FORMULATION OF KOSHER FROZEN DESSERT WITH FUNCTIONAL CHARACTERISTICS

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Abstract

People with certain diet restrictions, lactose intolerant, casein allergic, vegetarians or religious beliefs needs special foods. Kosher foods are characterized by neither containing milk nor milk derivative ingredients. The objective of this work was to develop a kosher frozen dessert with characteristics of creaminess and smoothness of an ice cream and be considered a functional product by the addition of prebiotics.

The methodology consisted in applying experimental design to obtain predictive models with product frozen dessert quality variables: mix viscosity, overrun and sensory parameters: taste, sweetness, body and texture. The response behavior was studied through changes in food composition: soy protein isolate, inulin and maltodextrin.

Statistical analysis of the data revealed the optimum formulation region within which a good quality frozen dessert was produced with the right content of prebiotics. The optimum formulation region gives the proportion of soy protein isolate to be within 0.85\% and 1.42\% w/w, inulin proportion should be within 4.6\% and 5.5\% w/w, and maltodextrin within 2.7\% and 3.8\% w/w. These results are applicable for 72\% water content, 5\% fat, stabilizer/emulsifiers mixture 0.52\%, and sugar 13\% w/w. The frozen dessert cost was optimized and the optimum formula was US\$ 0.453 per litre.

An aerobic mesophiles plate count reached 18000 cfu/g, lower than the maximum limit of $10^5$ cfu/g, and the frozen dessert did not show health risk.

Considering these results, it can be conclude that a creamy and soft frozen dessert formulation based on vegetable feedstock and with no incorporation of milk derivatives is feasible.

Keywords : frozen dessert, functional product, kosher food.