BOLL WEEVIL ERADICATION: BELTWIDE STATUS AND FUTURE OUTLOOK

Bill Grefenstette
USDA - APHIS - PPQ
Riverdale, MD

Abstract

The Boll Weevil Eradication Program continues to make good progress and is poised for tremendous expansion over the next few years. By the end of 1998, the weevil had been eradicated from more than 4.7 million acres in 11 states. Post-eradication surveillance with pheromone traps continues to protect these areas from reinfestation. Eradication activity is underway on an additional 2 million acres in 7 states, with further expansion expected in 1999. The new Farm Service Agency loan program, the indirect effects of Bt cotton, and increasing emphasis by growers on reducing production costs, have all combined to generate significant momentum for program expansion and completion.

Introduction

During our time this morning, I want to recap what happened this past season, and give some indication as to where the program is going as we move into 1999. Still fresh in our minds is the fact that the 1998 season was marked by an extensive drought across much of the Cotton Belt. In Dallas, Texas, they had 56 days with temperatures above 100_ F, and similar heat plagued much of the South. The unusually hot, dry weather certainly was hard on the cotton crop--and that was *bad*. But those same conditions were also hard on boll weevil populations--and that was *good*.

Although the technology we use to eradicate the boll weevil is not weather dependent, there are times when weather events can accelerate, or cause unfortunate delay, in the eradication timetable. And those same events can increase or decrease the overall cost of eradication. The drought of 1998 was one of those events.

Despite poor yields in many areas, and outright disaster in others, the various eradication programs made good progress in eliminating the weevil this past year. Although program personnel deserve credit for what they accomplished in reducing weevil numbers during 1998, most would admit that they got a little help from the extreme summer heat.

Late in the season, however, weather worked *against* us, as heavy rains and mild temperatures activated nitrogen which had lay idle in the soil during the hot, dry summer. Regrowth provided a fresh food supply for late-season weevils in many areas. It made defoliation, picking and plowdown more difficult. And it increased late-season control costs for the program.

Program Update

As we close-out 1998, the weevil has been eliminated from significant acreage in the Southeast, the Southwest, and more recently some acreage in Texas (Fig.1). Nationwide, over 4.7 million acres are now weevil-free in 11 states.

Eradication is ongoing in portions of Mississippi, Tennessee, Louisiana, Arkansas, Texas, Oklahoma, and New Mexico (Fig.2). During 1998, about 2.5 million acres were involved in active eradication. And despite some severe weather, secondary pests were not nearly the problem some had predicted they would be in the eradication zones. Beet armyworms, bollworms, budworms, aphids and plant bugs were--with very few exceptions--no worse *in* the eradication zones than they were *outside*.

The dry weather forced many growers to look for ways of reducing their cost of production. And as they also kept an eye toward the future, many became convinced that they would have a better chance of surviving such tough growing conditions if the weevil was out of the picture. Reports from weevil-free areas confirmed that, while the crop was not great, yield *was* better than if they still had the weevil, and their production costs were certainly less. As a result, momentum continues to build for the rapid completion of nationwide eradication.

Various states are fueling that momentum by their growing interest in funding eradication programs (Fig.3). Recent legislation in Louisiana is providing about 50 percent of the funds needed for statewide eradication. Other states, having considered the economic benefits being realized by communities in previous program areas, are looking for similar ways to reduce the growers' cost for eradication. And significant low-interest loans from the Farm Service Agency (FSA) have allowed program leaders to spread the cost of eradication over a few more years, making growers' annual cost even more affordable. Finally, the Animal and Plant Health Inspection Service (APHIS) continues to provide cost-share funding to each program area. These limited funds are being stretched as more and more acres join the program. Grower assessments, therefore, will remain the primary source of program funding.

Let's look now at the individual program areas.

Post-Eradication

Southeast. Post-eradication areas in the Southeast continue to look good (Fig.4). The Program Director for the Southeast, Mr. Jim Brumley, is up next, so I will ask him to give us the specific details.

Reprinted from the *Proceedings of the Beltwide Cotton Conference*
Volume 2:809-813 (1999)
National Cotton Council, Memphis TN

Texas. The Southern Rolling Plains zone started in the fall of 1994 (Fig.5). Even though it lost a little time during some litigation, this zone should be weevil-free this season.

Southwest. Moving to the Southwest, post-eradication areas remain in great shape (Fig.6). No boll weevils were detected on more than 1.5 million acres of cotton in Arizona, California, and northwest Mexico.

Taking a look now at the *active* eradication areas.

