

Leafy Vegetables Grown in Floating System

Nina TOTH, Josip BOROŠIĆ, Sanja FABEK, Božidar BENKO, Bruno NOVAK

University of Zagreb, Faculty of Agriculture, Svetošimunska cesta 25, 10000 Zagreb, Croatia
(e-mail: ntoth@agr.hr)

Abstract

Production of leafy vegetables on the soil is characterized by problems connected with one-crop-system, excessive nitrogen fertilization and weed presence, particularly for species that are harvested by mowing. Soilless vegetable production excludes this problems and floating system is suitable for leafy vegetables.

Research with lettuce and rocket has been carried out to introduce floating system in Croatia. The aim was to determine growing cycle length of both species in summer-autumn period and to evaluate cultivars ('Posavka' and 'Kristal ljetna žuta') effect on the lettuce yield, along with stand density (5 and 8 g seed m⁻²) and multiple harvests effect (2 to 3 times) on rocket cv. 'Coltivata' yield. All trials were laid out according to the randomized block scheme with four replications, for each species in separate pool with adequate nutrient solution.

From sowing to harvest less days were necessary (17 to 19 for lettuce and 18 to 21 for rocket) in the summer period than in the autumn period (25 to 40 and 25 to 33, respectively). Lettuce cv. 'Posavka' (2.4 kg m⁻²) yielded 16% more than 'Kristal ljetna žuta' (2 kg m⁻²). In all three rocket harvests, greater stand density resulted in higher yield (17, 30 and 44%) comparing to the smaller stand density. Regardless of rocket stand density, the highest proportion of total yield (53%) was obtained in the first harvest, lower (29%) in the second and the lowest (18%) in the third harvest.

Key words: hydroponic system, *Lactuca sativa* L., *Eruca sativa* L., stand density, yield

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Lisnato povrće na plutajućim pločama

Nina TOTH, Josip BOROŠIĆ, Sanja FABEK, Božidar BENKO, Bruno NOVAK

Sveučilište u Zagrebu, Agronomski fakultet, Svetošimunska cesta 25, 10000 Zagreb, Hrvatska
(e-mail: ntoth@agr.hr)

Sažetak

Uzgoj lisnatog povrća na tlu karakteriziraju problemi vezani za proizvodnju u monokulturi, prekomjernu gnojidbu dušikom i prisutnost korova, posebice kod vrsta koje se beru košnjom. Hidroponski uzgoj povrća isključuje navedene probleme, a za uzgoj lisnatog povrća primjeren je sustav plutajućih ploča na hranjivoj otopini.

U okviru introdukcije ovog sustava u Hrvatsku, provedeno je istraživanje na salati i rigi sa ciljem utvrđivanja dužine proizvodnog ciklusa obje vrste u ljetno-jesenskom razdoblju uz vrednovanje utjecaja sorte ('Posavka' i 'Kristal ljetna žuta') na prinos salate, odnosno, gustoće sklopa (5 i 8 g sjemena m⁻²) i višekratne berbe (2 do 3 puta) na prinos rige sorte 'Coltivata'. U svim ciklusima pokusi su postavljeni po metodi slučajnog blokno rasporeda u četiri ponavljanja, za svaku vrstu u zasebnom bazenu s hranjivom otopinom odgovarajućeg sastava.

U ljetnom razdoblju od sjetve do berbe bilo je potrebno manje dana (17 do 19 za salatu i 18 do 21 za rigu) nego u jesenskom (25 do 40 i 25 do 33). Salata 'Posavka' (2,4 kg m⁻²) ostvarila je oko 16 % veći prinos od 'Kristal ljetne žute' (2 kg m⁻²). U sve tri berbe rige gušći sklop je rezultirao većim prinosom (17, 30 i 44 %) u odnosu na rjeđi sklop. Bez obzira na sklop rige, najveći udio ukupnog prinosa (53 %) ostvaren je u prvoj berbi, manji (29 %) u drugoj i najmanji (18 %) u trećoj berbi.

Ključne riječi: hidroponi, *Lactuca sativa* L., *Eruca sativa* L., sklop biljaka, prinos

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