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Optimization of Stevia Concentration in Rasgulla (Sweet Syrup Cheese Ball) Based on Quality

Authors : Gurveer Kaur, T. K. Goswami

Abstract : Rasgulla (a sweet syrup cheese ball), a sweet, spongy dessert represents traditional sweet dish of an Indian subcontinent prepared by chhana. 100 g of Rasgulla contains 186 calories, and so it is a driving force behind obesity and diabetes. To reduce Rasgulla's energy value sucrose mainly should be minimized, so instead of sucrose, stevia (zero calories natural sweetener) is used to prepare Rasgulla. In this study three samples were prepared with sucrose to stevia ratio taking 100:0 (as control sample), (i) 50:50 (T1); (ii) 25:75 (T2), and (iii) 0:100 (T3) from 4% fat milk. It was found that as the sucrose concentration decreases the percentage of fat increase in the Rasgulla slightly. Sample T2 showed < 0.1% (±0.06) sucrose content. But there was no significant difference on protein and ash content of the samples. Whitening index was highest (78.0 ± 0.13) for T2 and lowest (65.7 ± 0.21) for the control sample since less sucrose in syrup reduces the browning of the sample (T2). Energy value per 100 g was calculated to be 50, 72, 98, and 184 calories for T3, T2, T1 and control samples, respectively. According to optimization study, the preferred (high quality) order of samples was as follows: T1 > T1 > control > T3. Low sugar content Rasgulla with acceptable quality can be prepared with 25:75 ratio of sucrose to stevia.

Keywords : composition, rasgulla, sensory, stevia
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