WEIGHT LOSS AND PH MODIFICATION DURING STORAGE OF MINIMALLY PROCESSED EARS OF PRO- VITAMIN A BIOFORTIFIED MAIZE

Natália Alves Barbosa[1], Maria Cristina D. Paes[2], Israel Alexandre Pereira Filho[3], Joelma Pereira[1].
[1]Departamento Ciências dos Alimentos. Universidade Federal de Lavras – UFLA, Caixa Postal 3037, CEP 37200-000, Lavras, Minas Gerais, Brasil. [2,3]Embrapa Milho e Sorgo, Caixa Postal 151, Sete Lagoas, MG, CEP 35701-970, MG.

Postharvest modifications observed in immature kernels of maize can alter chemical composition and appearance of the kernels even when they are still on the cob. In case of pro vitamin A (proVA) biofortified maize, there are still no reports on physical and chemical changes occurring after harvest of ears in green stage, a product largely consumed in Brazil. Therefore, this study aimed to evaluate mass loss and pH in minimally processed pro-VA maize ears stored in conditions of retail. ProVA maize ears with kernels in milk stage were freshly harvested, husked, washed and sanitized in a cold solution with 20ppm chloride. In sequence, they were placed on styrofoam trays, wrapped with 18mm polyvinyl chloride (PVC) film and stored at 5°C for nine days. Weight loss of the ears and pH of the kernels were evaluated on days 0, 3, 6 and 9 of storage. The experimental design was a completely randomized with five replicates. The experimental unit was a tray with three ears. The data was subjected to analysis of variance (ANOVA) followed by regression analysis when $p \leq 0.05$. The weight loss increased linearly over time, but the final weight loss (1%) was significantly smaller than the maximum (7%) allowed for green corn on the cob kept under refrigeration in supermarkets for 8 days. The initial pH was 6.8 for the green kernels and did not change overtime. Postharvest handling applied to the proVA maize green corn on the cob seemed to retard dehydration and pH alteration in the fresh product.

Financial support: FAPEMIG, CAPES, EMBRAPA