

## **1432 Interrelationships among fiber perimeter,length,strength and maturity**

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The extent to which fiber traits are interrelated is important for breeding and processing. Changes in length, strength and maturity were assessed for their impact on perimeter. In order to obtain a range of fiber properties eleven cultivars were planted on multiple planting dates over a three year period in two locations. Cotton was spindle picked and ginned on a 10 saw gin with no lint cleaning. Fiber was analyzed using HVI and AFIS. When cultivar, length, short fiber content and strength were held constant across planting dates perimeter increased with a 0.5 increase in micronaire. When cultivar, length, short fiber content and Maturity Ratio were held constant across planting dates an increase of 28.4 kNm/kg in strength did not alter perimeter values. Small increases in length with strength and Maturity Ratio held constant across planting dates did not change perimeter values. Comparisons between cultivars revealed that when length and cell wall thickness were held constant smaller perimeter cultivars had greater short fiber percentages than larger perimeter cultivars.