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Developing a recommendation for home-canned peaches with a sucralose sugar substitute

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Sugar substitutes are important in controlling calorie intake for consumers with health problems including obesity and diabetes. Among these, Splenda[®] (sucralose) is popular and suitable for inclusion in heat processed products. Consumer-driven demands for acceptable home-canned fruit containing sugar substitutes necessitated a research-based recommendation for home-canned peaches containing Splenda.

The objective was to develop a recommendation for home canning of peaches with Splenda sugar substitute, based on product development work and consumer sensory preferences.

Ruston Red peaches were canned in water, medium sugar syrup, full-strength medium Splenda syrup and half-strength medium Splenda syrup, using the USDA boiling water process for peaches. Physicochemical characteristics of fresh, canned, and stored, canned peaches were recorded, including pH, firmness, titratable acidity, percent soluble solids, and color. Peaches were stored in a temperature-monitored environment for 15 months and a consumer sensory study was conducted. The 42 respondents designated attribute scores for each sample using a 9-point hedonic scale and took a short survey providing information about their food preparation and consumption practices. Attributes included appearance, color, aroma, flavor, texture, sweetness, tartness, aftertaste, and overall acceptability.

Overall acceptability was highest for peaches canned in sugar syrup, followed by full-strength Splenda, half-strength Splenda, and lastly, water. Full-strength Splenda rated higher than half-strength Splenda on appearance, color, aroma, flavor, and texture while the half-strength product scored higher on tartness and sweetness. There was no difference in aftertaste detection between the two. We found one-third of the respondents would be willing to buy either Splenda product.

A safe process for home canning peaches using a sugar substitute is both timely and necessary. This study provides a research- and consumer-endorsed home canning recommendation for peaches canned with Splenda syrup that is both safe and acceptable.