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Agroecology, Organic Agriculture and Environment Protection

Harvesting time affects yield and chemical composition of *Cichorium spinosum* L.

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ABSTRACT

In the present study, the effect of the number of harvests on yield and chemical composition of *Cichorium spinosum* L. plants was examined. Seeds of were sown in seed trays containing peat and young seedlings were transplanted in 2L pots containing peat and perlite (1:1 v/v). Plants were harvested two or three times during the growing period, while control plants (no prior harvests) were also harvested at the same time. Rosette diameter, number of leaves, SPAD index, and fresh and dry weight were recorded at harvest, while chemical composition of leaves was also assessed (fatty-acids, sugars, organic acids, and tocopherols content). Regardless of the number of harvests, total fresh weight and number of leaves were higher comparing to control plants, whereas dry weight and rosette diameter were higher in control plants. SPAD index was mostly affected by harvesting time (growth stage) and decreased during the growing season. Significant differences were also observed in chemical composition of the aerial parts of plants in relation to the number of harvests, with control treatment for the third cutting having the higher content in sugars, organic acids, saturated and monounsaturated fatty acids, and 1st cutting showed the best results for tocopherols. In conclusion, successive harvests (two or three harvests) increased total yield of *C. spinosum* plants, comparing to control plants, whereas they had a negative effect on sugar, organic and fatty acids content.

Keywords: *Cichorium spinosum* L., harvesting time, organic acids, sugars, tocopherols