152-37

Effect of drying and application method in the efficiency of an edible coating on a semi-hard cheese

M. Cerqueira, J. Martins, B. Souza, A. Vicente, Univ. do Minho, Braga, Portugal, Email: avicente@deb.uminho.pt.

Edible coatings can be used to improve food shelf-life and quality. The methodology of application and drying of the coatings on foods needs to be optimized in order to guarantee that the coating performs conveniently. In this work the temperature of drying and the application method of a galactomannan coating on a semi-hard cheese were evaluated. Three temperatures were tested (5, 20 and 35°C) in order to evaluate the time necessary for the coating to dry. Further, in order to understand how the application method can influence the coating performance three methods were tested: dipping, brushing and spraying. Shelf-life parameters such as weight loss, moisture content and color were evaluated during 21 days. The effect of the application method on initial cheese weight gain and on the properties of the coating used on cheese was studied during coating application.

Results show that 20°C is the most efficient drying temperature when compared with 5°C or 35°C. The application by brushing is the one where a lower amount of coating is spent (2.40 g/cheese) and where the weight gain (0.45 g/cheese) of the cheese after coating application is the lowest. Spraying shows to be the method with the greatest consumption of coating solution (8.21 g/cheese); however, it does not correspond to the highest cheese weight gain. The most efficient method was the dipping method, where the efficiency in terms of coating retention on the cheese surface was the highest of all tested methods (34 %). Regarding shelf-life, results showed that the application method apparently does not have a statistically significant influence in the effectiveness of the coating in terms of cheese weight loss, moisture loss and colour differences. In conclusion and having in consideration the spent and/or wasted coating during application by the different methods, brushing would be the ones to choose.