THE EFFECT OF BLEACHING COMBINED WITH ASCORBIC ACID OVER THE COLOR STABILITY OF STORED YACON JUICE

Felipe Miguel Farion Watanabe, Maria Lucia Masson. Department of Food Engineering of the Federal University of Paraná– UFPR, Rua Cel. Francisco H. Dos Santos, 210, 81531-970 Curitiba, Paraná, Brazil.

Yacon (Smallanthus sonchifolius) roots are a prebiotic food that can easily undergo enzymatic browning due presence of polyphenoloxidase and phenolic compounds in it. This work aim was to analyze the best treatment to stabilize the color of yacon juice. The roots were peeled, cut into slices of 5mm of thickness and divided into groups that underwent none, one or both of the following treatments: immersion into 1% (w/v) ascorbic acid solution for 6 minutes (pre-treatment); steam bleaching for 6 minutes. All groups were then blended with distilled water (2:1 yacon/water), filtered and subdivided into 2 groups: with or without addition of ascorbic acid 0.5% (w/v). It was analyzed the light and color parameters L*, a* and b* of the juice stored at 25°C for 4 days employing a spectrophotometer Hunterlab model Miniscan XE Plus. The experiment that underwent pre-treatment followed by bleaching showed increasing b* values during storage (8.29±0.07 and 18.96±0.04 at days 0 and 4, respectively) representing an intense yellow color, which did not happen with the group that received ascorbic acid after the blending (7.05±0.28 and 7.17±0.02 at days 0 and 4, respectively), indicating a possible leak of ascorbic acid due the steam process. The bleaching itself was not enough to inhibit the enzymatic browning, showing at the 4th day an L* value of 14.56±0.16, very close to the group that underwent no treatment (14.66±0.32), both lower than the group that underwent all three treatments (33.47±0.88). We conclude that acid ascorbic is imperative to maintain the color stability of yacon juice.