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Study of Effective Factors on biochemical properties and Antioxidant Activity of Spray Dried
Barberry (*Berberis vulgaris*) powder

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ABSTRACT

A study was conducted using Pilot Spray Dryer (Two- Flow nozzle, counter- current, One cyclone) to produce spray- dried Barberry powder. Twenty experiment were conducted keeping three different operating variables of spray dryer i.e., inlet temperature (160, 175 and 190°C), feed rate (34, 36 and 38 ml/min) and feed parameter i.e., ratio dry matter weight of maltodextrin and the dry matter weight of barberry juice (1.1, 1.2 and 1.3) upon the biochemical properties (moisture content, water activity, total phenol content, DPPH scavenging activity, and color) of powder were observed. Analysis of experimental data i.e., Barberry powder properties and process parameters yielded best quality (moisture content 3.30%, water activity 22.83%, total phenol content 14.97%, DPPH scavenging activity 90.76% and color 41.51%) of powder at inlet air temperature 170°C, feed rate 39 ml/min , ratio of maltodextrin and the dry matter weight of barberry juice (MD/FJ= 1.2).

Key words: Spray dryer, Barberry, inlet air temperature, DPPH, maltodextrin, total phenol content

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