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Maltodextrin: A consummate carrier for spray-drying of xylooligosaccharides

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Abstract

The aim of this study was to evaluate the influence of spray-drying on the powder qualities and microstructures of prebiotic xylooligosaccharides (XOS). The relationships between glass transition temperature (T_g) and XOS retention, moisture content, drying yield as well as specific surface area under different inlet air temperatures and maltodextrin concentrations were investigated. Antioxidant activity retention, hygroscopicity, color attributes, X-ray diffraction (XRD), scanning electron microscopy (SEM) and Fourier transform infrared spectroscopy (FT-IR) of the spray-dried XOS product were also assessed. The results indicated that an increase in inlet air temperature decreased the moisture content, hence the T_g value was increased. Higher maltodextrin concentration increased the T_g

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