
INSECTS AND WEEDS IN FOCUS

ROUTE 2, BOX 589 - CORPUS CHRISTI, TX 78406

ROY D. PARKER
EXTENSION ENTOMOLOGIST
PHONE: 361-265-9203

EMIL (TREY) D. BETHKE III
EXTENSION AGENT-ENTOMOLOGY
OFFICE: 361-387-7101
MOBILE:850-0167

JOHN E. BREMER
EXTENSION WEED SPECIALIST
PHONE: 361-265-9203

Web site: <http://entowww.tamu.edu>

<http://agfacts.tamu.edu/~rparker/>

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COTMAN TRAINING

**Attention: Cotton Producers
Crop Consultants
Extension Specialists**

**Extension Agents – IPM
County Extension Agents**

A training on the COTMAN cotton management expert system will be held on Thursday, March 9th at the Texas A&M Research and Extension Center outside Corpus Christi. A copy of the day's agenda is enclosed for your review.

This training will be directed by Dan Fromme, Extension Agent – IPM for the Upper Gulf Coast of Texas. Fromme has extensive experience utilizing the COTMAN expert system and has been instrumental in research to enhance COTMAN's reliability and usefulness to cotton producers.

COTMAN is a cotton plant monitoring software that was developed by the University of Arkansas and Cotton Incorporated. It provides season-long crop monitoring to assess plant development and plant stress. If stress is detected, COTMAN suggests possible causes and corrective actions. COTMAN also identifies field cutout dates, ranks multiple fields by maturity, and suggests end-of-season management decisions pertaining to the timing of insecticide termination and application of defoliant.

During the previous two years, the Upper Coast IPM Program has used COTMAN with 33 producers in 69 different fields (5,800 acres). These cotton producers have provided positive feedback regarding the value of this program to each of their operations. Interest in the use of COTMAN in the Lower Coastal Bend has led to a number of result demonstrations over the past several years.

A registration fee of \$50 will be assessed. With this fee you will receive both classroom and “hands-on” computer training, a copy of the COTMAN program software, and a COTMAN user's manual. Because we have only 6-7 computers available, we will only accept the first 12 registrants. If you are interested, please send your name and check, made payable to TPMA, to the following address:

**Texas Agricultural Extension Service
Attn: Trey Bethke
710 E. Main St., Suite 1
Robstown, TX 78380**

This program is being sponsored by the Texas Agricultural Extension Service and the Upper Gulf Coast and Lower Coastal Bend IPM Programs. If you have any questions or need information regarding hotel/motel accommodation, please call (361) 387-7101.

2000 COTMAN Training Agenda

Thursday, March 9, 2000
Texas A&M Research and Extension Center
Highway 44, Corpus Christi, Texas

Time	Topic
9:30 - 10:00	Registration
10:00 - 10:05	Overview of COTMAN
10:05 - 10:25	Overview of the Cotton Plant: Plant structure, nodal development, terminology, plant growth curve (TDC), type of data collected (SQUAREMAN & BOLLMAN)
10:25 - 10:55	Sampling: Basics, stick diagrams, impact on insect scouting methods
10:55 - 11:15	SQUAREMAN Decision Rules and Output: SQUAREMAN rule evaluations, interpretations of SQUAREMAN graphs
11:15 - 11:45	Shed Rate Limit: Logic and application of a plant-based economic injury level for assessing economic thresholds in early-season cotton
11:45 - 12:45	Lunch - on your own
12:45 - 1:30	BOLLMAN Decision Rules and Output: BOLLMAN rules (cutout, heat unit accumulation), interpretations of BOLLMAN graphs
1:30 - 1:50	COTMAN Costs and Benefits: Costs of sampling, interpretation, net revenues with insecticide termination
1:50 - 2:05	COTMAN Menus and General Use
2:05 - 2:35	Defining Farms and Fields
2:35 - 2:45	Break
2:45 - 3:20	Data Entry: SquareMap, NAWF, Stand Count, Weather
3:20 - 4:00	Data Entry and Interpreting Output Exercise

