

BOLL WEEVIL CONTROL WITH BOLL WEEVIL ATTRACT AND CONTROL TUBES 1995

**William C. Langston
Texas A&M University Research
and Extension Center
Dallas, TX**

Abstract

Attract and kill devices for the cotton boll weevil Anthonomus grandis, Boheman have been developed and tested for several years. Data from test conducted by Texas A&M at Dallas in 1995 indicate as many as two overwintering spray applications and one in season spray application may be eliminated by use of two BWACT applications.

Introduction

Attract and kill devices have been developed and tested over the last several years. (Smith and McGovern, 1993). BWACT (Boll Weevil Attract and Control Tube) by Plato Industries was registered by E.P.A. in December of 1993 (Plato Industries, Pub. 1994). Due to this registration BWACT were tested in the North Texas Blacklands (Langston 1995).

These tests indicated more testing was needed, therefore, testing of BWACT continued in 1995.

Introduction

Attract and kill devices have been developed and tested over the last several years. (Smith and McGovern, 1993). BWACT (Boll Weevil Attract and Control Tube) by Plato Industries was registered by E.P.A. in December of 1993 (Plato Industries, Pub. 1994). Due to this registration BWACT were tested in the North Texas Blacklands (Langston 1995).

These tests indicated more testing was needed, therefore, testing of BWACT continued in 1995.

Materials and Methods

The boll weevil attract and control tube is a device which consists of a wooden stake, mounted cardboard tube, which contains feeding stimulants, a slow release insecticide, and a 40 mg grandlure pheromone dispenser is fitted into the top end of the control tube to serve as the boll weevil sex attractant.

The standard boll weevil survey trap with 10 mg lure was used to monitor weevil population in the area. Trap catches

were counted once per week and grandlure changed every 2 weeks.

The BWACTs were tested at only one location in 1995 due to loss of former test field in 1994 to high water. The test field was located approximately two miles south of Branch, Texas and was a 28 acre block of Deltapine 5409 cotton. The test field had 42 BWACT's placed at 100 ft. intervals around the perimeter of the field. Thirty eight of the BWACT's were placed with a five gallon pail around them to catch weevils knocked down or killed by control tubes. These weevils were counted and removed weekly. Control tubes were applied 6/13/95 and again on 8/14/95 as expected life of the tubes is six weeks. The nearest cotton was less than one mile from test site.

Results and Discussion

1. Weevil numbers were high in area averaging 30.5 per trap per week.
2. A total of 4176 weevils were knocked down or killed over first six week period of BWACT application average (149.1)/acre.
3. A total of 1216 weevils were knocked down or killed over period of second BWACT application. (App. 37 days) average (43.4) /acre.
4. A total of 5392 weevils were knocked down or killed during the approxi-mate 10 week BWACT effective period.
5. An average of 96.23 weevils /acre were knocked down or killed over 10 week period.
6. Weevil punctured squares averaged less than 10% until July 11, 1995, when punctures reached 24% and the field was sprayed with larvin 1 gal/6 acres for weevils and worms.

According to trap catches it appears the best time to apply BWACTs is approximately 2 weeks before match head square and approximately 6 weeks before defoliation. Using weevil punctured squares as a measure of effectiveness, I believe the BWACT applications saved two overwintered applications and one in season application for boll weevils.

References

- Langston, W. C. 1995. Boll weevil control with boll weevil attract and control tubes 1995. Proc. Beltwide Res. Production Conference. San Antonio, TX. p. 1012 - 1013.
- Plato Industries. Pub. 1994. Compilation of information on: BWACT. p. 4, 21.

Smith, J. W., W. L. McGovern, R. G. Jones, G. H. McKibben and E. J. Villavaso. 1994. Late season use of boll weevil attract and kill (BWACT) devices. Proc. Beltwide Res. Production Conference. San Diego, CA. p. 987 - 989.

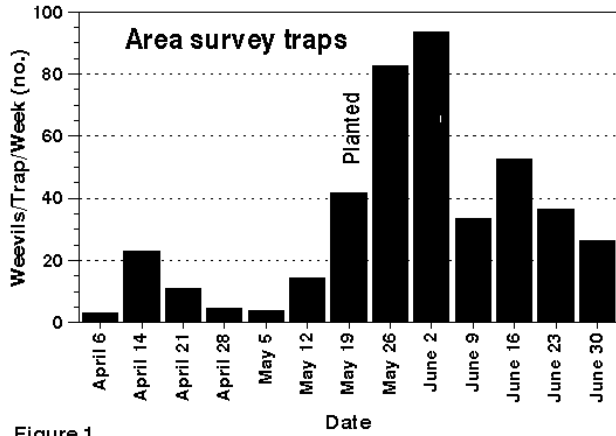


Figure 1

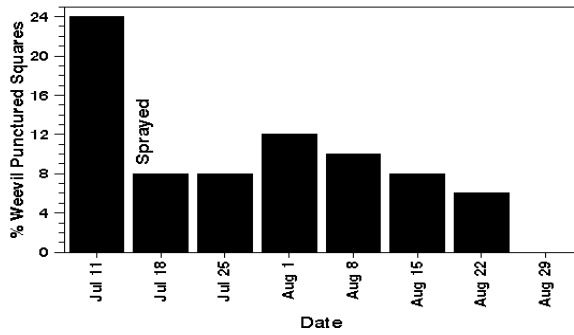


Fig. 2. Punctured square counts. Sprayed with Larvin one gal. per 6 acres

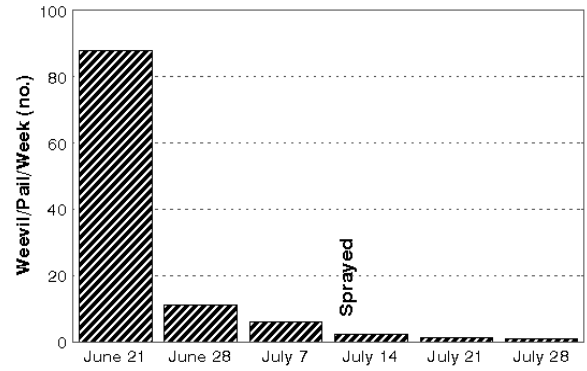


Fig. 3. Number of weevils killed per BWACT per week. Sprayed with Larvin one gal. per 6 acres. BWACT applied June 13, 1995

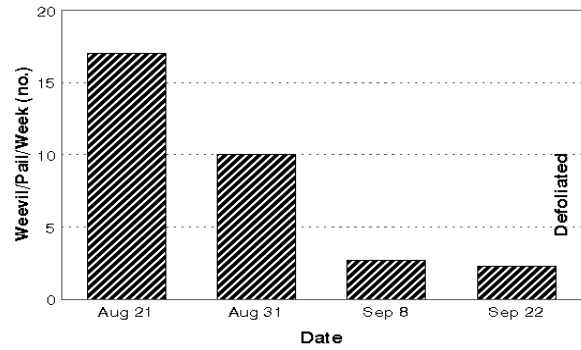


Fig. 4. Number of weevils killed per BWACT per week. BWACT applied Aug. 14, 1995.