Abstract:

Carrots (Daucus carota L.) of cv. Bolero were processed into shreds and stored up to 4 months at –24ºC (frozen storage) or the roots were stored up to 4 months at 1ºC (cold storage) and processed into shreds. Volatiles from the shreds were collected by dynamic headspace sampling and analysed by GC-FID, GC-MS and GC-olfactometry. Although the carrots were considered mature at harvest, there was a considerable increase in the total concentration of volatiles during cold storage. In contrast, the concentration was unchanged in the frozen carrot shreds. The volatiles were divided into three odour classes: “carrot top”, “fruity”, and “woody” based on their olfactory description using GC-olfactometry. It was in particular, the “woody” odour class that increased during cold storage.