

Causes of Square Shed - 1980

Jack R. Mauney
Research Physiologist
AR-SEA, USDA
Western Cotton Research Laboratory
Phoenix, AZ 85040

Observations similar to those taken in 1978 and 1979 were taken at the Cotton Research Center in 1980. Insect populations were monitored and squares examined to determine causes of square shed.

Four categories were again observed which led to square shed: 1) Plant bug feeding, 2) Thrips feeding leading to soft rot, 3) Worm damage and 4) Physiological stress. The proportions of shedding due to these causes from 5/26 to 7/30 are shown in Table 1.

Shedding of squares was greater than in 1979, but was not a factor influencing yield. The shedding that did occur prior to 7/14 primarily due to plant bug feeding. Thereafter physiological stress became more prominent. These observations are very similar to those made in 1978 and 1979, with the exception that fewer squares were observed with soft rot symptoms in 1979 than in 1978 and 1980.

Table 1. Shedding of squares in 1980 caused by plant bugs, Thrips, worms or physiological stresses.

Date	Fraction of available positions shed	Bugs	Thrips	Worms	Physiology
5/26	16	80	30	-	-
6/9	20	65	29	-	6
6/16	15	80	15	-	5
6/30	18	57	17	27	6
7/7	20	50	14	10	26
7/14	30	43	6	47	3
7/21	47	28	-	8	64
7/28	60	60	4	8	28

Response of Cotton to Boll Removal

Timothy R. Peoples and Cyra J. Cain

The loss of developing bolls is a major problem in cotton and can result in reduced yields. Field plots were established to determine the effect of selective boll removal on yield of short staple cotton in Tucson, Arizona. Once active flowering began, all bolls and flowers were removed from fruiting branches to leave only the bolls at the first node, second node or both positions. All other fruiting nodes were picked free to eliminate their influence. Each treatment was replicated six times in 30 foot, four row plots. The center two rows were mechanically harvested for yield.

Seed cotton yields of the harvested plots are shown in Table 1. The presence of only bolls at the second node significantly reduced seed cotton yield. While the yield of only first position bolls was not significantly different than first and second position bolls; seed cotton yields were approximately 400 pounds per acre higher.