

IPM NEWSLETTER

Update for Field Crops and Their Pests

No. 2

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Weed Control (Larry Steckel, Weed Specialist)

FirstRate is already being allocated to retailers. There is little doubt that we will run out again this year. Other products that contain FirstRate are completely out like Authority First. What this means is that it is even more critical that we control glyphosate-resistant horseweed prior to soybean emergence.

Though Authority First is not available another sulfentrazone containing product Authority MTZ, is available. Authority MTZ containing metribuzin (Sencor) as well. We have looked at both Authority First and Authority MTZ and found that the MTZ premix with the metribuzin provides better residual control of Palmer amaranth than the Authority First. Moreover, the Authority MTZ is more flexible and can be used before planting corn or soybean.

Burndown. Distinct recently received a label to be applied as a burndown for broadleaf weeds including horseweed up to 30 days before planting soybeans or cotton. Distinct is a premix of Clarity (dicamba) and diflufenzopyr (an auxin transport inhibitor). The diflufenzopyr allows the dicamba to be more efficiently utilized in the plant. That is why the rate of dicamba in Distinct is much less than what is used in Clarity. We looked at Distinct last year in our horseweed burndown trials and it performed as well as Clarity. I have gotten a number of calls from folks who have been given the impression that Distinct can provide residual control of horseweed and Palmer amaranth on par with Valor. I have no data to support this and believe that Distinct will provide residual control no better than Clarity.

Wheat. Some fields have been sprayed with Finesse in January for control of ryegrass. Now that we are 5 to 6 weeks after that application it appears that we will only receive about 60 to 70% ryegrass control. Bob Scott, my colleague in Arkansas, has worked with this herbicide for a number of years and found that Finesse applied Post in wheat will only suppress ryegrass (60 to 70%). Finesse can provide good ryegrass control applied Pre plant as long as it is activated with a rain. Finesse Grass and Broadleaf is the premix that contains chlorsulfuron that can provide post control of ryegrass.

There are two misprints in the wheat section of the 2009 Tennessee Weed Control Manual. The first is on page 51 that states STS soybeans must be planted after Harmony Extra Total Sol. That is not correct, **ANY soybean variety can be double cropped behind Harmony Extra Total Sol.** The second misprint is on page 52 that states the rate of Axial XL is 0.5 pt/A. **The new formulation Axial XL is to be applied at 16.4 oz/A.** Axial XL can be applied up to pre boot stage. The current label recrop to soybeans behind an Axial XL application is 120 days. I apologize for any confusion this may have caused.

Foliar Fungicides for Wheat Disease Control (Dr. Melvin Newman, Extension Plant Pathologist)

Stage of Growth to Apply Wheat Foliar Fungicides: Close attention must be paid to the stage of growth to obtain maximum benefit from foliar fungicides. If the application is made too late, then infection could have already occurred. If application is made too early, the flag leaf and head will not be protected. Unless powdery mildew or a rust disease is threatening the flag leaf, the best time to apply a foliar fungicide is a **Feeke's scale 10.3** (when ½ of the head has emerged). If weather and disease pressure are causing concern an early application could be considered at **Feekes' scale F 8** (when flag leaf is still rolled and just visible). Then if disease conditions continue to develop a second application could be made **at F 10.3**. Folicur and Prosaro fungicides are both labeled for head blight **suppression** and should be sprayed **at F 10.5.1** (beginning of flowering) when continuous wet weather occurs during flowering.

Each application must be made in at least 5 gallons of water per acre by airplane or at least 20 gallons of water per acre with ground rigs. Always use a spreader-binder that is labeled for fungicides with either application method.

