

## **Monitoring of viscosity changes of wheat sourdough: a pilot study**

Wheat sourdough with yield 220% or 250% was prepared from white wheat flour, tap water, commercial mixed sourdough starter, using an industrial pilot production fermentor (8 h fermentation time). In addition to common quality parameters of the sourdough, such as the titratable acidity and pH, the viscosity was measured stepwise using the viscometer Rapid Viscosity Analyzer and the pre-set measuring profile. Viscosity was evaluated as the Peak and the Final Viscosity during a 13-minute test at 30°C and 160 rpm. After 8 hrs fermentation, higher FinalVisc than the initial one observed Wehrle & Arendt (1998), using dynamic oscillatory test on the rheometer. The correlation analysis confirmed the known relationship between the fermentation time of the sourdough, the pH and the titratable acidity without the effect of the sourdough yield ( $P = 99\%$ ). A further logical connection was found between the Peak and the Final viscosity, when a difference between these two points depended on the Peak Viscosity ( $r = 0.94$  and  $0.93$ ,  $P = 99\%$ ). The viscosity difference mentioned was negatively correlated to pH and reversely with titratable acidity ( $r = -0.46$  and  $0.45$ , respectively;  $P = 99\%$ ). Broader exploration of these finding should be done, using also fine granulated wholemeal rye flour.

1. *Wehrle K., Arendt E.K.* Rheological changes in wheat sourdough during controlled and spontaneous fermentation // *Cereal Chem.* — 1998. — 75. — P.882–886. <https://doi.org/10.1094/CCHEM.1998.75.6.882>