

The Boll Weevil Trap: An Eradication Tool

The boll weevil trap, a seemingly simple device, is the cornerstone technology in boll weevil eradication. This trap and the pheromone (insect attractant) it contains is the efficient, inexpensive result of decades of research. Without this trap, it is unlikely that scientists or the cotton industry would have undertaken the challenge of eradicating boll weevils—the primary insect pest of U.S. cotton.

What Does it Do?

The main role of the boll weevil trap is detecting weevil populations throughout the season. When populations are low, the trap also acts as a control device.

Early in the season, the trap detects whether weevils have survived the winter. Later in the season, it tells program officials where weevils are and the level of the pest population. Without this information, pest populations could go unnoticed—or money could be spent spraying fields unnecessarily. Trapping with the pheromone grandlure detects weevils at lower levels than a scout could find them visually. Producers should remember that the program traps and control measures are directed only toward boll weevils.

In the spring, the trap effectively attracts and kills weevils since it has little or no competition for their attention from sources of food (the cotton crop) or sex (other weevils). The trap contains a small vinyl strip with a contact insecticide that kills all captured weevils.

How Do the Pheromone and Trap Work?

The pheromone is a chemical called grandlure, and it is a laboratory version of the weevil's own attractant. Fresh 10-milligram samples of time-released lure are placed in traps about every 14 days. The pheromone scent draws in weevils from the surrounding field. In some areas, an extended lure is used which contains 25 mg of grandlure and lasts 3–4 weeks.

Years of careful research have refined the shape, color, and size of the trap for optimal attractiveness to the boll weevil. The trap needs to be above the cotton plants and not surrounded by weeds so that it is visible to the weevils and has good air circulation to carry the scent of the pheromone into the field. Boll weevils

that land on or in the trap's cup naturally crawl upward through the top of a screen cone into the capture cylinder, which holds the strips of lure and insecticide.

How Can Growers Be Sure They Have Functional Traps?

Growers whose traps are knocked down by severe weather or farm equipment should stand them up again since traps lying on the ground are not functional. Traps under trees, in brushrows or other shaded areas lose their effectiveness and give misleading data. Keeping field borders clear and free of weeds allows access by program trappers and equipment, and it helps provide maximum trap exposure. Poor trap maintenance can result in underestimated weevil populations and missed treatments. This will prolong the time and cost of the eradication program.

Which Fields Are Trapped?

Program officials monitor all fields that are planted with cotton, and often those that were in cotton the previous year. The program works with the U.S. Department of Agriculture's Farm Service Agency (FSA) to find and trap cotton fields. To have fields properly trapped during the eradication phase, it's important that growers register their planting intentions with FSA by early April. Growers should notify the program if their fields remain untrapped.

When Does Trapping Begin?

In fields planted to cotton the previous season, traps are often placed in late March on field borders, the most likely place to find hibernating weevils. Traps are placed in current season cotton fields in late April. In post-eradication areas, traps are placed later in the season to detect any reinfestations.

Where Are Early Season Traps Located?

Scouts place traps 100 to 125 feet apart on field borders adjacent to overwintering sites. Open areas are trapped at about 200-foot intervals. In program areas in the East, this gives an overall density of about one trap per acre. A density of about one trap per three acres is used on larger fields, especially in Texas. Exact trap density will vary from field to field depending on the field's size, configuration, and proximity to hibernation sites.

How Does Trapping Change Throughout the Season?

In early July, traps are usually removed from most

fields that are not replanted with cotton. For current cotton fields, traps are placed evenly around the field, no more than 250 feet apart. Infield traps may be used along ditches or other natural breaks or where an infestation is suspected.

How Often Are Traps Monitored?

Traps in cotton fields are checked weekly during the eradication phase of the program. Scouts usually date the traps (which are identified by unit and field number) each time they monitor them and indicate whether weevils were found. Quality control checks include checking dates on traps, changing lure colors, placing dead marked weevils in traps, and reviewing the treatment history on selected fields.

When Does Trapping End?

Program scouts check and maintain the traps until the producer destroys the cotton stalks or weather terminates the crop. A few traps stay in the fields through the winter so that weevil populations can be compared from season to season.

What Happens When Eradication Is Complete?

After the eradication program is finished, trapping continues at a reduced rate. Scouts check the traps every 2–3 weeks. If weevils are captured, program officials increase trapping and apply treatments when necessary to prevent reinfestation.

Who Can I Contact for Additional Information?

You may contact the following offices for more information about the program:

Arizona Cotton Research and Protection Council:
(602) 438–0059

Arkansas Boll Weevil Eradication Foundation:
(501) 223–2763

Georgia Boll Weevil Eradication Foundation:
(800) 269–9926

Louisiana Boll Weevil Eradication Commission:
(225) 952–8105

Oklahoma Boll Weevil Eradication Organization:
(800) 246–4810

Pecos Valley Cotton Boll Weevil Control Committee
(New Mexico): (505) 746–8700

South Central New Mexico Cotton Boll Weevil Control
Committee: (505) 541–0584

Southeastern Boll Weevil Eradication Foundation, Inc.
(AL, FL, MO, MS, NC, SC, TN, VA): (800) 269–9925

Texas Boll Weevil Eradication Foundation (Texas and
eastern New Mexico): (800) 687–1212

In addition APHIS' national program office can be
reached at (301) 734–8676.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720–2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250–9410, or call (800) 795–3272 (voice) or (202) 720–6382 (TDD). USDA is an equal opportunity provider and employer.