

Title Minimally fresh processed pepper under different kind of cuts
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Abstract

The influence on quality of cube, ribbon and slice kind of cuts in minimal fresh processing ‘Requena’ sweet bell peppers was studied. The respiratory activity of pieces from these kinds of cuts was monitored and compared to that registered for the intact fruits. Oriented polypropylene (OPP) and polyethylene-polyamide (PE-PA) films were used to generate modified atmosphere packaging (MAP) conditions while a macro-perforated (mPP) film was applied as control (air atmosphere). For each kind of cut, about 125 g of product were sealed within packages and were stored for 12 days at 5°C. The main quality attributes on the processing day and after chilling storage determined were: physical (color), chemical (total soluble solids content, pH and titratable acidity), microbiological (microbial growth) and sensorial (visual appearance, dehydration, aroma and flavor). No relevant differences in the CO₂ production as a measure of respiratory activity among the three kinds of cut and in comparison to that registered in the intact pepper were found (about 6 mg•kg⁻¹•h⁻¹). For PE-PA a gas composition of 2–4 kPa O₂ and 16–18 kPa CO₂ was reached, while under OPP 5–7 kPa O₂ and 11–13 kPa CO₂ was found. After shelf life, MAP treatments increased pH and slightly decreased acidity while pH decreased in control bell pepper pieces. After 12 days at 5°C, all the sensorial attributes decreased in value at harvest, without relevant differences among them according to the kind of the cut. However slight differences were registered depending of the film applied for the MAP. Control fruits reached the lowest sensorial quality. The best results were obtained with the OPP film. Food safety was kept at any moment because microbial growth was always under the Spanish legal limit. Neither physiological disorders, nor decay developed at any moment.