Uso de atmósferas controladas para conservar la calidad de tuna roja (Opuntia ficus-indica (L.)) mínimamente procesada [

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text (article)

Analítica

Abstract Introduction Mexico is the main producer of pricly pear in the world, with approximately 400,000 tons per year. However, it is a highly perishable fruit (9 to 15 days at room temperature), besides the presence of thorny hairs on its pericarpio limits consumption and limiting its commercialization which causes losses in its production. Therefore, it is necessary to propound for alternatives to be consumed as minimally processed product and the use of controlled atmospheres to extend its shelf life. Method: Different controlled atmospheres treatments (AC1: 5% O2 + 95% N2, AC2: Air + 10% CO2, AC3: 10% CO2 + 5% O2 + 85% N2 and air as control) were applied on minimally processed red prickly pear storaged at 5 ºC during 16 days. Sugars (S), total soluble solids (TSS), pH, polyphenol oxidase activity (PPO), physiological weight loss (PWL) and visual quality (VQ) were analized every four days. Results: At the end of the storage period the treatments with controlled atmospheres showed the less physiological weight loss of pricly pear. The treatment with 10% CO2 + 5% O2 + 85% N2 highly contributed for the visual quality retention (6.24), physiological weight loss (9 %) and pH (5.34), and the treatment with 10% CO2 + Air on the sugars content (176.21 mg Glucose mL-1); while the TSS and PPO enzyme activity did not differ between treatments. Also, the multivariate analysis of two principal components (PC) explained 85% of the variance, two components in six physicochemical variables of the pricly pear. Conclusion: The results show that controlled atmospheres can extend shelf life until 16 storage days when used on minimally processed prickly pear
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