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INTEGRATED PEST MANAGEMENT – APRIL 29, 2009 - VOLUME 5 – ISSUE 1

CALHOUN VICTORIA REFUGIO

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Control of Cotton Plants

Cotton plants growing in fields of other crops or in pastures or non-cropland should be destroyed. These plants will increase the cost of eradication as well as make the eradication of cotton boll weevil impossible. In addition the Texas Department of Agriculture has recently sent out a notice concerning Noncommercial cotton.
http://www.agr.state.tx.us/vgn/tda/files/1848/29835_Noncommercial%20Cotton%20Notice.pdf

Several herbicides can be used effectively to control cotton plants in corn, grain sorghum and soybeans. Below are some herbicides that may remove cotton from these crops. Keep in mind the herbicides will be more effective on seedling cotton (less than 4 leaves) than on older cotton. It is very important to read and follow label instructions.

Corn:	Buctril, Spirit, Aim and Gramoxone
Grain Sorghum:	Peak, Buctril, Aim and Gramoxone
Soybeans:	Classic and Blazer

Insect Pests

Fields with different soil moisture levels make it difficult to make broad statements concerning pest management. Fields with low yield potential probably should not be treated for early season insects and fields with average yield potential should be viewed no different from normal years.

That being said, there is little being found in fields that would warrant insecticide applications. We are finding low to moderate levels of **chinch bugs in corn** fields (0-10 per 10 plants). Most corn is beyond the damage window for this pest. *Insecticide should be applied when two or more adult chinch bugs are found on 20 percent of seedlings less than 6 inches high. On taller plants, apply insecticides when immature and adult bugs are present on 75 percent the plants.* While we have seen some caterpillar pests on corn and sorghum, these are not worth treating at this time.

Cotton fields should be monitored for **thrips**. *Control may be justified when the average number of thrips counted per plant is equal to the number of true leaves present at the time of inspection.*

Soybeans should be monitored weekly, but no pests are currently being found.

Sorghum Downy Mildew

Last year we found several fields with sorghum downy mildew resistant to fungicide seed treatment. Most of these fields were planted to a different crop this year. Attached is a bulletin on the symptoms of this disease. If you have a field with symptoms, please contact me (920-1138). We are trying to document the movement of this disease and develop a management strategy and promote the effectiveness of crop rotation (the best known management tool).

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PLANT PATHOLOGY & MICROBIOLOGY

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SORGHUM DOWNY MILDEW – PART 1: SYMPTOMS

Sorghum downy mildew (SDM) is caused by a soilborne fungus, *Peronosclerospora sorghi,* The disease is most common in the Upper Gulf Coast counties of Texas, but has been seen in other sorghum production areas. Recent outbreaks have been associated with strains of the fungus resistant to the seed treatment fungicide, Apron.

Infected seedlings are pale yellow or have light-colored streaking or mottling on the leaves (Fig. 1), often accompanied by a white, fuzzy growth of the fungus on the underside of leaves (Fig. 2). These symptoms indicate systemic infection by the fungus. Such plants will not yield.

Fig. 1. Sorghum downy mildew in a seedling: systemic symptom.

Fig. 2. Underside of leaf showing fungal growth.

Leaves that emerge later have white, parallel stripes of green and white tissue (Fig. 3). (Do not confuse this striping with iron chlorosis, which results in a pale color between veins; the white stripes of SDM are not limited to veins and vary in width.) Later in the season, these striped areas die, turn brown, and disintegrate, resulting in a shredded leaf (Fig. 4). Oospores of the fungus are produced in this tissue, fall to the soil and overwinter there.

Fig. 3. Sorghum downy mildew, mid to late season systemic symptom.

The white, fuzzy growth on systemically-infected plants indicate the production of short-lived spores, known as conidia. Conidia are produced in cool, humid or wet weather. They become airborne and infect leaves of other plants, causing a local lesion phase of SDM. Local lesions are brown and somewhat rectangular (Fig. 5).

Fig. 4. Sorghum downy mildew, late season.

Fig. 5. Local lesions.

Local lesion infections can become widespread throughout a field, but cause no yield loss and are usually short-lived. New infections cease as the temperature increases during the season. Local lesions do not produce oospores. Under cool, wet conditions, however, infection of young seedlings by conidia can result in systemic infections in some hybrids.

Text and Photos by Dr. Thomas Isakeit, Professor and Extension Plant Pathologist
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