

Soup Mix Method

Scope

- Test ingredients.
- Compare cooking behavior of different formulations.
- Develop new formulations.
- Compare and mimic competitive products.
- Monitor consistency of ingredients between production batches.
- Relate results to final product quality – taste, thickening capacity.

Rapid Visco Analyser

The Rapid Visco Analyser (RVA) is a cooking stirring viscometer with ramped temperature and variable shear profiles optimized for testing viscous properties. The instrument includes international standard methods as well as full flexibility for customer tailor-made profiles. Combining speed, precision, flexibility and automation, the RVA is a unique tool for product development, quality and process control and quality assurance.



Description

This application describes the use of an RVA to measure the viscosity of soup mixes. The method can be used to assess final product quality, as well as to compare between products using different starches as thickeners.

The profile used in this test simulates the cooking process as the consumer prepares the soup mixes at home. The soup mix is added to water, heated on the stove with constant stirring, and then allowed to cool before consumption. The final temperature in the profile (50°C) is at a suitable temperature for consumption of cooked products. The final viscosity in this test is a good indicator of the product quality. A higher final viscosity means a thicker soup, which is more desirable.

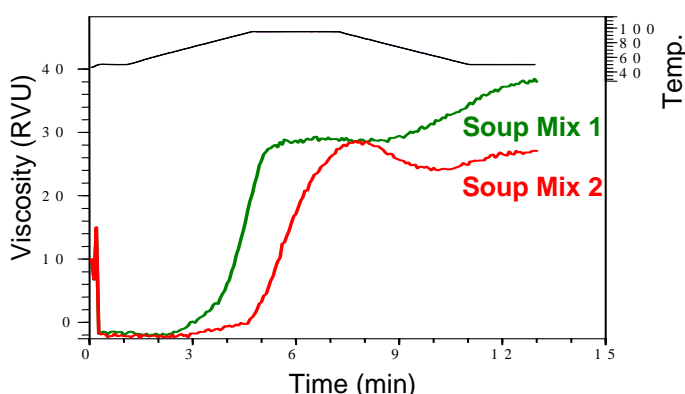


Fig. 1. Pasting curve of soup mixes. Soup Mix 1 uses a combination of potato and maize starches as thickeners. Soup Mix 2 uses only maize starch as a thickener.

Method

STD1 pasting profile (AACC International Method 76-21.01, ICC Standard No. 162).

Sample Preparation

3.50 g soup mix at 14% moisture and 25.0 ml distilled water.

Profile

Time	Type	Value
00:00:00	Temp	50°C
00:00:00	Speed	960 rpm
00:00:10	Speed	160 rpm
00:01:00	Temp	50°C
00:04:42	Temp	95°C
00:07:12	Temp	95°C
00:11:00	Temp	50°C
00:13:00	End	
Idle Temperature: 50 ± 1°C		
Time Between Readings: 4 s		

Measure

PT: Pasting temperature (°C)
PV: Peak viscosity (cP)
PTi: Time to peak (min)
BD: Breakdown (cP)

TV: Trough/minimum viscosity (cP)
SB: Setback (cP)
FV: Final viscosity (cP)