Active Eradication

Southeast. The Southeast program expanded into new areas in Mississippi and Tennessee last year, and I again will ask Jim Brumley to give us that information in a few minutes (Fig.7).

Louisiana / Arkansas. The Louisiana Department of Agriculture and Forestry, specifically Dr. John Andries, is managing the Red River eradication program in west Louisiana and southwest Arkansas (Fig.8). This program involved about 60,000 acres in 1998--it's first full season following an initial series of diapause treatments in 1997. Dr. Andries and his staff made great progress in reducing weevil numbers in 1998 and setting the stage for statewide expansion later this year. State funding has helped tremendously, and has motivated growers in adjacent states to look for similar assistance.

Oklahoma. The eradication program in Oklahoma is run by Dr. Jerry Coakley, Executive Director for the Oklahoma Boll Weevil Eradication Organization (Fig.9). This program involved about 220,000 acres in 1998, and began with a series of diapause treatments last fall. The program faces a challenge on its northern border with Kansas. There were about 15,000 acres of cotton in Kansas, and weevils have been trapped along the border. Dr. Coakley will continue to work with state regulatory officials to keep this from becoming a problem. In the Oklahoma program, state bonds and grower assessments have provided the necessary funding.

New Mexico. The program in New Mexico also began in 1998 (Fig.10). It involves about 10,000 acres in Luna County, west of Las Cruces, and another 25,000 acres in the Mesilla Valley. It is important to clean-up these previously weevil-free areas before weevil numbers build and threaten cotton in adjacent areas of Arizona and the far West. Mr. Bill Gomez has been coordinating the initial program operations in New Mexico.

Texas. Mr. Osama El-Lissy manages the eradication field operations in Texas (Fig.11). He is on the agenda later this morning, so I will ask him to describe the progress he is making in those three zones.

Expectations for 1999

The 1999 season should prove to be an exciting one for boll weevil eradication (Fig.12). In Mississippi and Tennessee, recent expansion areas should make good progress in moving toward eradication. Possible expansion into the north Delta of Mississippi would also mean that all four zones in that state would be in the program. If the north Delta falters in its referendum later this month, growers in northwest Tennessee are voting right now to determine if they will go instead, and begin their program later this summer.

In Louisiana, the positive statewide referendum last fall will bring an additional 600,000 acres into the program this year (Fig.13). And Louisiana's expansion now makes it feasible for the southeastern portion of Arkansas to bring another 325,000 acres into eradication. That program will be managed by Mr. Doug Ladner.

The 1999 season in Texas will involve new expansion into a number of new zones, depending on which ones pass referenda in the coming weeks, and how many new acres the program managers can handle (Fig.14). The Southern Rolling Plains should be completed, while the Rolling Plains Central and South Texas / Wintergarden zones will move even closer toward eradication.

In Oklahoma, the program will go through its first full season, building on the experience gained in 1998, and hoping that cotton acreage will bounce back after last year's disaster (Fig.15). There will be an ongoing need to manage adjacent acreage in southern Kansas.

Finally, in New Mexico the program will gear-up for season-long operations (Fig.16). Success will depend on grower cooperation in and around Las Cruces. If small, irrigated fields are again planted close to sensitive sites in town, they will be difficult to treat, will delay eradication, and will increase program cost. We hope growers there will use wisdom in deciding where to plant.

Summary

In closing, these are exciting and challenging times for boll weevil eradication. Significant acreage remains weevil-free in the Southeast and Southwest, and additional acreage is moving into the post-eradication category each season (Fig.17).

This year we expect to see significant new expansion into northwest Mississippi, northeast Louisiana, southern Arkansas, and additional areas of Texas. New loans from FSA will become available in some of these areas in the coming weeks. And additional areas will likely vote later this year, looking to start their programs within the next 2-3 years.

Weevil eradication has become a reality for growers on more than 4.7 million acres. It is no longer a test project. If you are a producer growing weevil-free cotton in post-eradication areas, I encourage you to describe to other growers the benefits you are enjoying from the program. But if you are still battling weevils and your area is thinking about starting an eradication program, I urge you to get information first-hand from growers who actually have done it. Eradication is a grower-run and a grower-funded program, and the employees often turn-out to be your friends and neighbors, and even your sons and daughters.

Boll weevil eradication, in spite of the challenges, debates and occasional controversy, continues to move forward and to represent the growers' best chance for long-term stability and profitability in many areas. With the current crop insurance program, and large swings in price and supply, growers need a few breaks if they are going to survive. Getting rid of the boll weevil gives growers a big advantage, and the benefits are significant. Increased yields, lower production costs, and exciting IPM opportunities after eradication--all these are putting more money in the pockets of growers who are willing to make the investment. We are excited about what lies ahead, and we look forward to 1999.

