



Blacklands IPM Update



GENERAL:

Dry and warmer weather is finally moved into the area during the middle of this past week and has allowed for wheat harvest to ramp up and cotton growth. As wheat harvest is finally in full swing, I am seeing some preharvest sprouting in some area wheat fields, both hard and soft wheat are affected and from the fields I have looked at average less than 5 % sprouts. Preharvest sprouting has caused some to be concerned about saving seed to plant again in the fall. As our corn and cotton fields start drying out, we will eventually see the extent of how much Nitrogen was loss through denitrification and leaching. Insect pest populations have increased over the last two weeks, with cotton fleahopper population reaching threshold in some fields, and aphid populations starting to increase rapidly. Most of the corn is past pollination and starting to develop kernels. Northern corn leaf blight is become less of an issue in area corn fields because of the crop's growth stage and the weather pattern we are getting into is not conducive for further development of the disease. At this point what we need to keep an eye out for is southern rust and spider mites if we start getting too dry and warm.

COTTON:

Area cotton ranges from 6 true leaf stage up to the 12 true leaf stage with match head squares. I have noticed that just about every cotton variety has set squares higher on the plant than they normally do, an this can be explained by the cool, cloudy, and waterlogged stresses that caused the plant to use its resources to survive rather than to set fruit. As we are drying out, I highly recommend taking a soil sample to test for the nutrient availability of your fields, and determine what additional fertilizer need to be applied to reach your desired yield goal. A shot of foliar N may help the plant sustain itself for a few day and give it a jump start, but it will not replace the need to soil applied N if the soil is deficient. Due to where we are in the growing season applying formulations of rapidly available nutrients is going to give the best return on investment. This will include side dressing with either a coultter rig or Y-drops, and application of dry formulations may not be converted to the plant available form in time for the plant to benefit from the application. Additionally, we want to make sure not to over fertilize as this can attract some pest, and lead to management difficulties such as excessive growth and difficulty with defoliation later in the year.

Cotton fleahopper populations have exploded in some areas of Hill County, with some fields running around 24 fleahoppers per 100 plants, while some fields have no fleahoppers. Most of the fields at threshold for fleahoppers are in the western and northern portions of Hill County. The adult cotton fleahopper is a grayish to pale green, and about 1/8th of an inch long (**Figure 1**), while the nymph is much smaller and a lighter green with red eyes (**Figure 2**). They are a major pest during the square phase of cotton up until early bloom because they feed on the young developing square by piercing the square and feeding on the plant juices. This feeding causes the squares to eventually be shed from the plant, reducing the number of fruiting positions. The squares produced during the first three weeks of flowering will go on to produced the biggest most valuable bolls, and this is why it is important to protect the plant from fleahopper and other plant bug damage. The economic threshold for cotton fleahopper in the Texas Blacklands is 10-15 fleahoppers per 100 terminals. There is a number of insecticide and tank mixes available for fleahopper management and the most common products can be found in the table below.



Figure 1. Adult cotton fleahopper. Photo credit: James Smith, Mississippi State University, Bugwood.org



Figure 2. Cotton fleahopper nymph. Photo credit: Xandra Morris

Table 2. Suggested Insecticides and Rates for Managing Cotton Fleahoppers in Cotton

Insecticide (trade name)	Lb active ingredient per acre	Amount of formulated product per acre	Acres treated per gal or lb of formulated product	Mode of action group (*IRAC)
Acephate ¹ (Orthene 97, Acephate 90, generics)	0.24	4 oz	4	1B
Acetamiprid ¹ (Intruder Max 70WP/ Strafer Max, generics)	0.026–0.048	0.6–1.1 oz	26.67–14.55	4A
Dicrctophos ¹ (Bidrin 8EC, generics)	0.25–0.5	4–8 fl oz	32–16	1B
Flonicamid (Carbine 50WG)	0.054–0.089	1.7–2.8 oz	9.41–5.71	29
Imidacloprid ¹ (Alias 4F, Admire Pro, generics)	0.031–0.063	1–2 fl oz	128–64	4A
Oxamyl (Vydate C-LV 3.77)	0.125–0.5	8–32 fl oz	16–4	1A
Thiamethoxam (Centric 40WG)	0.031–0.063	1.25–2.5 oz	12.8–6.4	4A

¹ Rates vary depending on product and formulation.

*IRAC = Insecticide Resistance Action Committee (1A = Carbamates, 1B = Organophosphates, 4A = Neonicotinoids, 29 = Flonicamid)

Cotton aphid numbers have started rising, especially in fields that have been sprayed with acephate for thrips. Currently I have not found a field that were at threshold for cotton aphids, but I have recommended including imidacloprid to be mixed with fleahopper shots in hopes of suppressing the population enough to keep them from reaching the economic threshold. Reports from the Brazos bottoms around College Station the aphid number there are averaging well over the economic threshold in some fields, with some local fields average over 150 aphids per leaf. Cotton aphids damage the plant by feeding on the underside of cotton leaves, stems, and terminals. This feeding reduces yields by reducing the carbohydrate production of the plant that would be used to produce bolls. When aphid populations get extremely heavy the infested leaves will begin to curl downward. Another issue with cotton aphids is the potential transmission of the Cotton Leaf Roll Dwarf Virus, which has been found in other portions of Central Texas in previous years. The threshold for aphids in cotton is based on if there are any open bolls on the plant, and with our cotton no where near having open bolls the current economic threshold is 40-70 aphids per leaf. Currently there are some plants with over 70 aphids per plant in fields, but when sampling over 100 plants the aphid numbers drop well below the 40-70 aphids per leaf. There are several insecticides labeled for aphid management in cotton and can be found in the Table below.

Table 2. Suggested Insecticides and Rates for Managing Aphids in Cotton

Insecticide (trade name)	Amount of formulated product (fl oz or oz per acre)	Lb of active ingredient per acre	Acres treated per gal or lb of formulated product	Mode of action group (*IRAC)
Flupyradifurone (Sivanto 200SL)	7.0-10.5	0.0913-0.137	18.29-12.19	4D
Flonicamid (Carbine 50WG)	1.4-2.8	0.044-0.089	11.43-5.71	29
Acetamiprid ¹ (Intruder Max 70WP/Strafer Max)	0.6-1.1	0.025-0.05	26.67-14.55	4A
Dicrctophos ¹ , [®] (Bidrin 8EC)	4.0-8.0	0.25-0.5	32-16	1B

¹Rates will vary depending on product formulation.

[®]Suppression only

*IRAC = Insecticide Resistance Action Committee (1B = Organophosphates, 4A = Neonicotinoids, 4D = Butenolides, 29 = Flonicamid)

Blacklands IPM Update is a publication of Texas A&M AgriLife Extension IPM Program in Hill & McLennan Counties.

Authors:
 Tyler Mays, Extension Agent-IPM Hill & McLennan Counties
 Zach Davis, County Extension Agent-AG/NR

126 South Covington Street
 P.O. Box 318
 Hillsboro, Texas 76645
 Phone: 254-582-4022
 Fax: 254-582-4021
 Mobile: 979-482-0111
 Email: Tyler.mays@ag.tamu.edu

Educational programs of Texas A&M AgriLife Extension Service are open to all citizens without regard to race, color, sex, disability, religion, age or national origin. The information given herein is for educational purposes only. References to commercial products or trade names are made with the understanding that no discrimination is intended and no endorsement by Texas A&M AgriLife Extension Service is implied.