

## **1929 Characterization of cotton cultivars and growing environments by glycan oligomer analysis**

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Mature cotton fibers from six cultivars grown in six locations in Brazil have been analyzed by glycan oligomer analysis. The profiles of each of the cultivars are distinct yet contain many similarities. Two of the cultivars which are genetically more distantly related appear significantly different from the other four. All six cultivars from two locations are significantly different than the average for those cultivars from all locations. One other cultivar grown at the same two locations differs significantly from the average of all locations but fibers from that cultivar for the other four locations do not deviate from the average for all locations. Significant differences, based on a Students t-test of individual oligomers, allows separation of some cultivars and all environments. By combining Students t-test results from multiple oligomers, these results indicate that carbohydrate analysis especially with more refined data analysis, can be a promising tool for identification of the environments or cultivars mature cotton fibers or a true variety tracer technology that does not require access to genetic material for either cultivars or environments