WHEAT FOLIAR FUNGICIDES				
Chemical Name	Trade Name	Formulation	Rate/A per Application	Diseases Best Controlled
Pyraclostrobin	Headline (BASF)	23.6 % EC	6 to 9 fl oz	Glume blotch and Septoria leaf spot, rust diseases, tan spot
Propiconazole	PropiMax (Dow)	41.8 % EC	4 fl oz	Rust diseases, powdery mildew, leaf blight and glume blotch and tan spot
Tebuconazole	Folicur (Bayer)	3.6 lbs/gal.	4 fl oz	Rust, glume blotch, powdery mildew, head blight suppression
Prothioconazole + Tebuconazole	Prosaro (Bayer)	1.76 lbs/gal. + 1.76 lbs/gal	6.5 to 8.2 fl oz	Rust, glume blotch, powdery mildew, head blight suppression
Azoxystrobin	Quadris (Syngenta)	22.9 % F	4 to 12 fl oz (general use: 6-9 oz)	Glume blotch and leaf blight, rust diseases, tan spot
Propiconazole	Tilt 3.6 (Syngenta)	41.8% EC	4 fl oz	Rust, glume blotch, rust diseases, powdery mildew, glume blotch and leaf blight
Azoxystrobin + Propiconazole	Quilt (Syngenta)	7 % + 11.7 % F	10.5 to 14 fl oz	Rust diseases, powdery mildew, glume blotch and leaf blight, tan spot
Propiconazole + Trifloxystrobin	Stratego (Bayer)	11.4 % + 11.4 %	10 fl oz	Glume blotch and leaf blight, powdery mildew, rust disease, tan spot

General Wheat Diseases Control Practices:

- Follow fertility recommendations closely
- Observe recommended planting dates and seeding rates
- Use resistant varieties if available
- Use recommended fungicides properly

Insect Control Considerations (Scott Stewart, IPM Specialist)

Wheat. At this time of season, there are really only two insect considerations in wheat, namely aphids and Hessian fly.

Aphids – Several species may be present in wheat, with the bird cherry-oat aphid being the most common (pictured right). In large numbers, aphids may directly damage wheat. But typically, the biggest problem associated with aphids is their transmission of barley yellow dwarf virus (BYDV). The incidence of BYDV varies considerably from year to year, so the benefits of treating aphids also vary. Research in Tennessee has shown that fall treatments (e.g., insecticide seed treatments) increase yields by an average of about 3-4 bushels/acre (at least for wheat planted in October). A fall, foliar application of insecticide may also be effective in preventing the spread of BYDV if made before aphid populations become established in a field (e.g., < 1 aphid/row foot). Research and experience indicates that it is early, fall transmission of BYDV that is most likely to reduce yield. Thus, applications intended to prevent BYDV should have already been made, and the impact of these treatments often last well into spring because aphid colonization in Tennessee is minimal during the winter months. An early spring application of insecticide can sometimes prevent the spread of BYDV, again provided they are made before aphid populations are already established across the field. *The take home* – if aphids are relatively easy to find in your field, you have probably missed your opportunity to prevent the transmission of BYDV.



Hessian fly – There is little we can currently do to manage this pest. The best management approach is to avoid planting wheat early, especially during September. The fall generation of Hessian flies can be avoided by planting after the fly free date (October 15). The spring generation of flies can cause seriously damage late planted wheat if it is in close proximity to fall-infested, early planted wheat which provides a source of Hessian flies. Insecticide applications are difficult to time and generally ineffective (although insecticide seed treatments do provide some protection against the fall generation of flies). Even though there is little we can do now to control this pest, identifying heavily infested fields or fields adjacent to heavily infested fields can be important. Growers should limit inputs such as fertilizer or fungicide applications if they have limited yield potential. This is not a common problem, but some fields in 2008 were not harvested because of Hessian fly infestations.



Treatment thresholds and recommended insecticides for the control of wheat insects are available at: http://www.utextension.utk.edu/fieldCrops/cotton/cotton_insects/InsectBook.htm.

