

## Effect of Saponin Enriched Soapwort Powder on Structural and Sensorial Properties of Turkish Delight

**Authors :** Ihsan Burak Cam, Ayhan Topuz

**Abstract :** Turkish delight has been produced by bleaching the plain delight mix (refined sugar, water and starch) via soapwort extract and powdered sugar. Soapwort extract which contains high amount of saponin, is an additive used in Turkish delight and tahini halvah production to improve consistency, chewiness and color due to its bioactive saponin content by acting as emulsifier. In this study, soapwort powder has been produced by determining optimum process conditions of soapwort extract by using response-surface method. This extract has been enriched with saponin by reverse osmosis (contains %63 saponin in dry bases). Büchi mini spray dryer B-290 was used to produce spray-dried soapwort powder ( $aw=0.254$ ) from the enriched soapwort concentrate. Processing steps optimization and saponin content enrichment of soapwort extract has been tested on Turkish Delight production. Delight samples, produced by soapwort powder and commercial extract (control), were compared in chewiness, springiness, stickiness, adhesiveness, hardness, color and sensorial characteristics. According to the results, all textural properties except hardness of delights produced by powder were found to be statistically different than control samples. Chewiness, springiness, stickiness, adhesiveness and hardness values of samples (delights produced by the powder / control delights) were determined to be 361.9/1406.7, 0.095/0.251, -120.3/-51.7, 781.9/1869.3, 3427.3g/3118.4g, respectively. According to the quality analysis that has been ran with the end products it has been determined that; there is no statistically negative effect of the soapwort extract and the soapwort powder on the color and the appearance of Turkish Delight.

**Keywords :** saponin, delight, soapwort powder, spray drying

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