

# **Effect of carrier agents and operational parameters on the physical quality of spray-dried tomato powder: a review**

## **ABSTRACT**

Tomatoes are one of the most frequently consumed crops in the world, and they can be cultivated all year using present production methods. Tomatoes are produced for either manufacturing tomato paste, tomato pulp, tomato sauce, and ketchup or consumed as fresh fruit. However, excessive moisture levels in tomatoes generally result in increased water activity that promotes quality degradation and increases enzymatic activity, which leads to microbial growth. Therefore, the spray drying method is used to produce dried food powder, which may reduce postharvest losses while adding value to the raw product. The purpose of the paper is to review scientific research on the influence of carrier agents and operational parameters of spray-drying fruit extracts on physicochemical qualities such as moisture content, hygroscopicity, solubility, bulk density, water activity, and color difference. The current paper reviews the various formulation and process factors that impact the physicochemical characteristics of tomato powder microparticles produced by spray drying in order to find the optimum parameters to produce tomato powders with a high and effective product yield with improved powder qualities.