

**THE COOPERATIVE BOLL WEEVIL  
ERADICATION PROGRAM (BWEP):  
A GROWING SUCCESS**

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**Abstract**

The grower-approved and funded boll weevil eradication program has been successful in the southeastern and southwestern portions of the United States and a plan has been developed by the Industry to eradicate the pest beltwide by 2003. Program operations consist of trapping, careful and timely treatments, and cultural control. New technologies are being developed to improve control practices in environmentally sensitive areas. Boll weevil eradication results in significant economic and environmental benefits.

**Introduction**

The cotton boll weevil, *Anthonomus grandis*, moved into the United States from Mexico in the late 1800's and has since cost the cotton industry more than \$13 billion in economic losses. In 1978, a trial program begun in Virginia and North Carolina, proved that the country's number one cotton pest could be eradicated on a large scale through a coordinated regional effort. To date, boll weevil eradication has been achieved in several Southeastern and Southwestern States as well as portions of Mexico.

As a result, cotton industry leaders, working through the National Cotton Council in concert with government agencies, have developed a national strategic plan to maintain current boll weevil-free areas and to eradicate the pest from the remainder of the Cotton Belt by 2003.

**Grower Program**

The BWEP is funded primarily by cotton farmers and is initiated through grower-approved State referenda. National implementation is coordinated by U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service in cooperation with grower foundations; State departments of agriculture; USDA's Cooperative State Research, Education, and Extension Service and the Consolidated Farm Service Agency.

**Program Operations**

Every cotton field in the program area is mapped and surrounded with pheromone traps. The traps are checked regularly to identify areas of infestation. Treatments—usually malathion at ultralow volume—are carefully applied in response to trapping results, and only infested fields are treated. An extensive environmental

monitoring plan is implemented to comply with Federal and State pesticide laws and to protect human health along with threatened and endangered plant and animal species.

Growers are encouraged to follow good cultural practices that limit early and late season food sources for the weevil. Those practices include planting later, using short-season cotton varieties, harvesting early, and destroying stalks after harvest. Boll weevil populations are usually eliminated after several seasons of trapping and treatment. Post-eradication weevil surveys track reinfestation so that treatments are reapplied only where necessary.

**Developing Technologies**

The BWEP relies heavily on USDA's Agricultural Research Service, State universities, and commercial entities to develop, improve, and deliver new technologies to the field. Bait tubes are used to suppress weevil populations near environmentally sensitive areas. Geographic information systems and global positioning devices help pinpoint weevil populations and improve accuracy of pesticide applications. Biotechnology research, including the development of *Bacillus thuringiensis* transgenic cotton, may open new avenues for control of cotton pests including boll weevil.

*Catolaccus grandis*, a boll weevil parasite from Mexico, has been proven effective during a portion of the growing season and eventually could be used near environmentally sensitive sites as well as on farms where cotton is grown organically.

**Timeframes**

To date, the boll weevil has been successfully eradicated in Virginia, North Carolina, South Carolina, California, and Arizona. More than 99 percent of the fields in Georgia, Florida, and southern Alabama are also weevil free. Boll weevil eradication in widely varying environments at opposite ends of the Cotton Belt suggests success for the eradication effort in the remainder of America's cotton-growing areas. Industry leaders have developed a plan for expanding boll weevil eradication programs across the mid-South and Texas/Oklahoma regions, with nationwide eradication by 2003.

**Benefits**

Both economic and environmental benefits are significant. The National Cotton Council estimates that the economic benefit-to-cost ratio is approximately 12:1. This ratio is derived from eliminating the dollar value of yield lost to weevils. As a result of these benefits, the cotton industry, and local economies are strengthened to support new jobs in ginning, warehousing, seed crushing, and textile manufacturing. Environmentally, integrated pest management strategies for controlling secondary pests have a much better chance of succeeding in the absence of the boll weevil. Most importantly, eradication provides a cleaner environment resulting from a 40- to 90- percent reduction in pesticide use on cotton.