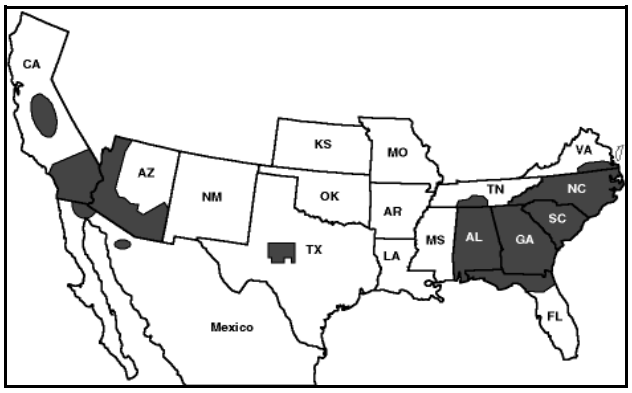

Figure 1. 1999 Boll Weevil Eradicated Areas.

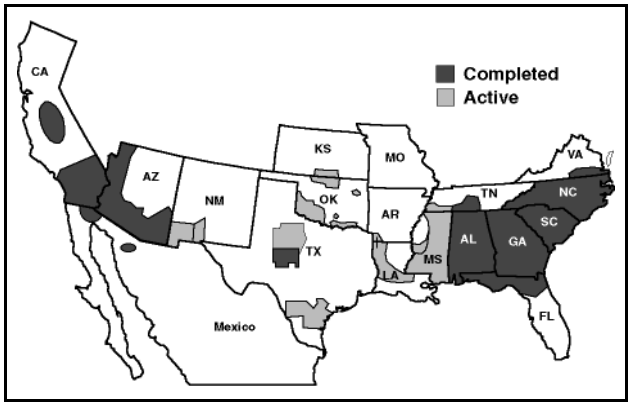

Figure 2. 1999 Eradication Program Areas.

Sources of Funding for Boll Weevil Eradication

- Grower assessments
- State appropriations
- Federal appropriations (APHIS)
- Loans:
  - Commercial
  - Industry
  - Federal (FSA)

Figure 3. Sources of Funding for Boll Weevil Eradication.

