CARPATHIAN JOURNAL OF FOOD SCIENCE AND TECHNOLOGY

journal homepage: **http://chimie-biologie.ubm.ro/carpathian_journal/index.html**

PNEUMATIC CONVEYING OF SUGAR: EFFECT ON THE RHEOLOGY OF COOKIE DOUGH

Adriana Pieta[1], Érika Watanabe[2], Naimara Vieira do Prado[1], Vânia de Cássia da Fonseca Burgardt[1], Alessandra Machado-Lunkes[1], Alexandre Rodrigo Coelho[2] *

[1]Department of Food Engineering, Federal University of Technology-Parana, Francisco Beltrao, 85601-970, Parana, Brazil.

[2]Department of Food Technology, Federal University of Technology-Parana, Londrina, 86036-370, Parana, Brazil

Corresponding author: Department of Food Technology, Federal University of Technology - Parana, Londrina, Brazil.

**arcoelho@utfpr.edu.br*

https://doi.org/10.34302/crpjfst/2019.11.2.5

Article history:
Received:
25 November 2018
Accepted:
5 May 2019

Keywords:
Particle size;
Water absorption;
Mixolab;
Hardness.

ABSTRACT

This study evaluated the impact of the pneumatic conveying system on the white sugar particle size and its effects on the rheological behavior of cookie dough. Sugar samples, blended with soft wheat flour (1:2.4 w/w), were analyzed for rheological properties. These blends were used to develop cookie doughs, which were submitted to consistency, stability, and hardness analyses. The pneumatic conveying system reduced the white sugar particles sizes. Wheat flours blended with sugar after pneumatic conveying (APC) showed lower water absorption and higher starch retrogradation rates than the samples with sugar before pneumatic conveying (BPC). For the cookie dough, although the APC sugar resulted in a harder texture, the condition of sugar did not affect the resistance and stability. The particle size of white sugar affected water absorption and starch retrogradation rates of wheat flour and hardness of cookie dough.