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Effect of raw material quality and modified atmosphere packaging on color and texture retention of wild rocket (*Diplotaxis tenuifolia* L.)

Merete Edelenbos*, Mette Marie Løkke, and Helene Fast Seefeldt

Aarhus University, Dept. of Food Science, Kirstinebjergvej 10, 5792 Årslev, Denmark

Abstract

Wild rocket (*Diplotaxis tenuifolia* L.) is packaged in film that creates modified atmospheres (MA) to prevent wilting of the leaves and to ease handling and marketing of the product. Often, the O_2 transmission rate (OTR) of a film is kept at a constant level despite that wild rocket vary in respiration rate at harvest. In this experiment, wild rocket was harvested in the spring and in the late summer and packaged in films with two O_2 transmission rates (OTR's): 2.57 and 17.4 $pmols^{-1}m^{-2}kPa^{-1}$, and stored for 28 days at 5°C. During storage, leaf color and texture was determined by multispectral analysis. Wild rocket harvested in the spring remained greener but lost its texture faster during storage than wild rocket harvested in the late summer. With the 2.57 OTR film there was some modification of the inside atmosphere, down to 14-17 kPa O_2 and up to 4-7 kPa CO_2, depending on the respiration rate of the wild rocket at harvest. With the 17.4 OTR film, the modification inside the package was minor regardless of harvest time. There was no effect of OTR within harvest time on the color and texture retention of wild rocket during storage. Harvest season and storage time had the greatest effects on the quality retention of packaged wild rocket at MA conditions that allow enough O_2 for aerobic respiration.