Figure 4. 1999 Southeast Post-Eradication Areas

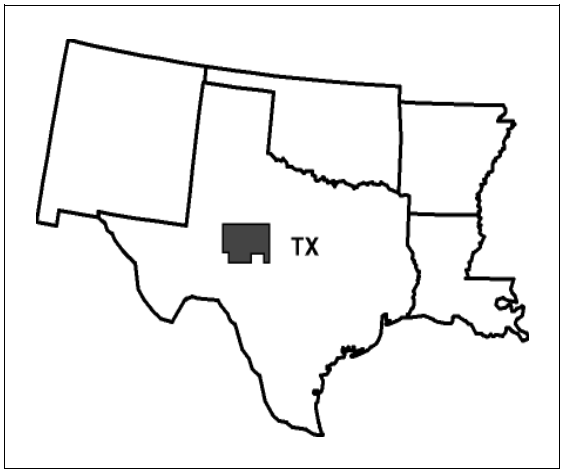

Figure 5. 1999 Texas Post-Eradication Areas

Figure 6. 1999 Southwest Post-Eradication Areas

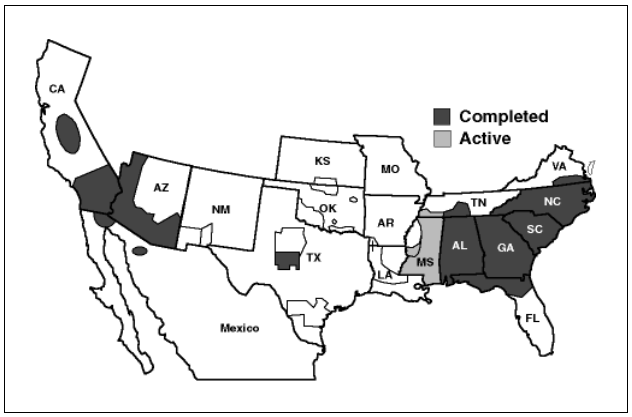

Figure 7. 1999 Southeast Eradication Program Areas

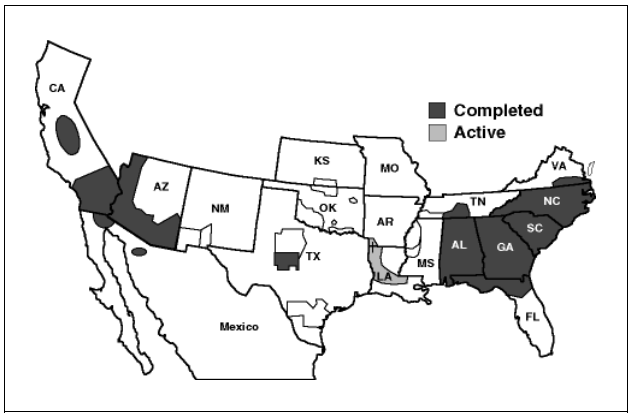

Figure 8. 1999 Louisiana/Arkansas Eradication Program Areas

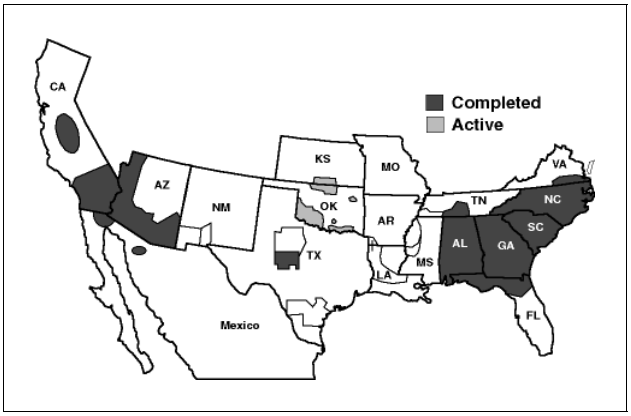

Figure 9. 1999 Oklahoma Eradication Program Areas

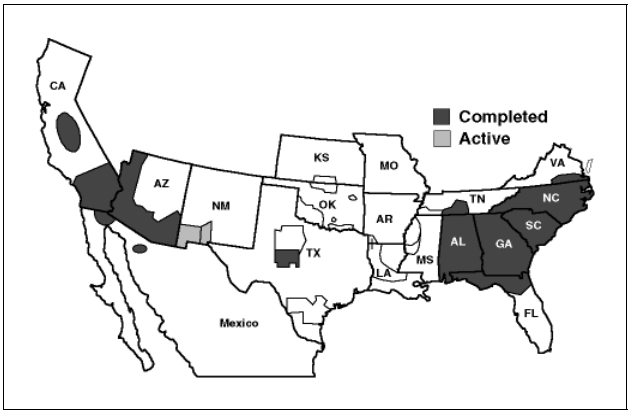

Figure 10. 1999 New Mexico Eradication Program Areas

