INFLUENCE OF MICROENCAPSULATED JOSTA EXTRACT ON THE SAUSAGES PHYSICOCHEMICAL AND CHROMATIC PARAMETERS

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Introduction. Josta represents an important source of biologically active compounds, particularly phenolic compounds, vitamins, and other substances with antioxidant potential. To protect these compounds and facilitate the incorporation of the extract into food products, the extract was incapsulated in biopolymer matrices based on maltodextrin and pectin or sodium alginate, followed by freeze-drying [1].

Materials and Methods. The study involved the development of five samples of sausage: a control sample (CS), without microcapsules, and samples P0.5, P1.0, P1.5, and P2.0, containing Josta microcapsules at concentrations of 0.5, 1.0, 1.5, and 2.0%, respectively. Quality evaluation revealed variations in the main parameters depending on the level of microcapsule incorporation. The physicochemical parameters remained within the limits established by the current regulatory requirements applicable to meat products. Regarding color parameters, changes were observed with increasing microcapsule concentration. As the concentration of microcapsules increased, L* decreased progressively, by a maximum of 3%.

Results and Discussion. Thus, the incorporation of microcapsules above 0.5% resulted in a reduction in lightness, with the product becoming slightly darker. This effect may be associated with the pigments, and phenolic compounds present in the microencapsulated Josta extract. The addition of microcapsules also affected the a* parameter; however, the values remained positive for all samples, ranging from 5.07 in P0.5 to 6.62 in P2.0, indicating the predominance of the red component. The b* parameter showed a continuous decrease with increasing microcapsule concentration, from 25.02 in CS to 22.34 in P2.0. This trend indicates a reduction in the yellow component and, consequently, a shift in the product hue towards less yellowish tones. Hue increased slightly and progressively, from 18.76 in CS to 19.93 in P2.0. The increase in this parameter indicates a gradual shift in hue with increasing microcapsule incorporation. However, the magnitude of this change was relatively small, suggesting that the addition of microcapsules did not substantially alter the overall hue of the sausage samples. Chroma exhibited a clear decreasing trend. Its value decreased from 4.20 in CS to 3.71 in P0.5, 3.61 in P1.0, 3.59 in P1.5, and 3.06 in P2.0. This indicates a progressive decrease in color intensity with increasing microcapsule concentration.

Conclusions. Overall, the microencapsulation of Josta extract enables controlled modification of the chromatic profile of sausages samples, with the effect becoming more pronounced at microcapsule concentrations of 1.5–2.0%.

Keywords: *color parameters, jostaberry, meat products, microencapsulation, quality indices*

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