

Apple Juice Viscosity Analysis

This analysis will evaluate the viscosity characteristics of apple juice under different temperature conditions.

Test Equipment:

- Instrument: Viscometer or Rheometer (e.g., Brookfield DV3TLV)
- Spring Torque Range: LV
- Spindle: YULA-15E

Accessories:

- Enhanced UL Adapter (ULA-EY)
- TC-650SD Programmable Refrigerated Bath
- Speed Settings: 50, 75, and 100 RPM

Test Method:

- Enhanced UL Adapter used with a Brookfield Viscometer/Rheometer and RheocalcT software for automated control and data acquisition.
- Temperature Conditions: 4°C and 25°C, maintained by immersing the sample chamber in the TC-650SD Refrigerated Bath.

Data Observations:

- Figure 1: Displays constant viscosities at both temperatures over the speed range.
- Viscosity at 4°C: 2.5 cP (Blue Data)
- Viscosity at 25°C: 1.4 cP (Red Data)
- Indicates "Newtonian" flow behavior (viscosity remains constant regardless of speed).
- Higher viscosity at lower temperature (4°C vs. 25°C); increasing temperature decreases viscosity.

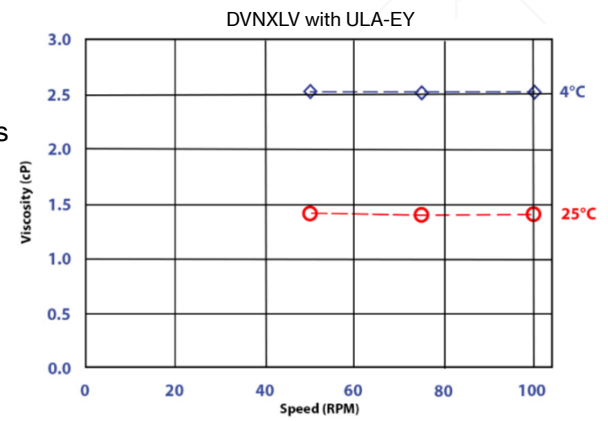


Figure 1

Conclusion:

- The viscosity of apple juice decreases with increasing temperature, demonstrating Newtonian flow characteristics as shown in Figure 1.