The mangaba fruit (*Hancornia speciosa* Gomes) is highly appreciated in the Brazilian State of Sergipe, fresh or processed. Due to its perishability, consumption and commercialization of this fruit is restricted to the producing regions. Studies have shown that biofilms containing both chitosan and starch are good alternatives for conserving vegetables, since they are barriers to water, \( \text{CO}_2 \) and \( \text{O}_2 \), and show antimicrobial activity. The objective of this study was to evaluate the impact of a mixed coating made with chitosan and cassava starch on the conservation of mangaba, comparing with a non-coated control. Two formulations were prepared with 2% cassava starch and 1.5% chitosan: in one the chitosan had a degree of deacetylation of 68% and in the other, 88.6%. The coated and non-coated (control) fruits were stored at two temperatures: 21°C and 10°C. The analyses carried out were: weight loss, texture and degree of ripeness of the fruit, as judged by trained sensory judges. The microbial counts made were of mesophilic aerobic bacteria, molds, yeasts, and total and fecal coliforms. Linear regressions were calculated between the parameters mentioned and the storage time, allowing one to estimate the best treatment. At 21 °C, the two coatings prepared with 2% starch and 1.5% chitosan equally increased the shelf life of the mangabas from 3 to 5 days. The coated fruits stored at 10°C did not completely ripen. Both coatings reduced the total and fecal coliform counts, but not the counts of mesophilic aerobic bacteria, yeasts and molds.