Extension

Dr. Hurburgh is the professor-in-charge of the Iowa Grain Quality Initiative (GQI), which is the ISU Extension and Outreach program serving the grain handlers and Processors industry. Current issues of GQI include public and private biotechnology policies, standards, marketing incentives, and analytical methods and grain based biofuels. The GQI is also developing country grain elevator management practices, TQM management, ISO certification for agriculture and traceability systems for bulk materials, and Food Safety Modernization Act compliance materials. Dr. Hurburgh represents the United States on three ISO Technical Advisory Groups, TC34, WG 17 ISO22000, ISO22005 Traceability and ISO22006 Quality Management Systems for Production Agriculture.

The Iowa Grain Quality Initiative and the Grain Quality Laboratory (GQL) provide industry training and support for instrumentation, quality management systems and food chain traceability.

Research

Dr. Hurburgh is also the professor-in-charge of the Grain Quality Laboratory, which provides analyses of the chemical and physical properties of grain and grain products. This lab is recognized as a world leader in basic measurement science. Dr. Hurburgh’s research interests include the physical and chemical properties of biological materials, chemical and electronic instrumentation, near-infrared spectroscopy analysis and sensors, chemometrics, metrology, and statistics of very large databases.

Dr. Hurburgh and the Grain Quality Initiative are designing training programs for food safety inspectors and industry personnel for the Food Safety Modernization Act. The theory and practice of food safety management systems-traceability are being developed for bulk grain and grain products.

A recent GQI study activity is the analysis of future growth, improved energy efficiency, expanded animal nutrition and reduced carbon emissions from corn-to-ethanol processing.

The GQL provides calibration and instrument development sources for NIRS manufacturers and users. Currently we are assisting the USDA in determining if multiple models of NIRS can be used in the Official Inspection System with equal accuracy to the present one-model policy.