

339c Characterizing Rheological Properties of Fluid Food Products

YoonKook Park, Kyung C. Kwon, Nader Vahdat, Tristan J. Tinsley, and Paul Jones

A simple viscometer is designed and fabricated to determine non-Newtonian behaviors of fluid food products, and a novel viscometer equation suitable for the viscometer is developed. Some fluid food products are chosen to examine their non-Newtonian behaviors. The main objectives of this study are to design a simple viscometer for fluid food products and develop a viscometer equation suitable for the viscometer in determining their fluid consistency index and flow behavior index.

Non-Newtonian characteristics of selected fluid food products will be investigated with the viscometer and its viscosity equation. A sucrose aqueous solution and water will be used as a reference/calibration liquid for the viscometer.

Dynamic viscosity values of aqueous sucrose solutions and water are determined with the viscometer, and compared with literature values to examine the calibration of the viscometer reasonable.