

Microencapsulation by spray drying of bioactive compounds from cactus pear (*Opuntia ficus-indica*)

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Bioactive compounds of pulp (CP) and ethanolic (CE) extracts of the cactus pear (*Opuntia ficus-indica*) were encapsulated with maltodextrin (MD) or inulin (I). A 2² statistical factorial design was then used to study the stability of the powders obtained at the optimal conditions for each system (CP-MD, CP-I, CE-MD and CE-I) at 60 °C in the dark. The 3:1 ratio of core/coating material and 140 °C inlet air temperature were the optimal conditions for CP-MD and CE-MD systems; whereas, for CP-I and CE-I, the ratios were 3:1 and 5:1, respectively, and 120 °C was used for the inlet air temperature for both systems. An increase of phenolic compounds was observed in all systems during storage at 60 °C. Indicaxanthins in all systems showed a slow degradation during storage at 60 °C and were more stable than betacyanins. The microcapsules described in this study represent an interesting food additive for incorporation into functional foods, due to both the presence of antioxidants and as a red co