NEAR-INFRARED SPECTROSCOPY OF LEAF AND BRACT TRASH SAMPLES

Chanel A. Fortier
James E. Rodgers
SRRC-ARS-USDA
New Orleans, LA
J. Clif Boykin
USDA-ARS Cotton Ginning Research Unit
Stoneville, MS

Abstract

Cotton trash is usually found co-mingled with cotton lint during its harvesting, ginning, and processing. The presence of this trash can considerably reduce the asking price, cotton quality parameters, and reflectance of the cotton lint. Previously, Near-infrared (NIR) spectroscopy has been successfully used to uniquely identify pure raw samples of hull, leaf, seed coat, and stem trash. There currently exists some interest in determining the feasibility of NIR spectroscopy to classify leaf from bract trash samples. To further test the robustness of this method, a program was implemented where raw bract samples from multiple locations were added to the calibration set of a NIR spectral library consisting of hull, leaf, seed coat, and stem. A “proof of concept” was demonstrated that shows the promise of NIR spectroscopy to be employed to identify pure bract trash samples included in a prediction set, where the clear distinction of leaf and bract trash classification is noted.