

Improving Lives. Improving Texas.

2008 INTEGRATED PEST MANAGEMENT

CALHOUN

VICTORIA

REFUGIO

Stephen Biles
IPM Extension Agent
186 CR 101 – P.O. Box 86
Port Lavaca, Texas 77979

Office: (361)552-3324
Mobil: (361)920-1138
E-Mail: biles-sp@tamu.edu
Website: <http://calhoun-tx.tamu.edu>

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NEWSLETTER

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Grain Sorghum

Some sorghum fields are beginning to bloom and should be scouted for midge. To determine if adult sorghum midges are in a sorghum field, check at mid-morning when the temperature warms to approximately 85° F when midge adults are most abundant on flowering sorghum grain heads. Because adult sorghum midges live less than 1 day, each day a new brood of adults emerges. Sampling must be done almost daily during the time sorghum grain heads are flowering. Sorghum midge adults can be seen crawling on or flying about flowering sorghum grain heads. The simplest and most efficient way to detect and count sorghum midges is to inspect carefully and at close range all sides of randomly selected flowering grain heads. Handle grain heads carefully during inspection to avoid disturbing adult sorghum midges. Other sampling methods can be used, such as placing a clear plastic bag or jar over the sorghum grain head to trap adults.



Sorghum Midge

Inspect plants along field borders first; particularly those downwind of earlier flowering sorghum or johnson grass. If no or few sorghum midges are found on sorghum grain heads along field edges, there should be little need to sample the entire field. If you find more than one sorghum midge per flowering grain head in border areas of a sorghum field, inspect the rest of the field. Sample at least 20 flowering grain heads for every 20 acres in a field. For fields smaller than 20 acres, sample 40 flowering grain heads.

The economic injury level for sorghum midge can be calculated from the following equation:

$$\text{Number of sorghum midges per flowering head} = \frac{(\text{Cost of control as \$ per acre}) \times 33256}{(\text{Value of grain as \$ per cwt}) \times (\text{Number of flowering heads per acre})}$$

Table 1. Estimated economic injury levels for sorghum midge for a range of factors.

Control cost, \$/acre	Crop value, \$100 lbs	Economic injury level— mean number of midges/flowering head		
		Flowering heads = 18,000/acre	Flowering heads = 45,000/acre	Flowering heads = 67,500/acre
5	6	1.6	0.6	0.4
5	7	1.3	0.5	0.34
5	8	1.2	0.5	0.3
6	6	1.9	0.8	0.5
6	7	1.6	0.7	0.4
6	8	1.4	0.6	0.35
7	6	2.2	0.85	0.6
7	7	1.9	0.75	0.5
7	8	1.6	0.65	0.45

Soybeans

Currently the risk of rust infections in local fields is low. Fungicides are not recommended for rust management at this time. The conditions are not right for rust development in soybean fields. No rust has been found in the Lower Rio Grande Valley. In fact, the only place in the state with rust on Kudzu is near Livingston in East Texas. And the dry, warm conditions we are experiencing are not conducive to spore survival and germination. Once the crop has reached R6 (Full Seed) it should be safe from the impact of rust on yield or quality.

Threecornered alfalfa hoppers can be found in soybean fields from the seedling stage through maturity. During the seedling stage its feeding causes girdled main stems; in later growth stages petioles are girdled. Plants damaged in early growth stages may not be noticed until they are much older and heavier. Because of the damaged stems, plants may lodge when stressed by wind, rain or cultivation equipment. The restricted flow of nutrients in girdled plants can reduce the number of pods produced. However, this type of damage rarely reduces yield because healthy plants adjacent to damaged plants compensate by producing higher yields. This is a phenomenon known as “plant stand compensation.” Main stem girdling is difficult to prevent with insecticide applications. A better management strategy for this type of damage is to manipulate seeding rates in order to obtain at least six undamaged plants per foot of row.



Threecornered Alfalfa Hoppers

I am finding stink bugs in soybean fields at relatively low numbers. Continue to scout for stink bugs in soybean fields until the beans are mature.

Last week I discussed the stink bug thresholds and I have since had some additional thoughts. One reason for the extremely low threshold (1 stink bug per 6 foot of row) in beans grown for seed is due to the reduction in germination due to stink bug feeding. Since local bean production is not for the production of planting seeds, I suggest using 24 stink bugs per 100 sweeps, or 1-2 per three foot of row, from R1 (beginning bloom) to R6 (full seed) and 24-36 bugs per 100 sweeps from R6 to mature bean.

Lowering the threshold below 24 per 100 sweeps will probably result in excessive insecticide application leading to economic losses. Below are data from two Economic Threshold trials conducted in 2005.

Table 2. Yield, value and gross and net return for early planted soybeans (Calhoun County, 2005).

	Yield bu/ac	Value \$/bu	Gross Return \$/acre	Application Cost \$/acre	Net Return \$/acre
Untreated	48.82 a	6.18 a	302.09 a	0.00	302.09 a
36 bugs/100 Swps (>0.25")	48.92 a	6.20 a	303.32 a	10.00	293.32 a
24 bugs/100 Swps (>0.25")	51.26 a	6.20 a	317.81 a	20.00	297.81 a
LSD (P=.10)	7.24	0.01	44.81		44.81
Treatment Prob(F)	0.7568	0.1413	0.747		0.9264

Table 3. Yield, value and gross and net return for late planted soybeans (Calhoun County, 2005).

	Yield bu/ac	Value \$/bu	Gross Return \$/acre	Application \$/acre	Net Return \$/acre
Untreated	34.5 b	4.89 b	172.68 b	0.00	172.68 b
36 bugs/100 Swps (>0.25")	43.6 ab	6.14 a	267.67 a	10.00	257.67 ab
20 bugs/100 Swps (>0.25")	55.4 a	6.18 a	342.33 a	30.00	312.33 a
LSD (P=.10)	13.35	0.89	94.92		94.92
Treatment Prob(F)	0.0693	0.0601	0.0463		0.0817

**SOME OF YOUR SUPPORTERS FOR
THE IPM PROGRAM**

Hlavinka Equipment Company
 South Texas Cotton & Grain
 Helena Chemical Company
 Moreman Community Gin
 Farmer's Coop of El Campo
 Danevang Farmer's Coop, Inc.
 Sorghum Partners/Milo Genetics
 Texas Soybean Board



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ROW CROP TOURS: TIME & PLACES TBA

Refugio County Row Crop Tours

June 11, 2008 – AM & PM (361) 526-2825

Calhoun County Row Crop Tours

June 17, 2008 – PM (361) 552-9747

Victoria County Row Crop Tours

June 19, 2008 – PM (361) 575-4581

WORK PROTECTION STANDARD TRAINING

Calhoun County Bauer Exhibit Building

May 28, 2008 9:00 am
 (361) 552-9747