



E327

Encapsulation of prebiotics and probiotics for food fortification – A review

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Fortification of foods with prebiotics and probiotics has been grabbed lots of attention because they offer wide ranges of nutritional benefits and improve the quality of food. As a controlled delivery system of bioactive compounds, application of encapsulation is noteworthy. Furthermore, encapsulation helps to improve the survival of probiotics from high temperature during the preparation of food product and in gastrointestinal tract. In several cases, only prebiotics or probiotics are encapsulated and applied in food matrix, because it has been proven that degree of nutritional benefit has been increased by their symbiotic activity. Therefore, combination of prebiotics and probiotics are encapsulated in several times. Different types of carbohydrates and proteins have been employed for encapsulation of prebiotics and probiotics. In this review, different technological aspects to perform encapsulation of prebiotics and probiotics, and their physical and chemical characteristics have been discussed in comprehensive way. Furthermore, their releases from encapsulation matrix in both in vitro and in vivo conditions have been represented.

E328

Rheological properties and sensorial analysis of heat treated whole egg with additives

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This study aimed to study the effect of adding additives before the heat treatment on whole liquid eggs (WLE). The different volume of citric and lactic acid was added to the WLE until we get the right pH. All the samples are packed and heat-treated at a water bath (70°C for approximately 3 minutes). For each pH, we measured the pH and the viscosity of the whole liquid egg before and after the heat treatment. To determine the effect of the additive on the color, taste, smell, and texture of the whole liquid egg, a cupcake is made of it and taste it by the consumers. The impact of the citric and lactic acid and the heat treatment is obvious in the samples comparing to the raw egg.