Sugarcane juice, either pure or having fruit pulp added to it, is an appreciated beverage in Brazil. The aim of this research was to evaluate the shelf-life of sugarcane juice mixed with passion fruit pulp (4% w/w). Nine batches were processed at 85, 90 and 95 °C/30 s, in three replicates, aseptically filled into polyethylene terephthalate (PET) bottles and stored at 7 °C without being exposed to light. Measures of pH, soluble solids and titratable acidity were carried out during storage. Microbiological stability evaluation was based on psychrotrophic bacteria and fungi counts. Sensory acceptance was estimated by assigning a liking score on a 7-point hedonic scale to the attributes appearance, aroma, flavor, and overall appreciation. The mean values for pH, soluble solids and titratable acidity ranged from 3.8 to 4.3, 15 to 24 °Brix, and 0.13 to 0.17% of citric acid, respectively, for all processed batches. The bacteria and fungi counts in all nine pasteurized batches were lower than 2 log CFU/mL up to 90 days of storage. The product achieved scores between 5 and 6 for all sensory attributes evaluated after 30 days of storage. The shelf-life estimated for beverage processed at 85, 90 and 95 °C/30 s was 31, 39 and 52 days, respectively. It was concluded that pasteurization temperature had a positive effect on beverage stability. Nevertheless, the decrease in flavor acceptance was the main limiting factor for the product’s shelf-life.