

Rice Method

Scope

- Rapidly determine rice quality.
- Compare different rice varieties.

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

Rice pasting quality is largely dictated by the quality of its starch component, which varies considerably between varieties. The pasting qualities are related to the sensory parameters in whole rice, and are also critical for other uses such as adjuncts in brewing. The setback from peak (final minus peak viscosity) is often used as an indicator of the firmness of cooked rice, with higher values indicating firmer texture. Determination of the pasting temperature is useful where the rice is used as a secondary source of carbohydrate in brewing.

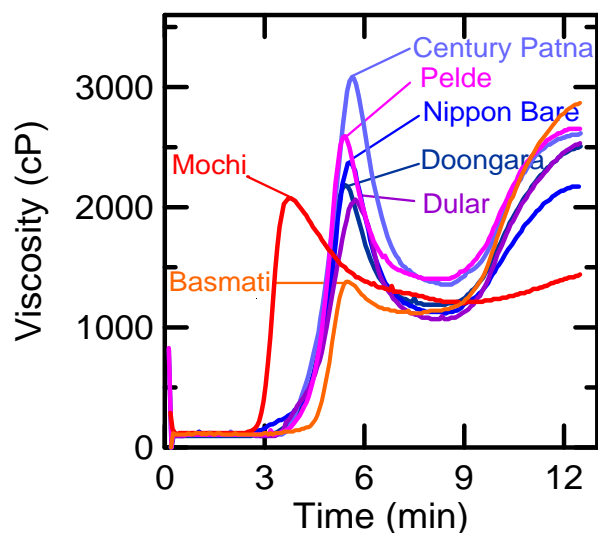


Fig. 1. Pasting curves of different varieties of rice.

Method

Rice Method (AACC International Method 61-02.01, RACI Official Method 06-05).

Sample Preparation

3.00 g starch at 12% 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
00:04:48	Temp	95°C
00:07:18	Temp	95°C
00:11:06	Temp	30°C
00:12:30	End	
Idle Temperature: 50 ± 1°C Time Between Readings: 4 s		

Measure

PV: Peak viscosity (cP)

FV: Final viscosity (cP)

RSI: Rice Setback Index (cP)

PT: Pasting temperature (°C)

PTi: Peak time (min)

TV: Trough/minimum viscosity (cP)

Derive the RVA Rice Setback Index as the final minus the peak viscosity. Higher values indicate firmer and drier cooked textures of whole rice and are usually associated with higher amylose contents. The pasting temperature, time to peak and holding strength may also be recorded. The pasting temperature indicates the rice's suitability as an adjunct in brewing applications.