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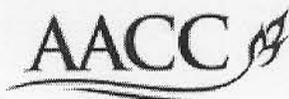
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NIRS applied to detecting single corn characteristics. F. XIE (1), E. Maghirang (2), T. Pearson (3), D. Wicklow (4), K. Kramer (2), T. Morgan (2), and F. Dowell (2). (1) Department of Grain Science & Industry, Kansas State University, Manhattan, KS 66506; (2) USDA, ARS, Grain Marketing and Production Research Center, Manhattan, KS 66502; (3) USDA, ARS, WRRC, Albany, CA; (4) USDA, ARS, NCAUR, Peoria, IL.

A diode-array near-infrared spectrometer was used to rapidly analyze single corn kernels for attributes such as BGY fluorescence, aflatoxin, avidin, fusarium, and fumonisin. NIR spectra were well correlated to BGY fluorescence. Transgenic corn with high levels of avidin could be identified based on NIR absorption characteristics. Data from tests correlating NIR spectra to aflatoxin, fumonisin, and fusarium are currently being analyzed. These tests will show the potential for NIRS to measure important attributes of corn. This information can then potentially be used to sort individual corn kernels based on intrinsic quality characteristics.



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