GALACTOMANNANS BLENDED WITH COLLAGEN AS NOVEL EDIBLE COATINGS FOR FRUITS

Lima, A.M.P.[2]; Cerqueira, M.A.[1];Morais, E.C.S.[2]; Vicente,A.A.[1], Teixeira,J.A.[1]
Moreira, R.A[2,3].
[1]IBB–CEB, UMINHO, Braga(PT), [2]DBBM-UFC, Ceará(BR), [3]CCS-UNIFOR, Ceará(BR)

Galactomannan/collagen blends were studied as coatings for mango and apple fruits. The galactomannans were extracted from *Caesalpinia pulcherrima* and *Adenanthera pavonina* and mixed with collagen and glycerol. These galactomannans have mannose:galactose ratios between 2:1 and 3:1, which significantly improve their mechanical properties when used as coatings. The surface properties of the fruits were characterized and the wetting capacity of the coatings (sessile drop method) was determined. The wetting capacity was measured by determination of the spreading coefficient (*Ws*), the work of adhesion (*Wa*) and work of cohesion (*Wc*). The coating composition which presented the best wettability values was identified for each of the fruits under consideration. For mango, the best coating solution was 0.5 % (w/v) of *A. pavonina* galactomannan, 1.5 % (w/v) of collagen and 1.5 % (v/v) of glycerol (Ws = -29.07 ± 3.00 mN/m); for apple, the best coating solution was 0.5 % (w/v) of *C. pulcherrima* galactomannan, 1.5 % (w/v) of collagen and no glycerol (Ws = -42.79 ± 3.61 mN/m). Such coatings were characterized in terms of their water vapor, O_2 and CO_2 permeability values. Results have shown that it is possible to coat mango and apple with galactomannan/collagen blends.

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