

**DEFOLIATION TIMING IN NORTH CAROLINA
COTTON CONTAINING A FRUITING GAP
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Abstract

A defoliation timing study was performed to 1) see if the imposition of a fruiting gap would influence defoliation timing and to 2) compare the use of the percentage of open bolls and nodes above cracked boll (NACB) measurements as tools for timing defoliation. The studies were conducted in 1999, 2000, and 2001. Plots were defoliated based on percent open boll measurements and NACB was recorded at the time of defoliation. In both 1999 and 2000 there was a yield advantage to delaying defoliation past where 60% of the bolls were opening the treatments containing a gap. However, in 2001 there was no yield advantage to delaying defoliation. This may have been due to the optimal late-season growing conditions experienced in North Carolina in 2001. Where there was no fruiting gap, the data suggests that cotton should not be defoliated past 60% open bolls to avoid discounts due to high micronaire readings. In both 1999 and 2000, trends confirmed the direct relationship that the percent open bolls has with yield and micronaire. Overall, these studies demonstrated that in some years, where no fruiting gaps exist, it might be possible to terminate North Carolina cotton prior to the recommended 60% open bolls without sacrificing yields. These results would allow farmers to shift defoliation and hence harvest to a time when there is less risks of discounts due to inferior quality. In both 2000 and 2001, the NACB measurements and the percentage of open bolls had similar relationships to yields. Additionally, measuring NACB in the field required considerably less time than the percentage of open bolls.