**Production of phosphate-free meat emulsions using a clean label strategy**

Mariana Basso Pinton (1), José Manuel Lorenzo (2), Ana Carolina Mendes Dias Seibt (1), Bibiana Alves dos Santos (1), Jordana Lima da Rosa (1), Leticia Pereira Correa (1), Alexandre José Cichoski (1), Alfredo Teixeira (3), Paulo Cezar Bastianello Campagnol (1)

(1) Federal University of Santa Maria, Av. Roraima, 1000, Santa Maria, Rio Grande do Sul, Brazil

(2) Meat Technological Center, Adva. Galicia n° 4, Parque Tecnológico de Galicia, San Cibrao das Viñas, 32900 Ourense, Spain

(3) Polytechnic Instituto of Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal

paulocampagnol@gmail.com

The combination of high-power ultrasound (HPU) and bamboo fiber (BF) was investigated as a clean label strategy to produce phosphate-free meat emulsions. The samples were made with the addition of 0 and 0.25% of alkaline phosphate and 0, 2.5, and 5% BF. Immediately after filling, the samples were sonicated for 27 min at normal mode, 25 kHz, 60% amplitude, and 20 ºC. The samples made with BF and without phosphate showed higher emulsion stability compared to the control made with phosphate. The addition of 2.5% BF effectively compensated for the texture changes due to the absence of phosphate. HPU improved the effect of BF on the texture of meat emulsions by increasing cohesiveness. No great impact of HPU and BF was observed on the oxidative quality of the samples. However, the instrumental assays and the sensory evaluation demonstrated that the absence of phosphate increased the lipid oxidation of the samples from the beginning of storage.

Keywords: Ultrasound; phosphate replacer; bamboo fiber; lipid oxidation; healthier meat products.