back to back fall applications will likely be needed to acquire good control.

Horseweed Management

Due to all the troubles we had controlling glyphosate-resistant horseweed this past spring some have asked about a fall application. In limited research we have found that early November applications of dicamba (8oz/A) or 2,4-D (32 oz/A) + 2 oz of Valor has provided good control of GR horseweed until late April. This program particularly on our bottom fields that are flat looks like it would be a good fit. We have also looked at replacing Valor with a very low rate of Envoke (0.05 oz/A) for residual horseweed control. It too in limited research has provided good residual control of horseweed until late April. **Fall applied**



Heavv horseweed pressure regrowing after burndown

Envoke has received a section 18 label in Missouri and Mississippi but at the time of writing the Tennessee Department of Agriculture has yet to grant it here.

There are pluses and minuses to fall applications. On the plus side our research would suggest that November applications that contain a good residual product like Valor can keep GR horseweed from emerging until late April. The horseweed that was so hard to control last year had germinated the previous August or September and by early April had a foot and a half taproot that helped make it very difficult to control. Taking these horseweed out in the fall when they are still small should provide much more consistent control. In addition, any late emerging horseweed that comes up in April will be easier to control as they will be small.

There are two minuses to a fall application. The first is that Valor can keep the soil surface too clean which can lead to significant soil erosion on our many hilly fields. The second is the time crunch in the fall to get these applications made.

Wheat Insects (Scott Stewart, IPM Specialist)

There are two main insects to watch for this fall in your wheat. The first one is **fall armyworm**. Occasionally, larvae will infest recently emerged wheat and threaten stands. We've already had a tough year in pasture with fall armyworm infestations, so the potential exists for problems in wheat until first frost. Early planted wheat is usually most likely to be infested, and this is a common problem in wildlife food plots. Treatment for fall armyworms should be considered when 4 or more larvae are present per square foot. There are quite a few insecticide options in wheat for control of armyworms. These are listed in UT's wheat insect control guide (see link below); however, I generally recommend a synthetic pyrethroid such as Baythroid XL, Karate, Mustang Max or Prolex. Ammo (cypermethrin) or the generic versions are not labeled for use in wheat.

Aphids -- Several aphid species can occur in wheat, and some species are responsible for transmitting barley yellow dwarf viruses (BYDV). The aphids usually have little direct impact, but because they transmit BYDV, they can significantly reduce yields. Although aphids can be present anytime during the season, it is the early (Fall) transmission of this disease that impacts yield.



It is difficult to give good treatment thresholds for aphids in wheat, partly because there are several species which can not be easily distinguished by most folks, because not all species transmit BYDV, and because few people scout or have experiencing scouting for wheat insects. Some suggested threshold levels are listed in the publication below. Often, the biggest decision is whether to use an insecticidal seed treatment. Both Gaucho 600 and Cruiser 5F can be used as a seed treatment at a normal use range of 0.8 - 1.3 ounces per 100 pounds of seed. Both these treatments effectively control fall infestations of aphids and help suppress the transmission of BYDV. The value of these treatments varies from year to year depending on aphid populations and disease prevalence. However, long-term studies by UT from 1993-2001 indicated an average yield increase of about 3-4 bushels per acre when a Gaucho seed treatment was used. I typically recommend a seed treatment in early planted wheat, especially where the producer is targeting top-end yields.

Several pyrethroid insecticides are labeled as foliar applications for aphid control, including all those listed above for control of fall armyworm. I have also had good success with dimethoate 4 EC (8 Oz/A).

Wheat Insect Control (PB941): <http://www.utextension.utk.edu/publications/pbfiles/PB941.pdf>

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A handwritten signature in black ink, appearing to read "Scott D. Stewart". The signature is fluid and cursive, written over a white background.

Scott D. Stewart (editor)
Extension Cotton IPM Specialist