

Title Effect of a prestorage treatment with 6-benzylaminopurine and modified atmosphere packaging storage on the respiration and quality of green asparagus spears

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### Abstract

Fresh green asparagus (*Asparagus officinalis* L.) spears were subjected to a prestorage treatment by dipping in 20 ppm 6-benzylaminopurine (6-BA) for 10 min. Treated and untreated spears were placed into low-density polyethylene (LDPE) bags with a thickness of 15  $\mu\text{m}$ , in which a passive modification of the atmosphere was developed, or 25  $\mu\text{m}$ , in which a gas mixture of 10 kPa  $\text{O}_2$  + 5 kPa  $\text{CO}_2$  was flushed and then the bags were stored for 24 days at 2 °C. Atmosphere composition, chlorophyll, ascorbic acid, fiber, color and sensory attributes were determined every 4 days. Throughout the storage period,  $\text{O}_2$  level decreased from the initial values (21 kPa, 10 kPa) to 2.1–4.2 kPa in package without 6-BA treatment and to 4.9–6.8 kPa in package with 6-BA treatment.  $\text{CO}_2$  level increased from the initial value (0 kPa, 5 kPa) to 5.5–7.2 kPa in packages without 6-BA treatment and to 4.1–6.1 kPa in packages with 6-BA treatment. In both packaging treatments, at the end of the 24 day storage period, the spears treated with 6-BA had a better color, firmness and overall appearance; moreover they retained more chlorophyll and ascorbic acid and they had less fiber.