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Innovative low calorie protein-rich healthy edamame snack chips with vegetables and fruits

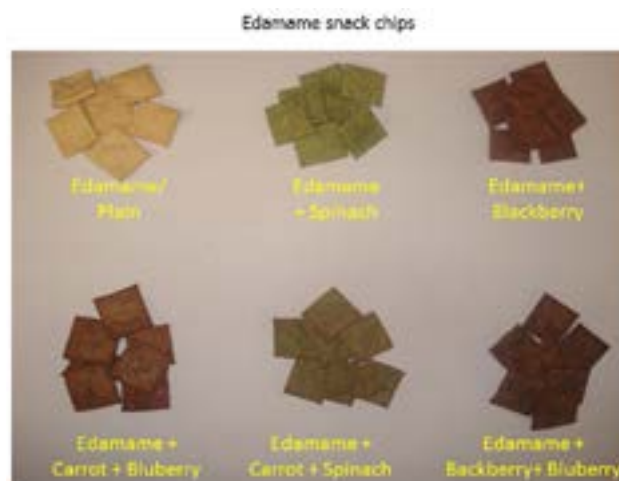
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Edamame (vegetable soybean), rich in nutrients and other nutraceutical substances, is a good source to produce healthy snack chips rich in protein, and low in carbohydrates. Innovative edamame chips were developed with desirable physical properties including colour/brownness index, water activity, moisture contents, texture and consumer sensory acceptability attributes and reported on a 9-point hedonic scale for flavor, texture, mouth-feel, after taste, and overall acceptance, and a 5-point “Just-About-Right” scale for willingness to buy from edamame flour as the main ingredient (over 80%). The processing conditions (baking powder level, baking temperature and time, and thickness) were optimized. Based on these conditions with some final adjustments snack chips were prepared from dried edamame flour in combination with 10% of dried vegetables (spinach, carrot) and or fruit (blackberry, blueberry, strawberry). The optimized conditions for edamame chips preparation were 1.0 mm thickness of the extruded edamame dough and 1.2% and 2.5% (based on the edamame flour weight) of salt and baking powder respectively, with the baking temperature and time of 171°C and 12 min respectively. The optimized chips containing edamame, alone and in combination

with fruits and vegetables were evaluated for the sensory study. The chips containing carrot-blueberry received the best ratings for flavor, mouth-feel, crispiness, after taste, and overall acceptance. These edamame chips with high protein (~36-39%), crunchy, and tasty that demonstrated overall acceptability by consumers can serve as an alternate enjoyable snack that can substitute calorie dense snacks.



Biography

Navam Hettiarachchy, an IFT Fellow, earned her Ph.D. in Biochemistry from the University of Hull, England. She was a faculty in Peradeniya Medical school, Sri Lanka. She was the Director of Food Science Program at North Dakota State University and now a University Professor in the Department of Food Science, University of Arkansas. In recognition of sustained excellence she has been highly recognized with numerous awards for her teaching, research, and service. She has 6 patents, 3 books edited or co-edited, 20 Book Chapters, and 155 journal articles and over 380 presentations and has been serving as an editorial board member of reputed journals.

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