

Application of Medium High Hydrostatic Pressure to the Processing of Pineapple Compote

Journal or Publication Title :

Bulletin of the NARO, Food Research
農研機構研究報告 食品研究部門

Number :

2

Page Range :

65

Year :

2018.3

Item Type :

一般雑誌記事 / Article

Application of Medium High Hydrostatic Pressure to the Processing of Pineapple Compote

Dr. Nazim UDDIN

UNU-Kirin Fellow from Bangladesh Agricultural Research Institute (Bangladesh)
Laboratory of Food Quality Evaluation and Control, Division of Food Processing and Distribution
Food Research Institute, NARO

Compote (fruit in syrup) of pineapple (*Ananas comosus* L. Merrill) is expected to have a high market potential world-wide as a convenient ready-to-eat (RTE) food. High hydrostatic pressure (HHP; 600 MPa), in combination with low temperature (LT), was applied to the processing of pineapple compote, as well as medium HHP (MHHP; 100 MPa) in combination with medium high temperature (MHT), since both processes can enhance liquid impregnation and inactivate microbes.

The MHHP+MHT (55 or 65 °C) process, as well as the HHP+LT (10 °C) process, successfully decreased microbes in the compote to a nondetectable level. Even after a 90-day refrigeration, microbes were not detected in compotes processed using MHHP+MHT. Although the compotes processed using MHHP+MHT lost their fresh texture due to MHT, it appeared that texture degradation as result of MHT was suppressed by MHHP. The degassing process itself reduced hardness, whereas combination with the addition of calcium to the liquid contributed to retaining hardness in both the MHT and MHHP+MHT processes. Electrical impedance measurements supported the damage caused by degassing. Color, Brix, and appearance were not significantly affected by the processing methods. The MHHP+MHT and HHP+LT processes may therefore be applicable in producing high quality and safe RTE pineapple compotes. Further studies on the optimization of packaging and storage condition will be important for future commercialization.