

matter. This study concerns with the pasteurization effects of a pilot scale continuous ohmic heater on a strawberry puree containing fruit particles at the sensorial and microbiological levels. Two factors were studied: the impact of pasteurization temperature (85°C, 90°C, 95°C) and the impact of the dissolved oxygen concentration (DOC) (0.5%, 24.0%, and 50.3%), on the microbiological load, color, size distribution of strawberry particles (four size classes - 1g), and texture. All treatments destroyed yeasts and molds to values below 10CFU/mL. The color analyses carried out before and after the heat treatment show no effects of the oxygen pre-treatment on the strawberry puree color. The strawberry particles size distribution shows that the average size of particles decreased with increasing treatment temperature. While the two lower size classes kept unchanged, the amount of particles between 0.7g and 1g increased from 23% to 27% and to 34% for treatments at 85°C, 90°C, and 95°C, respectively and the amount of particles >1g decreased, from 31% to 23% and to 18%, for the same temperatures. DOC exerted no effect on the size of the strawberry particles. A texture reduction, measured in terms of the force applied on a 5-blade Kramer cell, was observed when strawberry particles were collected before and after the thermal treatment: 20%, 23%, and 25% reduction at 85°C, 90°C, and 95°C, respectively. The reduction for a scrapped surface heat-exchanger treatment at 90°C was 31%. OH reduces the product microbiological load and the cooking effects are reduced when compared with a scrapped surface heat-exchanger treatment. DOC does not have a significant impact on the product final color.

## **078D-36**

**The influence of temperature and dissolved oxygen concentration on the microbiological and sensorial quality of strawberry puree pasteurized in a pilot-scale continuous ohmic heater**

L. MACHADO, A. Vicente, J. Teixeira, Minho University, Braga, Portugal; F. Miranda, Frulact, S.A., Maia, Portugal, *Primary author email: flaviomachado@deb.uminho.pt*.

Ohmic heating (OH) is an alternative pasteurization process. Understanding the influence of OH on the sensorial and microbiological quality of foods is a pertinent