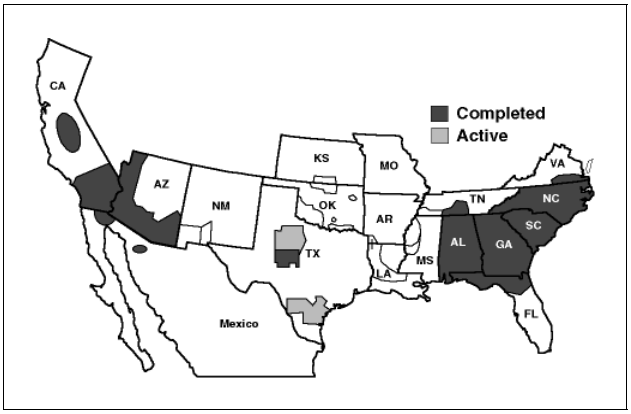

Figure 11. 1999 Texas Eradication Program Areas

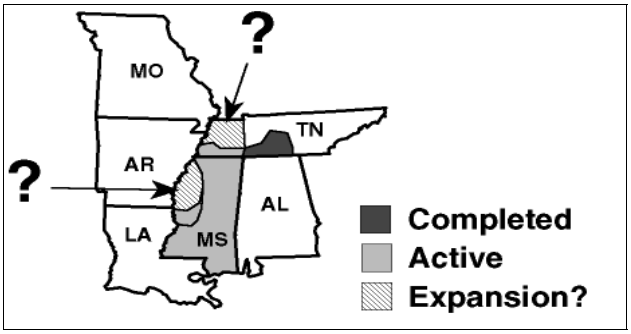

Figure 12. 1999 Mississippi/Tennessee Expectations

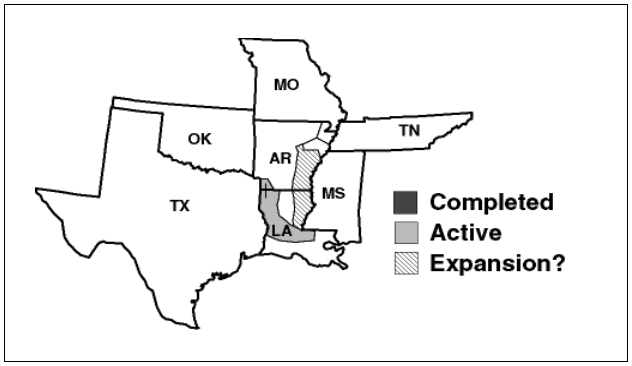

Figure 13. 1999 Louisiana/Arkansas Expectations

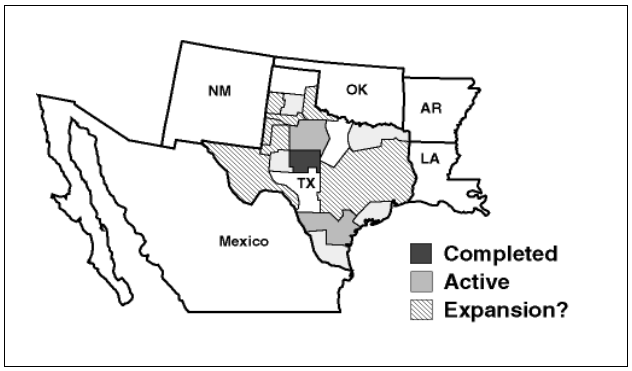

Figure 14. 1999 Texas Expectations

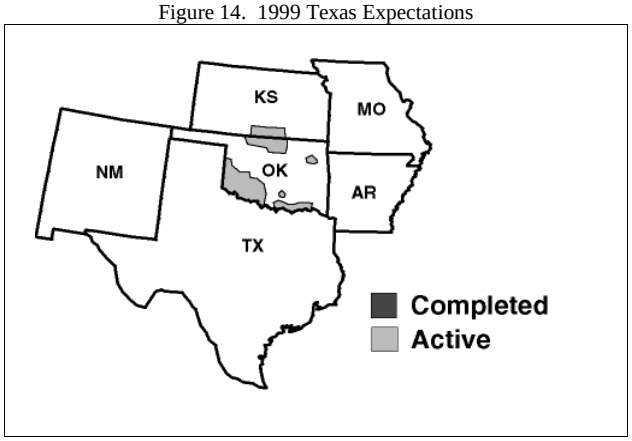

Figure 15. 1999 Oklahoma Expectations

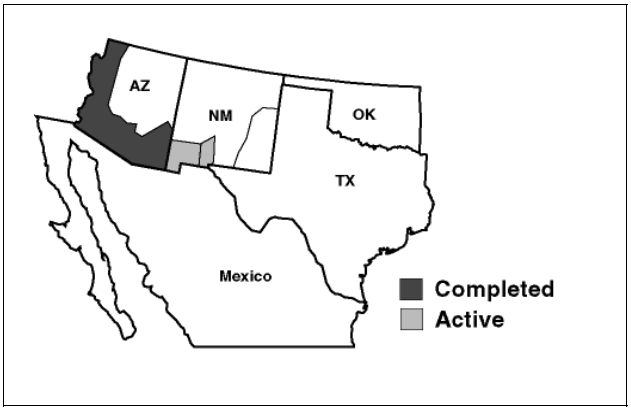

Figure 16. 1999 New Mexico Expectations

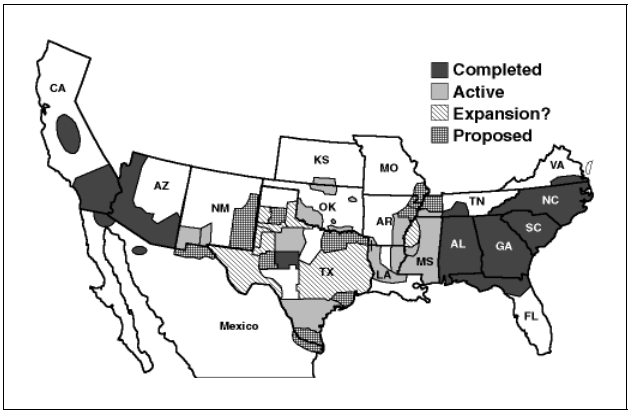

Figure 17. 1999 Boll Weevil Eradication Areas