

Abstract:

Stem chicory (SC) is mainly cultivated in southern Italy for its tender stems and leaves, both eaten raw and cooked. This research provides information on the suitability to prepare frozen and 'ready to use' products (RTU). Two years trials were carried out in Bari, Italy. Seedlings of two cultivars, 'Galatina' and 'Brindisina', were transplanted each year in September and harvested 90-110-120 and 135 days after planting. For each harvest the yield and the morphological traits were determined. To prepare RTU products, stems were trimmed and then stored in sealed plastic bags at 4 °C for 15 days. For the freezing, stems were blanched in boiling water for 1-2-3 minutes, frozen at -40 °C and then stored for 3-6-9 months. Panel tests were made on the frozen and RTU products during the storage period to evaluate organoleptic attributes; the results were graphically represented by sensorial profiles. Colour measurements were taken on fresh and frozen stems; in addition, the content of NO₃⁻ and ascorbic acid of the RTU products during storage was determined. In both years, the total yield, plant weight, weight and number of stems and refuse increased with delayed harvests. Results showed that 'Galatina' had larger yields than 'Brindisina'. Stems from first and second harvests, blanched for 2 minutes and stored for 6 months, were more appreciated for their organoleptic attributes, whereas fibre content was higher in the stems from the two last harvests. After 3 months storage, browning was observed on frozen stems blanched for 1 minute. Quality of RTU products declined after 9 days storage. Ascorbic acid content was stable, while NO₃ of RTU products progressively decreased during storage.