

**“BOLL DANGLE,” CAUSING SERIOUS
YIELD LOSSES IN SOUTHEAST ARKANSAS**

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Abstract

An unusual boll loss, “boll dangle,” has been observed in southeast Arkansas since 1995. Boll dangle has previously been referred to as Phomopsis boll rot, atypical boll shed, cotton blossom-boll rot and as a physiological disorder. Boll dangle appears not to be a boll rot, but a unique boll shed. Boll dangle affects newly formed bolls as well as thirty day old bolls and possibly older bolls. The initial symptoms of boll dangle appear as a subtle bleaching or discoloration of the stem tissue surrounding the base of the boll peduncle and extending down the stem. A well-defined canker (2-5mm x 10-30mm in size) develops on the stem at and below the boll peduncle base. The stem tissue within the canker abscise and rapidly becomes necrotic. The developing boll dies, the tissues harden, and the boll remains attached to the stem by an ever-weakening peduncle. A dead boll may dangle from a stem canker for several weeks until it drops from the plant. The objectives of this research were to identify cultivars and the areas within Arkansas affected by boll dangle and the possibility of foliar applications to control boll dangle.

Boll dangle has been identified in the following cultivars since 1995: DP 20, 20B, 32B, 33B, 50, 50B, 90B, 90RR, 5415, 5415RR, 5690RR, GC 171, Hartz 1215, 1330, 5730BG, 6204, 6650BG, HSC2C, LA887, PM 1215, 1215BG, 1215RR, 1220, 1220RR, 1220RRBG, 1244RR, 1244RRBG, 1330BG, 1330RR, 1330RRBG, 1560RR, SG 125, 404, 501, STV 132, 453, 474, 495, BXN 47, BXN 139.

The following counties in southeast Arkansas were confirmed in 1997 to contain fields affected by boll dangle: Arkansas, Ashley, Chicot, Crittenden, Desha, Drew, Jefferson, Lee, Lincoln, Lonoke, Monroe, Phillips, Prairie, Pulaski, and St. Francis. These counties annually account for over one-half of Arkansas’ cotton production.

A field of Sure-Grow 501 with approximately 95% of the plants affected with boll dangle around the sixth week of bloom was located in Desha County. An RCB test was designed for a single foliar application of forty different fungicides or fungicide formulations with five replications. The test was evaluated seven days before harvest by counting

the number of first position bolls loss to boll dangle. The test averaged 9.5 first position bolls loss per plant with no significant differences between treatments or between replications.

Boll dangle has the attention of numerous cotton producers throughout Arkansas who want answers to their questions concerning the cause and management of this yield robbing quandary. Losses from boll dangle go unnoticed in many fields or is attributed to insect damage. Reports of losses up to a bale per acre have been attributed to high levels of boll dangle in a few fields in southeast Arkansas.