

## **Materials properties and tableting of fruit powders**

### **ABSTRACT**

The tableting of fruit powders is gaining popularity due to conveniences in its use, storage, transportation, and product formulation. Food powders are generally cohesive in nature, and their compressibility is highly correlated with the material properties of the powder. Here, the material properties of fruit powders and their respective compressibilities in relation to powder type, drying technique and their operating parameters, portion of the fruit used to produce the fruit powder, and drying aids are discussed. Among the material properties analyzed, moisture content, water activity, particle density, particle size and shape, and powder surface properties are identified as vital properties that highly influence the tableting behavior of fruit powders. The Kawakita and Lüdde model and Heckel equation are widely studied to describe the compressibility and compactibility of fruit powders. A four-parameter model fits the sigmoidal compression data of food powders well.

**Keyword:** Fruit powder; Flowability; Cohesiveness; Tableting; Compaction modelling; Dissolution