

The Effect of Increasing Mycorrhiza Applications on Nutrition of Pak Choi (*Brassica rapa* L. subsp. *chinensis* L.) Plant

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Aim of the study: The study was done to determine the effect of increasing mycorrhiza application on some macro nutrient element contents of Pak Choi (*Brassica rapa* L. subsp. *Chinensis* L.) plant. Owing to Pak Choi plant that is an exotic plant and economically valuable for our and a lot of country in the world.

Material and Methods: Research was designed as 3 replications according to randomized block experimental design. Pak Choi seedlings became 2 to 3 true leaves (21 days for pak choi after seed sowing) they were planted to pre-prepared places in high tunnel cold greenhouse with 10 × 10 cm intervals and 10 plants in each parcel. Then five mycorrhiza doses (I. dose: 0 mL /plant, II. dose: 15 mL / plant, III. dose: 20 mL / plant, IV. dose: 30 mL /plant and V. dose: 40 mL /plant) were applied a month before harvesting and plants were harvested 54 days after seed sowing. Some macro and micro nutrient elements (P, K, Ca, Mg, Fe, Cu, Mn and Zn) contents of plants were determined via ICP-OES instrument. Analysis results were evaluated SPSS 21 statistically program.

Results: According to the experiment results, important increases in some macro and micro nutrient element contents of Pak Choi plant were determined with increasing mycorrhiza applications. The contents were determined as P (0.38%, 0.42 %, 0.45 %, 0.49 % and 0.51 %), K (4.01 %, 4.30 %, 4.41 %, 4.56 % and 4.70 %), Ca (1.83 %, 2.01 %, 2.06 %, 2.20 % and 2.36 %), Mg (0.14 %, 0.15 %, 0.15 %, 0.16 % and 0.16 %), Fe (309 mg/kg, 417 mg/kg, 678 mg/kg, 1009 mg/kg and 1696 mg/kg), Cu (5.49 mg/kg, 6.10 mg/kg, 6.53 mg/kg, 7.05 mg/kg and 7.63 mg/kg), Mn (45.90 mg/kg, 52.23 mg/kg, 60.20 mg/kg, 70.40 mg/kg and 80.00 mg/kg) and Zn (32.23 mg/kg, 35.40 mg/kg, 37.00 mg/kg, 40.70 mg/kg and 46.86 mg/kg) at I. dose: 0 mL /plant, II. dose: 15 mL /plant, III. dose: 20 mL /plant, IV. dose: 30 mL /plant and V. dose: 40 mL /plant, respectively. These P, K, Ca and Mg contents increases were determined significant at the level of 5 %, statistically. The highest nutrient element contents of Pak Choi plant were obtained V. dose: 40 mL /plant applications for P, K, Ca, Mg, Fe, Cu, Mn and Zn nutrient elements.

Keywords: Mycorrhiza, macro and micro element, Pak Choi (*Brassica rapa* L. subsp. var. *Chinensis* L.), exotic vegetable.