

Wheat Flour Ethanol Method

Scope

- Assess gluten quality in wheat flour.
- Quality control.

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

Wheat flour quality can vary greatly between samples. The quality of the gluten protein in wheat flour largely determines its suitability for use in many products including pan breads, flat breads, cakes, pastries and alkaline noodles, although each application requires a different quality. For example, strong wheat flour is preferred for commercially produced pan breads because of its good mixing tolerance and superior baking qualities.

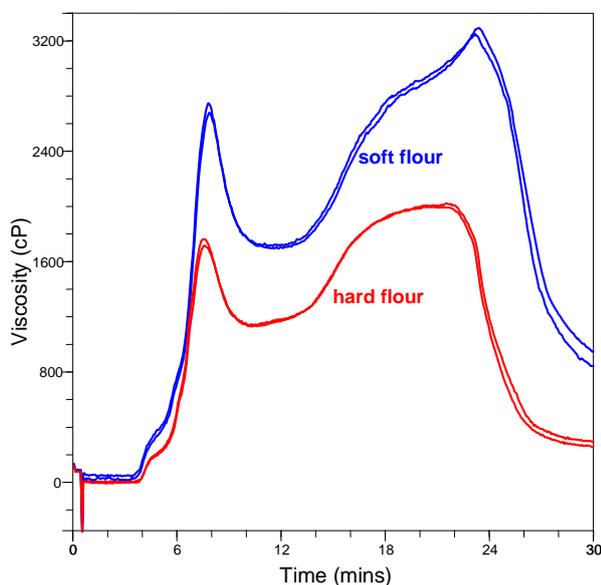


Fig. 1. Differences between soft and hard wheat flours. The soft flour produces the highest viscosity and a second peak later during cooling.

Method

Thirty-minute pasting profile.

Sample Preparation

3.00 g flour (12% mb) and 3.5 g ethanol (98%). Stir until no lumps remain. Add 20.0 g distilled water (total amount of water + flour is 23.0 g). Cover with rubber stopper and shake vigorously to disperse.

Profile

Time	Type	Value
00:00:00	Temp	50°C
00:00:00	Speed	960 rpm
00:00:30	Speed	160 rpm
00:02:00	Temp	50°C
00:06:30	Temp	85°C
00:08:30	Temp	85°C
00:24:00	Temp	20°C
00:30:00	End	
Idle Temperature: 50 ± 1°C Time Between Readings: 4 s		

Measure

P1V: Peak 1 viscosity (cP)

P1T: Peak 1 temperature (°C)

T1V: Trough 1 viscosity (cP)

T1T: Trough 1 temperature (°C)

FV: Final viscosity (cP)

P2V: Peak 2 viscosity (cP)

P2T: Peak 2 temperature (°C)

T2V: Trough 2 viscosity (cP)

T2T: Trough 2 temperature (°C)

The viscosity of the second peak is the RVA Wheat Flour Ethanol Index.