Sunflower oil organogels and organogel-in-water emulsions (part II): Implementation in frankfurter sausages

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Sunflower oil organogels and their emulsions were incorporated in frankfurters to partially replace pork backfat. Nine frankfurter treatments were made with 20% total fat content. Control treatment contained 20% pork backfat and the other eight treatments were formulated with 10% pork backfat and 10% structured sunflower oil in the form of organogels or organogel-in-water emulsions (made with various ratios of γ-oryzanol and phytosterols). No differences in the pH and oxidation levels of the frankfurters were detected. Minor differences were detected in the colour parameters L*, a* and b*. Texture profile analysis showed that frankfurters with organogels were no different from the control in any textural parameter, while treatments with emulsions had lower chewiness, hardness and gumminess values. Sensory analysis showed that all treatments had similar overall acceptability with the control, except for the some emulsion treatments that had lower acceptability. Pork backfat can be partially replaced by organogels, without considerably affecting the overall physicochemical and sensorial properties of the frankfurters.