



INSECTS AND WEEDS IN FOCUS

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SOME AREAS NEED RAIN EVEN TO PLANT

There are large areas in the Lower Coastal Bend that are very dry, so dry in fact that some people have stopped planting. Plant stands are very spotty in many fields and plants are suffering from the lack of water. In some cases corn and sorghum plants have not been able to send roots into the dry soil. Growing conditions in other areas are good, but even there rain would be welcome.

RDP

SOUTHERN CORN ROOTWORM & CHINCH BUG FOUND IN SOME CORN FIELDS

Two insect pests that were detected in significant numbers last week in scattered fields along the Gulf Coast included **southern corn rootworm** and **chinch bug**. The area of infestation was along a line from Schulenburg to Rosenberg; it is probably more widespread. The southern corn rootworm was causing the greatest amount of damage, and some of this damage was even in fields treated with Cruiser and Poncho. Both of these seed treatments in field studies have demonstrated very effective control of southern corn rootworm at the 0.25 mg ai/seed rate (not to be confused with the rate needed for Mexican corn rootworm of 1.25 mg ai/seed). It may be

that most of the southern corn rootworm damage in insecticide treated corn is confined to low places that held water for a period of time following planting.

There is another condition, often confused with insect damage, that occurs when we have a combination of high wind and drying seed furrows. The ground dries out before brace roots penetrate the soil resulting in plants blowing around and abrasion occurs to the roots which might be attributed to insect damage. These plants often lodge, but if the condition is caught early, moving some soil to prop plants up will help. A good rain will aid the ability of plants to root properly. Where chinch bugs can be ruled out, it is easy with a good hand lens or microscope to tell that the damage is not caused by insects.

Larger corn will probably have **corn earworm** and/or **fall armyworm** feeding in plant whorls over the next few weeks. In the case of corn earworm, generally one large caterpillar will end up in each whorl. The ragging damage from this feeding will look bad but plants will be OK. Control of corn earworm in the whorl with insecticide is not likely to be achieved. The Bt transgenic corn does a good job on corn earworm feeding in whorls but is less effective later when they feed on ears. If fall armyworms number several per plant (they are sometimes found in high numbers on smaller plants), control with insecticide might be necessary.

Other insects to watch for on corn include **cutworms**, **white grubs**, **scarab beetles**, and hatching of eggs of the **Mexican corn rootworm**. Expect this egg hatch to occur in mid-April. We have several field studies planted where Mexican corn rootworm damage is expected to be very high.

RDP

FEW REPORTS OF INSECT PEST ACTIVITY IN SORGHUM

It seems when we say little insect activity is occurring in a crop, within days reports of some problem is called to our attention. Generally, **yellow sugarcane aphid, greenbug, southern corn rootworm, and chinch bug** activity in sorghum has been low, but there have been exceptions, especially with greenbug and chinch bug. In the case of greenbug, about a week after the infestation was noted their numbers declined dramatically. In the case of chinch bug it is important to inspect around small plants and behind the lower leaf to determine the level of infestation. On sorghum 6 inches tall or less, treatment should be considered where 40 or more chinch bugs are detected per 100 plants. As we have stated before, control can only be achieved with large amounts of water (generally two nozzles over each side of plants that deliver 30 gallons of spray solution/acre).

Each year we receive reports of false chinch bug (possibly a closely related species) moving off weeds into various crops. These bugs leave dying or drying weed hosts either in fields or weedy turn rows and overwhelm crop plants. Generally, only field margins or areas where host weeds were heavy require treatment. Barrier treatment between the infestation source and crop is sometimes used to stop field penetration. RDP

COTTON INSECTS ABOUT LIKE MOST YEARS AT THIS POINT

Arthropods noted by consultants in cotton include the usual for this time of year such as **cutworms, aphids, thrips, and spider mites**. Some beneficial activity has also been observed, especially ladybug adults and their eggs.

Aphids should be tolerated for a while because we have noted a tendency for their numbers to decline after a buildup. I think at least 50 aphids should be present on cotyledon to 3-leaf cotton before treatment is even considered, and even then allow about 7 days to determine if their numbers begin to decline. Seldom have I ever

noted aphid feeding on very young cotton result in increased lint production. The greatest yield increase that has been observed on cotton from aphid control was later in the season when their numbers persisted at very high numbers for two or more weeks.

Control decisions for spider mites are also difficult to make on small cotton since about the time they reach numbers that are alarming, there is often a rapid decline. RDP

CATERPILLARS FEEDING ON SHADE TREES ESPECIALLY LIVE OAK

It is the time of year that many species of caterpillars are found feeding on shade trees (live oak). Most of these caterpillars have one generation each year and occur during the months of March through May. Most noteworthy is **forest tent caterpillar, cankerworm, whitemarked tussock moth, and oak leafroller**. RDP



Forest tent caterpillar



Cankerworm



Whitemarked tussock moth



Oak leafroller

WEEDY NOTES

Is global warming fueling a new generation of more aggressive weeds? According to recent research, the answer may be yes.

INTERESTING INSECTS

One of the major characteristics of a warming planet is an increase in the amount of carbon dioxide in the atmosphere. Rising carbon dioxide has been shown to help vegetable and grain crops grow more quickly, become more drought-resistant, and produce potentially higher yields. Unfortunately, though, the impact of rising carbon dioxide seems to be far more pronounced in the weeds that compete with crops than in the crops themselves.

The impact of rising carbon dioxide levels on weeds can be striking. In a study conducted by Dr. Lewis Ziska of the U.S. Department of Agriculture's Agricultural Research Service, weeds grown under urban conditions of warmer temperatures and higher carbon dioxide levels grew to four times the height of those in a country plot 40 miles outside the city, where carbon dioxide and temperature reflected background conditions.

So what if there are a few more weeds? Well, Ziska's research shows that common ragweed plants exposed to higher levels of carbon dioxide dramatically increased the amount of pollen they produced. A doubling in carbon dioxide led to a quadrupling of pollen. Some people are allergic to ragweed pollen, resulting in the "hay fever" response, including sneezing and watery eyes. Additional work by Ziska also suggests that even recent increases in carbon dioxide during the last 50 years may have led to bigger poison ivy plants with a more virulent form of the oil that causes people to break out in a rash (source: Weed Science Society of America) **DDF**

The information that follows was taken and partly modified from an article by Dr. May Berenbaum, University of Illinois, that appeared in the Summer 2003 issue of the *American Entomologist* volume 49(2):68-69. The title of her article was: "A Stinging Commentary."

The thing about arthropod stings that makes them so scary is not just that they hurt - it's that they're actually **designed** to hurt. Arthropod venom is a fiendish mixture of pharmacologically active substances that for the most part (except for protection) serve no function in the life of the organism producing them other than to inflict pain on other organisms.

It has been reported, for example, that scorpions (not an insect) produce prevenom, a high potassium-salt and peptide combo that can alter potassium channels in neurons in such a way as to cause intense pain. It's not as if these components are the most lethal elements of venom - they're just incredibly painful. It was concluded in a research project that this relatively metabolically inexpensive prevenom, consisting of mainly salts, allows a scorpion to "make an impression by causing intense pain". **RDP**

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