

Rheological And Microbiological Aspects Of Uht Processed Chickpea Liquid Meal Models

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Abstract

The effects of chickpea flour concentration and ultra high temperature (UHT) processing conditions on the rheological properties and microbial lethality of chickpea liquid meals were investigated. The models were made of chickpea flour (4.5–6.7%) and water. The processing steps included precooking at 85C, microfluidization, and UHT processing at 120–140C for 6–60 s. The chickpea liquid meal exhibited a shear-thinning behavior before and after UHT processing. Both the flow behavior index (n) and consistency coefficient (K) were concentration dependent, but they were not sensitive to the changes of holding temperatures and residence times. The concentration of chickpea flour together with the combinations of holding temperatures and residence times significantly influenced the extent of microbial lethality. The values of consistency coefficient (K) could well predict the holding temperature and residence time combinations that were needed to sterilize different consistencies of liquid meals.

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