BOLL WEEVIL

PROGRAM PROFILE

Goal	To eradicate the boll weevil from cotton-growing areas of the U.S. and Northern Mexico by 2003 in cooperation with States, the cotton industry, and Mexico.
Enabling Legislation	7 U.S.C. 147; (Organic Act of 1944); U.S.C. 148-148e; 7 U.S.C. 450. Program began 1963.
Economic Significance	If the boll weevil is allowed to infest all cotton-producing areas, eradication costs could exceed $150 per acre and growers would lose 7-10 percent of their cotton crop each season. About $200 million is lost annually due to boll weevil damage and control costs nationwide. Economic benefits of eradication stem largely from the yield gain or reduced crop losses to insect damage and reduced insect control costs. These effects represent permanent gains realized by weevil eradication. Growers save about $36 per acre in pesticide costs and earn an additional $42 per acre from increased yield. The combined annual direct economic benefits once the boll weevil is eradicated is $780 million. The National Cotton Council estimates the total benefit:cost ratio at about 12:1. Areas with more intensively managed cotton production earn return rates closer to $50 for every $1 in program cost. Eradication will result in a yield increase of at least 69 pounds per acre, pesticide savings of at least $30 per acre, and land value increases of $14 per acre.
Principal Approach and Methods Used to Achieve Goals	Program uses pesticides and pheromone traps to eradicate the pest. This mostly grower-funded and managed program depends on 100 percent participation. The program has been extremely successful in improving cotton yields and reducing production costs in eradicated areas. The program is a cooperative pest eradication effort involving survey, regulatory, and control activities. State agencies provide regulatory support.

History

In 1963, APHIS began a cooperative control program in Texas and by 1983, an eradication program began in the Carolinas. APHIS has made significant progress in the southeastern and southwestern States. In 1983, the cooperator's contribution increased from 50 to 70 percent of program costs. In FY 1994, the National Cotton Council requested that APHIS begin an accelerated eradication program. This program would be eradicated the boll weevil from the U.S. by 2003. The extent of APHIS participation in the proposed program is directly linked to the availability of funds.

State and Local Cooperation

The Federal share is 30 percent or less (plus certain capitalized equipment) over the program's life. Cotton growers, non-Federal sources, and State appropriations provide at least 70 percent of the program cost. The Mexican government and growers help support the program in northwestern Mexico.

Involvement of Other Agencies

State Agriculture departments, land grant universities, State and Federal agencies, and industry. ARS provides research, the Extension Service has provided information to growers, the Farm Service Agency provides critical support, and the Economic Research Service conducts economic analyses.

RESOURCE DATA

	Obligations			
	Direct	Reimbursement	User Fees	Staff-Years
FY 1997	17,459,311	--	--	38
FY 1998	16,180,814	--	--	12
FY 1999	16,523,781	--	--	12
FY 2000 (est.)	15,334,048	--	--	20
FY 2001 (est)	2,856,000	--	--	7

	APHIS	Coop	Total	CCC	Cont. Fund
Cumulative	$187,341,432	$442,839,718	$630,181,150	--	$1,923,000

RECENT ACCOMPLISHMENTS

Eradication Progress

Central Eradication Program: FY 1999 marked the fifth full season of program activity in the Southern Rolling Plains zone, with about 200,000 acres essentially boll weevil-free, pending completion of programs in adjacent areas. This program progressed as expected into its final stages and we should confirm eradication in FY 2000. The Central Rolling Plains zone (700,000 acres) continued trapping, treatment, and monitoring activities to further reduce weevil populations. FY 1999 eradication efforts helped the Central Rolling Plains zone begin the 2000 growing season with low weevil populations. In response to significantly greater grower interest in eradication, cotton growers in Texas passed referenda to allow program expansion into the following five zones in the summer of 1999: Northern Rolling Plains (400,000 acres), Western High Plains (1 million acres), the Permian Basin (750,000 acres), the Northwest Plains (600,000 acres), and El Paso/Trans Pecos (100,000 acres).

In northeastern Mexico, growers in southern Tamaulipas, where the largest cotton growing areas exist, have organized to reduce weevil populations, with APHIS providing technical expertise and assistance. Mexican officials hope to move this technology northward toward the U.S. border, although certain technical and risk assessment issues remain unresolved. The Mexican eradication plan relies heavily on biocontrol measures, the efficacy of which has not been proven for eradication. Further, the area chosen for this pilot effort contains native plants besides cotton which could act as boll weevil hosts and could pose a significant problem for a comprehensive eradication effort. Mexico and the U.S. will both benefit greatly from a boll weevil program that is based on sound science. We will continue to monitor control efforts in northern Mexico, and to work with Mexican Government officials and grower representatives.

Growers in the Red River Valley (70,000 acres) of west Louisiana and southwest Arkansas completed their second full season of eradication operations in FY 1999. We expect to confirm eradication in this region in FY 2001. The remaining 500,000 acres within cotton-producing areas of the State (in northeast Louisiana) became involved in an eradication program in the summer of 1999. The southeastern portion of Arkansas (325,000 acres) began its eradication program in the summer of 1999; this will take 3-4 years to complete. Also in FY 1999, plans were made to expand into East Central Arkansas (Middle Zone); program activities will begin there in the summer of 2000. In addition,

growers will vote in FY 2000 to determine whether or not to begin eradication activities in northeastern Arkansas and southeastern Missouri. The Oklahoma program (200,000 acres) completed its first full season of eradication and is progressing on schedule. State bonds help finance this program.

Southeast Eradication Program: This program maintained effective post-eradication surveillance on over 3 million acres in 7 States. Eradication activities focused on Eastern Mississippi (450,000 acres), the South Delta (130,000 acres), the North Delta (600,000 acres), and southwest Tennessee (200,000 acres). In FY 1999, the Eastern Mississippi program made reasonable progress and reached the halfway point in the eradication process. Meanwhile, the South Delta program made significant progress in its first full season and we expect eradication in FY 2001. Also in FY 1999, the North Delta program began well with a series of diapause treatments; it will begin its first full season in FY 2000 and achieve eradication in 2002. The entire State of Mississippi should be essentially weevil-free by sometime in FY 2003. The SW Tennessee program made fair progress in its first full season, but significant numbers of weevils migrated from non-program areas in northwestern Tennessee. Northwestern Tennessee will begin a program in the summer of 2000 that should relieve much of the migratory pressure.

In recent years, Mississippi growers have taken a more active role and have reduced their reliance on APHIS' direction and technical assistance. Still, APHIS' contribution to the program in Mississippi has been relatively stable and has remained proportional to APHIS' overall boll weevil appropriation.

Southwest Boll Weevil Eradication Program: In FY 1999, post-eradication activities continued to protect Arizona, southern California, and northern Mexico. We captured no weevils were captured in these areas and used no pesticide on over 1.4 million acres of intensively managed, irrigated cotton. In New Mexico, APHIS continued providing monitoring and technical assistance as needed for detection and eradication activities.

In FY 1999, growers in the lower Rio Grande Valley (LRGV) did not petition the Texas Agriculture Commissioner to rejoin the boll weevil program. Without the LRGV participating in the program, weevils from the valley could reinfest other areas. In northwestern Mexico, APHIS provided technical expertise and conducted limited trapping along the Mexican border to help ensure that Mexican infestations do not endanger eradication efforts in Texas.