PHENOLOGICAL AND MORPHOLOGICAL COMPONENTS OF COTTON CROP MATURITY
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Abstract

Full season cotton cultivars may be better adapted to the lower Southeastern U.S. because early maturing cultivars may not recover from the many episodic drought events that annually plague the region. The objective of this investigation was to determine if cotton maturity may be defined on the basis of flowering interval, boll maturation period or whole plant yield distribution. Studies were conducted at the University of Georgia Coastal Plain Experiment Station in 2001, 2002 and 2003. Nine commercially available cotton cultivars were over seeded and hand thinned to 10.8 plants m⁻². Areas within each plot were reserved for daily white flower and open boll tagging and hand harvest. Mean vertical flowering intervals were 2.1 (2001), 2.7 (2002) and 2.6 (2003) days. Mean vertical flowering intervals increased from main stem node 5 to about main stem node 11 and then began to decline. Mean horizontal flowering intervals were 3.2 (2001), 4.4 (2002) and 3.8 (2003) days and were shorter than those in previous reports. In all years the earlier maturity cultivars possessed the shortest boll maturation periods while the later maturity cultivars possessed the longest. The earlier maturity cultivars also produced a greater percentage of their total lint yields at lower main stem nodes. Of the many possible pathways to early crop maturity, the ones investigated in this study that appear to have been most useful in breeding programs are shortening of the horizontal flowering interval and boll maturation period and lengthening of sympodial branches at lower main stem nodes.