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INFLUENCE OF THE APPLICATION OF ROSEMARY ESSENTIAL OIL (*SALVIA ROSMARINUS*) ON THE SENSORY CHARACTERISTICS AND MICROBIOLOGICAL QUALITY OF MINIMALLY PROCESSED PUMPKIN (*CUCURBITA MOSCHATA)*

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INTRODUCTION & AIM

The production of pumpkin in Santiago del Estero-Argentina is of high quality and semi-sweet. It is generally consumed cooked and could be used as minimally processed (MP). Processing increases its susceptibility to microbial spoilage, making it necessary to use sanitizers. The objective in the present work was to evaluate the effect of rosemary essential oil (REO) application on the sensory characteristics and microbiological quality of grated pumpkin.

METHOD

Pumpkin was obtained from Santiago del Estero producers, in Argentina.

The product was washed, sanitized, cut, peeled, grated and centrifuged.

The REO was superficially incorporated in two concentrations (4 and 8 µL/mL), applied in three ways: sprayed (TS), immersion (TI) and strips embedded in REO adhered to the storage container (TV).

Samples were stored at 5 °C, in sealed polypropylene bags of 35 µm.

In addition, an immersion treatment with NaClO-100 ppm-3 min (TH) and a control without any additive were included (TC).

Determinations

Microbiological: The count of mesophilic aerobic (MA) and psychrophilic (P) microorganisms, enterobacteria (E), and molds and yeasts (MY) was evaluated both after 24 hours and 8 days of storage.

Sensory: Trained judges analyzed the aroma and flavor of the pumpkin, identifying these attributes as critical to its acceptability.

RESULTS & DISCUSSION

The microbiological analysis showed that the REO treatments presented levels of 10^7 UCF/g and similar to the NaClO treatment, except TI with both concentrations, which was more effective in inhibiting the development of psychrophilics and MY. Fig. 1 shows the count of microorganisms in all applied treatments.

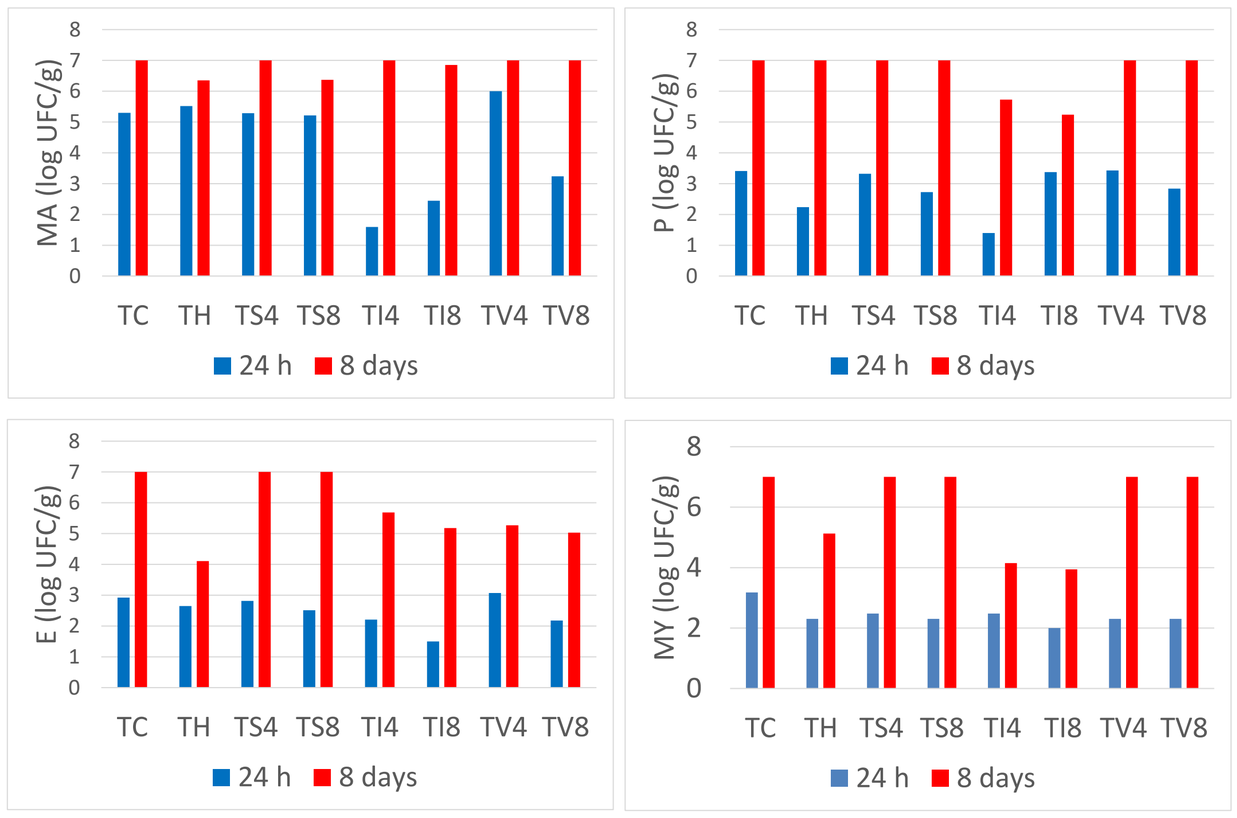

Fig. 1. Bar graph representing the count of MA, P, E and MY at 24 hours and 8 days after production.

Regarding the evaluation of aroma (Fig 2), at 8 days all treatments were acceptable, with the exception of TI and TV (8 µL/mL), while for flavor all treatments were acceptable with the exception of TI for both concentrations.

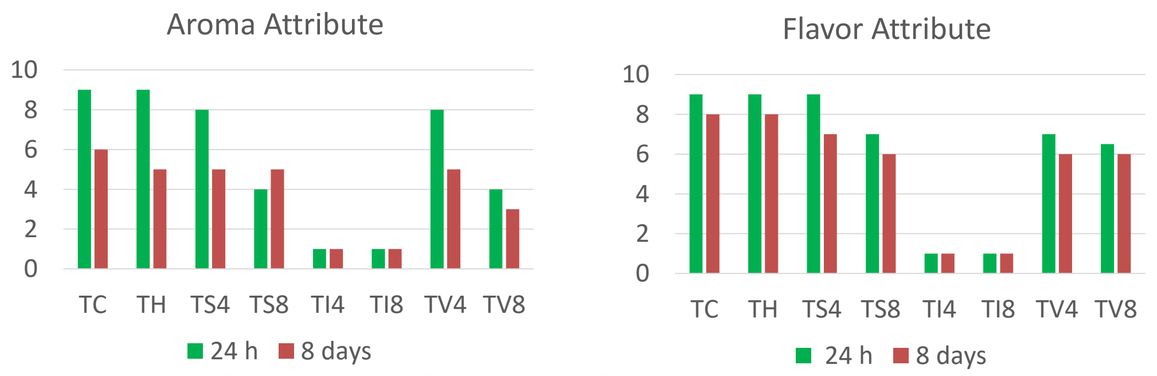

Fig. 2 Bar graph presenting the evaluated attributes. It is scored on a scale from 1 to 9, with a score of 9 considered optimal and the lowest score 1, with 5 being the marketing limit.

CONCLUSION

The application of the TA and TV treatments at the lowest concentration could be considered, to carry out subsequent studies in order to increase the useful life of minimally processed pumpkin.