Title Metabolic activity and quality changes of fresh-cut kohlrabi stored under controlled atmosphere

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Abstract

The metabolic activity and the effect of different controlled atmosphere (CA) conditions on the quality of stem and fresh-cut kohlrabi were studied. Atmospheres with 95% RH: 5 kPa O_2 + 5 kPa CO_2, 5 kPa O_2 + 15 kPa CO_2, and air storage (21 kPa O_2 + 0 kPa CO_2) as control were applied. Sliced kohlrabi was stored for 14 days at 5°C. The respiration rate, ethylene emission, sugar and organic acids content, and sensorial attributes (appearance, flavor, and acceptability) were evaluated. The respiratory activity of fresh-cut kohlrabi was quite similar during the storage period. Fresh-cut kohlrabi showed a respiration rate of 6 to 10 mg CO_2 kg^{-1} h^{-1} under air storage. Using CA of 5 kPa O_2 + 5 kPa CO_2 the respiration were reduced to 2 to 4 mg CO_2 kg^{-1} h^{-1}. A decrement in the ethylene emission throughout storage, especially under low O_2 and high CO_2 levels was found. Sliced kohlrabi stored under CA of 5 kPa O_2 + 5 or 15 kPa CO_2 had only a slight delay in sugar and organic acid consumption compared with air storage. For fresh-cut kohlrabi 5 kPa O_2 + 15 kPa CO_2 was the most appropriated atmosphere to assure a good commercial quality. Studies on fresh-cut kohlrabi are firstly reported here.