Corn. Reminder - It is best to maintain a clean seedbed for at least 2-3 weeks prior to planting corn. This will go a long way in eliminating the chances of cutworm infestations. If this is not possible, then consider applying one of the labeled pyrethroid insecticides – the closer to planting the better. Relatively economical rates can be used for cutworms ([link to recommended insecticides](#)). Current insecticide seed treatments (e.g., Poncho 250, Cruiser) will not provide adequate control of significant cutworm infestations. YieldGard Corn Borer, and especially Herculex I, will help but do not guarantee adequate control of cutworms (especially if large larvae are present in the field). *Remember* – Overwintering cutworm larvae may already be present in fields.

Farm Management (Chuck Danehower, Area Specialist - Farm Management)

It is late February, and producers are still uncertain on some acres on what to plant. One change from 2008 to 2009 that we have to realize is that prices will most likely not get to the levels we saw in 2008. With that in mind we have to be realistic on the commodity prices we use in making decisions. There seems to be a tendency leaning toward more soybean acres than in 2008 with less corn, cotton and wheat acres. That does draw some concern that we could be putting all our eggs in one basket.

As an aid in the decision making process, UT Extension develops on an annual basis, crop budgets. The UT Extension budgets can be found on-line at <http://economics.ag.utk.edu/budgets.html> or at your local County Extension office. Keep in mind, producers should use these budgets as a guide in developing their own budgets. Input prices have changed over the last several months, and will need to be updated. Fuel prices have been at a level where there is greater risk in going higher than lower. That necessitates locking in a portion if not the majority of fuel needs or at least what your tanks will hold.

In assisting producers in making informed decisions regarding their cropping plans, examining the returns above variable costs is useful. This method is used when there is very little equipment changes being made and fixed costs are not changing. If the farm is making operational changes then a whole farm plan should be examined. If the farm is share rented, that particular share should be considered as a cost.

2009 - Estimated Net Returns Per Acre

	Cotton	Corn	Milo	Soybeans	Wheat/soybeans
Yield	850 lbs.	125 bu.	90 bu.	40 bu.	60 bu./30 bu.
Price	\$.65 lb.	\$3.25 bu.	\$2.75bu.	\$8.00 bu.	\$4.75 bu./\$8.00 bu.
Revenue	\$553	\$406	\$248	\$320	\$485
Variable Cost 1	\$470	\$290	\$217	\$227	\$396
Returns above variable	\$ 82	\$116	\$ 31	\$ 93	\$ 89
Land Costs 2	\$133	\$ 98	\$ 59	\$ 78	\$116
Returns above specified costs	(\$ 51)	\$ 18	(\$ 28)	\$ 15	(\$ 27)

1 Variable costs are seed, fertilizer, chemicals, fuel, repairs, labor, and crop insurance.

2 Land costs are based on 25% of gross revenue.

3 Yields and prices are estimates only to be used in planning purposes. Cotton price is assumed to be loan of \$.52 lb. + \$.03-\$.05 lb. equity + \$.08 -\$.10 lb seed & hauling. Producers should use their yields and prices estimates in their budgets.

After updating the fertilizer prices in the basic budgets, there is not a great deal of difference between corn and soybean returns on a non-irrigated basis. However, with a few different assumptions regarding yields, commodity prices, fertilizer prices, land costs and maybe even fuel prices, a different outcome could be achieved. Producers should use their own farm average yields, price outlook, and their inputs. Looking at different yields and prices can be most useful when determining the financial risk and profit potential.

I don't want to sound like a broken record, but in today's agriculture, especially where we don't have control of our environment, a sound cropping plan should include crop diversification – different crops, different varieties, and rotation. We don't know what crops and or prices will be the bumper crop or best price. Producers who have a successful production plan should stick to that plan at least on their core acres. That would probably leave 15% - 25% of a producer's acreage to be somewhat flexible and more dependent on conditions before planting such as fertilizer prices, commodity prices, etc. If you need assistance in developing your cropping plan, contact your local County Extension office.

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Scott D. Stewart (editor)
Extension IPM Specialist

