Effect of Inlet Air Temperature on Quality of Spray-Dried Bitter Gourd Powder

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ABSTRACT

A study was conducted to select a suitable inlet air temperature in a spray dryer for getting high yield and quality of bittergourd powder. Juice was extracted from bitter gourd and concentrated by adding 10% maltodextrin as carrier agent and fed in to a spray drier at an inlet air temperatures of 130, 140 and 150°C and at feed flow rate of 15 ml/min. The dried bittergourd powders were analyzed for water activity, WSI, WAI, chlorophyll, ascorbic acid and reducing sugars. The yield recovery of bittergourd was highest at 150°C inlet air temperature followed by 140 and 130°C inlet air temperatures. As inlet air temperature increased, the water activity, WAI, ascorbic acid and chlorophyll content decreased and WSI, reducing sugars decreased. The quality of bittergourd was good at lower inlet air temperature compared to 140 and 150°C temperature.

Key words: Bittergourd powder, Inlet air temperature, Maltodextrin, Spray Drying.