



PPQ 2024 Annual Report

Optimizing Pest Management: Cotton Pests

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Introduction

The Cotton Pests Program of the U.S. Department of Agriculture’s (USDA) Plant Protection and Quarantine (PPQ) program works with growers, the cotton industry, States, and Mexico to eradicate the boll weevil (BW) and pink bollworm (PBW) from all cotton-producing areas of the United States and northern Mexico. PPQ is part of USDA’s Animal and Plant Health Inspection Service (APHIS). Collectively, the BW and PBW are the most destructive pests of cotton worldwide. The Cotton Pests Program also maintains preparedness capabilities to address other cotton pests that could enter the United States. PPQ provides national coordination, operational oversight, and technology development (such as sterile insect technology), while program partners have provided more than two-thirds of the funding for the BW eradication effort and most of the operational funds for PBW eradication. APHIS also provides technical advice on trapping and treatment protocols to its partners in Mexico for their eradication efforts.

Boll Weevil

The BW has cost cotton growers more than \$15 billion since it entered the United States in the late 19th century (National Cotton Council of America, 2021). PPQ began the initial BW eradication program along the Virginia-North Carolina border in the early 1980s. The BW eradication effort involves mapping cotton fields, using pheromone traps to evaluate weevil presence, and applying pesticides to treat infested crops. Once BW is eradicated from an area, cotton growers rely less on insecticides, thus reducing their production costs. Over the course of the eradication efforts, the program has increased these growers' global competitiveness, primarily through reduced production costs and increasing yields.

To date, PPQ and cooperators have eradicated BW from 99.5 percent of the 10.23 million acres of planted cotton in the United States, with eradication activities continuing in the National Buffer Zone that includes the Lower Rio Grande Valley (LRGV) of Texas. Currently, BW only exists in 10 quarantine counties in Texas. The LRGV is the last zone within the United States where the pest persists. BW populations in neighboring Mexican cotton producing State of Tamaulipas impact eradication efforts in the LRGV. Therefore, APHIS and its cooperators in Mexico's National Service for Agrifood Health, Safety and Quality (SENASICA) and the Texas Boll Weevil Eradication Foundation (TX-BWEEF) are working to eradicate BW from the Mexican state of Tamaulipas.

In 2024, APHIS continued its support for the BW Eradication Program in Tamaulipas, Mexico, through its agreement with the North American Plant Protection Organization (NAPPO), which funds ultra-low volume malathion and aerial treatment expenses. Cooperators from TX-BWEEF provided technical training and assistance to SENASICA and growers in Tamaulipas to implement the rigorous quality

control program protocols. This includes providing technical assistance through the smart device application that enables employees and TX-BWEP managers to monitor trap deployment, trap servicing, and treatment activities in real time. In 2024, cooperators from TX-BWEP and SENASICA established additional BW traplines into southern Tamaulipas, extending over 100 miles from current BW eradication efforts. The trap lines informed cooperators of active BW populations that are a migratory distance from the current Boll Weevil Eradication Program (BWEP) in northern Tamaulipas. The U.S. cotton industry and cotton growers support the BWEP to eradicate BW from the U.S. and cotton-growing regions in northern Mexico to prevent BW from re-establishing in the United States.

In 2024, APHIS also continued virtual monthly meetings with SENASICA to maintain open communication about BW eradication successes and challenges throughout the growing season. APHIS will continue to work with SENASICA at multiple levels to ensure growers adhere to eradication and quality control protocols, as well as ensure growers adhere to defoliation, harvest, and stalk-destruction timelines set by BWEP. In addition to monthly meetings with cooperators in 2024, officials from APHIS and SENASICA successfully negotiated with growers in northern Tamaulipas to cap their cotton planting at 3,850 hectares to restrict available habitat for BW and reduce the costs of the Binational BWEP. Additionally, SENASICA provided financial support towards the purchase of ultra-low volume Malathion and ground-based application equipment.

Overall BW activity peaks in late August into early September for the LRGV, and late August to early October in Tamaulipas. BW captures in Tamaulipas decreased by 78 percent, with 447 captures through September 2024, compared with 1,958 BW captures by the same time in 2023. Cooperators in Tamaulipas treated 284,024.22 acres in 2024, compared with 338,922 treated acres in 2023. Captures in LRGV decreased by 92 percent, totaling 168 through September 2024, compared with 2,175 BW

captures by the same time in 2023. Cooperators treated 197,753 acres in the LRGV, compared with 569,567 that needed treatment at the same time the prior year.

APHIS will continue partnering with the U.S. cotton industry to reduce the BW population in the LRGV and to conduct BW surveillance efforts for all U.S. cotton production areas in 2025. APHIS will also continue to partner with SENASICA's Tamaulipas BW Eradication Program to provide technical assistance and support for their parallel program to the LRGV program. APHIS is committed to monitoring BW to ensure the early detection of any reintroductions, and to work toward successful eradication of BW in the United States in the coming years.

Pink Bollworm

In the United States, although the volume of acreage planted with cotton varies from year to year, the PBW commonly caused cotton losses of 20 percent or more in affected areas. In 2018, PPQ, in conjunction with industry partners, successfully eradicated PBW from all commercial cotton-producing areas in the continental United States. In that same year, the Florida Department of Food, Agriculture, and Consumer Services (FDACS) added a PBW quarantine for south Florida, where wild PBW populations have persisted for over 80 years in wild cotton. In 2020, FDACS restricted planting of commercial cotton by designating south Florida as a regulated area for PBW. Since 2018 APHIS has supported PBW surveys to ensure that isolated PBW populations in southern Florida do not move north into the commercial cotton production areas. In 2024, there were no detections of PBW found in 83,380 acres of commercial cotton surveyed in north central Florida. These surveys will continue in 2025.