CLARKE, MARGARET A., and LESLIE A. EDYE, Sugar Processing Research Institute, Inc., 1100 Robert E. Lee Blvd., New Orleans, LA 70124. - Near infrared (NIR) analysis of sugarbeet brei and cossettes.

ABSTRACT

The basic principles of analysis by scanning near infrared (NIR) spectroscopy are outlined; current and potential application to sugarbeet factory process control analyses, brei, molasses and pulp analysis as described.

Tare labs at 6 factories supplied brei for analysis by NIR. An NIRSystems 6500 model scanning spectrophotometer was used to record spectra from 1100 to 2500 nm in reflectance mode. A calibration curve for pol, using tare lab analyses as the known values, was generated through a partial least squares regression program.

Cossettes were analyzed on NIR, in reflectance mode in a large surface area cell. A calibration curve generated for pol in cossettes showed that more samples over a wider range of concentration are required to improve the accuracy and precision of the calibration.

A study on analysis of moisture in pulp using NIR was reported; a good calibration was obtained, thereby enabling this analysis, like other NIR analyses, to be run in a time of under 2 minutes.