

## Impact of wall material physicochemical characteristics on the stability of encapsulated phytochemicals: A review

Labuschagne, Philip W

### ABSTRACT:

Phytochemicals are plant-derived chemicals that have a number of protective or health-promoting properties. However, their health benefits and thus commercial potential can be restricted due to their instability to environmental factors such as moisture, heat, light, oxygen etc. A common approach to improve stability is via encapsulation whereby the phytochemical is encased inside a wall material, thereby forming a protective barrier between the phytochemical and the external environment. The impact of a wide range of wall materials and their combinations on the stability of various phytochemicals has been studied in the last twenty years. This review focuses on the specific inherent physicochemical characteristics of the wall material as well as the encapsulation process dependant physical characteristics that has shown to have the greatest impact on the stability of encapsulated phytochemicals. The information contained in this review could assist researchers in addressing some of the most important considerations when designing a wall material for increased phytochemical stability.