THOUGHTS ON BOLL WEEVIL ERADICATION

Farmers can assist BWE personnel by providing access around the entire perimeter of cotton fields. Without such access it will be difficult to determine treatment needs. It is now time in BWE to increase pressure through more aggressive treatment, especially in early season (pinhead-square to first bloom) and late season (cut-out). Aggressive treatment will also be necessary in some fields during midseason as long as the percentage of acres treated is low. If this action is not taken, program costs will not come down and it will be impossible to pay off the debt as projected. All BWE programs in the nation have been operated on the basis of increased pressure on the boll weevil as progress is made. Areas of concern this season include fields where stalk destruction was not carried out and/or fields were not properly treated in 1999. Great progress was

made in 1999 where aggressive treatments were made in a timely fashion. Malathion (ULV) is the insecticide of choice since it is more effective on boll weevil than other insecticides as demonstrated in numerous tests. Where multiple treatments are made there will be increased probability of secondary pests. In these cases, producers will need to be ready to treat for these pests, although I believe there will be many areas where very few treatments will be required until crop cut-out. BWE is not an easy task nor painless in all cases. The best situation that I've observed is where Foundation field unit supervisors and growers have developed a good rapport, growers have provided assistance, growers view the program as their own, growers seek to get the job completed even if they don't particularly like the program and stalk destruction is early and complete.

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INSPECT CORN & SORGHUM FOR EARLY INSECT PESTS

Crops that are emerging should be examined for insect pests such as chinch bugs, cutworms and, in the case of sorghum, yellow sugarcane aphids and greenbugs. If these crops have not been planted, consider using a seed or soil applied insecticide for these pests and corn rootworms, ants that feed on planting seed and other below ground pests.

Please call us if you desire a copy of our corn (B-1366) and sorghum (B-1220) insect management publications.
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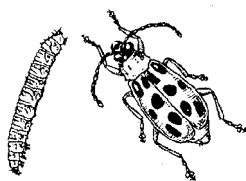
SOUTHERN CORN ROOTWORM REVIEW

Southern corn rootworms are the larvae of the spotted cucumber beetle. Rootworms are small, brown-headed and creamy white, with wrinkled skin. They burrow into germinating seeds, roots and crowns of plants.

Symptoms of rootworm damage include reduced stands and plant vigor, and occurrence of "dead heart" in young plants. Later in the season, maturity may be delayed, weeds may increase in abundance because of a nonuniform plant stand, and plants may lodge.

Granular or liquid formulations of several insecticides are labeled for in-furrow or row band application for controlling rootworm. Base the need for insecticide treatment on a field history of previous damage by rootworms. Seed treatment with lindane controls light infestations of rootworms present at planting and Gaucho treated seed also provides protection.

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Southern corn rootworm

MEXICAN CORN ROOTWORM REVIEW

Mexican corn rootworm beetles lay eggs in the soil during the summer and fall, shortly after silking time. Eggs are usually laid within the corn field in the upper 2 to 8 inches of the soil, where they remain until

they hatch the following year. Time of hatching depends to some extent on soil temperature; however, eggs usually begin to hatch about mid-April in South Texas and about mid-May in the High Plains and continue to hatch for several weeks. There is only one generation per year; *therefore, the best method of controlling these two subspecies is to rotate corn with any other crop.*

Fields planted to corn year after year in Mexican corn rootworm problem areas generally require a soil insecticide at planting time. In continuous corn production fields, an average of one or more beetles per plant on any sampling date during the growing season indicates a need for a soil insecticide the following spring or a need to consider crop rotation. Damage from corn rootworms usually occurs from mid-April through mid-May in South Texas. Extensive damage to the brace roots and fibrous roots may cause plants to lodge. A "goose necking" appearance occurs when lodged plants continue to grow.
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INTERESTING INSECTS

Plant-eating insects are numerous and widespread. But some plant species have turned the tables and eat the insects instead! These plants are called **carnivorous** plants and have been known to eat small mice and reptiles in addition to insects.

Carnivorous plants don't eat insects as a defense. Instead, they eat insects to fortify their diet. Most carnivorous plants live in swampy areas where the soil has only small amounts of nitrogen, a nutrient that most plants need to survive. Because carnivorous plants can't get nitrogen from the ground, they get it from insects that land on them.

The most well known carnivorous plant is the Venus flytrap. This aggressive carnivore attracts insects by releasing a strong smell. When insects approach the plant, they are lured by the bright red coloring on the plant's lobes. When insects land on the leaves, they begin investigating for food and unknowingly touch small hairs, called cilia, on the leaves. If the insect touches the same cilium twice, or if it touches two different cilia within a short time period, the leaves will suddenly snap shut, like a clam shell. The plant then releases **enzymes** to digest the insect. After a while there is nothing left of the insect except the hard **exoskeleton**, which the plant cannot digest.
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