

Effect of Maltodextrin Concentrations on Physico-Chemical Characteristics of Pineapple Powder under Different Drying Conditions

V Uday Bhanu Prakash, K Lavanya, Divya Pahade, G Samskruthi, Pankaj Kumar Sah
College of Agricultural Engineering, Bapatla 522 101, Andhra Pradesh

ABSTRACT

A number of pineapple powder specimens were produced using a spray dryer under various drying conditions. Fresh pineapple juices were added with maltodextrin (MD) at 10, 15 and 20% before exposing to the drying temperatures at 130, 140 and 150°C with the feed rate 20 ml/min. The spray-dried pineapple powders were analyzed for moisture content, solubility, TSS, colour and sensory evaluation. The yield of spray drying pineapple powder was highest (10.77%) at higher maltodextrin concentration of 20%, inlet air temperature of 130°C. When inlet temperature and the percentage of maltodextrin increased, the moisture content and solubility decreased. The pH and TSS of spray dried powder samples increases with increase in inlet drying temperatures at different maltodextrin concentrations. In the colour appearance the pineapple powder is more lightness, redness and yellowish compare to fresh fruit juice. The pineapple juice added with maltodextrin concentration at 15% and dried at 150°C achieved the highest overall liking score.

Key words: Instant pineapple juice, Maltodextrin, Pineapple, Pineapple powder, Spray drying.