Czech J. Food Sci.

Tomczyńska-Mleko M.: Structure and stability

of ion induced whey protein aerated gels

Czech J. Food Sci., 31 (2013): 211-216

The microstructure and stability of aerated whey protein gels were determined. Foamed whey protein gels were obtained using a novel method applying a simultaneous gelation and aeration process. Whey protein gels were produced at different protein concentrations and pH by calcium ion induction at ambient temperature. Two concentrations of calcium ions were used: 20 and 30mM to produce foamed gels with different microstructure. Foamed gels obtained at 30mM Ca2+ were composed of thick strands and irregular, large air bubbles. For these gels, larger synaeresis and bubble size reduction were observed. Fine-stranded, small bubble size aerated gels obtained at 20mM Ca2+ were very stable during storage. Decreased protein concentration and increased pH of the gels resulted in an increased bubble size.

Keywords:

foam; globular protein; microstructure; syneresis; Turbiscan

[fulltext]