

Abstract:

The Soilless Culture System (SCS) allows to obtain the production of clean material at harvest, and consequently the reduction of many washing treatments. The aim of the present research was to investigate yield, shelf-life and nitrate content of corn salad grown in a SCS system varying trays, media, nutrient solution and irrigation. A SCS was implemented for the Leafy Vegetable Production (LVP) of corn salad (*Valerianella olitoria* L.). The species was grown in styrofoam containerized trays of 40 and 160 cells, using two growing media based on different proportions of peat and perlite, and fertilized with different nitrogen concentrations in the nutrient solution. Ebb-and-flow and Flotation irrigation systems were compared. Corn salad was sown on 24 November 1999, and harvested on 2 February 2000. The statistical design was a split-plot design with randomized blocks, with irrigation as main-plot factor and media x tray x N as sub-plot factor. At harvest, plant canopies were cut and weighed. Leaves were packaged in commercial plastic boxes, and stored in cool chamber at 4°C, for post-harvest phase. Evaluation of post-harvest quality was assessed by trend of fresh and dry weight, and nitrate content was determined. Corn salad production was significantly influenced by irrigation, medium and cell tray. Post-harvest shelf life in cool chamber at 4°C was not influenced by growing conditions. The experiment indicated the possibility of adopting the SCS to grow high quality corn salad plants for the ready-to-eat market.