EFFECT OF IRRIGATION TIMING ON LONG-FIBER MOTE FREQUENCY

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Abstract

Competition for resources occurs between bolls. Since high boll loads mean more competition, late season bolls are at a distinct disadvantage. Competition occurs between seeds in a locule. If fiber properties are a function of seed location within a locule, then the propensity to terminate development due to insufficient resources may also be a function of seed location. Development can be terminated any time during growth but if it occurs more than two weeks post anthesis, long-fiber motes are formed. During processing immature fiber from long-fiber motes can become incorporated into neps. First position Deltapine 50 bolls from plants grown in Nueces Co., TX (1993, 1994) under dryland and irrigated conditions were selected. Flowers were tagged on the day of anthesis and tagging commenced the second week of flowering and continued on a weekly basis for five weeks. Irrigation was suspended in 1993 four days after the last tagging date and in 1994 twenty-three days after the last tagging date. Under dryland conditions in 1993 and 1994, the percentages of long-fiber motes in the total seed population increased as the season progressed. In 1993 irrigated plots the percentage of long-fiber motes increased dramatically in late season bolls while in 1994 the percentage remained low throughout the season. Within a locule, the seed location nearest the apex of the boll showed a trend toward higher long-fiber mote production. The trend became significant in late season bolls in which the least likely place for a long-fiber mote was the middle of the locule.

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