

## **Research Regarding the Effect of Arbuscular Mycorrhiza upon Principals Physiological Index in Salad - *Lactuca sativa* L.**

**Dorin CAMEN, Mironela PASC, Carmen BEINSAN, Radu SUMALAN**

Faculty of Horticulture and Forestry, Banat University of Agricultural Science and Veterinary Medicine Timisoara, 119 Calea Aradului Street, 300645, Timisoara, Romania;  
plantphysiology.ro@gmail.com

### SUMMARY

The mushrooms of vesicular arbuscular mycorrhiza have a positive influence in the most crops physiology, vegetative propagation by promoting increased between absorption of phosphorus, of microelements with difficult absorption for plant with reduced mobility and water, causing increased resistance to drought. Research was focused on the effect of arbuscular mycorrhiza upon chlorophyll content, leaf area and photosynthesis intensity in salad. Biological material used was the commercial genotypes of lettuce (*Lactuca sativa* L.), with Hungarian origin. To induce mycorrhiza was used commercially inoculums under the name of INOQ Top from INOQ GmbH, Germany. It contains the following species of fungi: *Glomus etunicatum* (Becker & Gerdemann), *Glomus intraradices* (Schenck & Smith), *Glomus claroideum* (Schenck & Smith). Chlorophyll content was measured using portable chlorophyllmeter Spades 502, Konika Minolta, leaf area was determined with a portable scanner Leaf Area Meter AM 300-0002, Bioscientific ADC Ltd, and to measure the intensity of photosynthesis we used CO<sub>2</sub> ANALYSIS PACKAGE device, qubit Systems (Canada), which incorporates an infrared gas analyzer to measure CO<sub>2</sub> concentration. Chlorophyll content and hence CIC (chlorophyll content index) responded similarly to AMF colonization, ascertaining the higher values for phosphorus concentration variations in mycorrhiza 1X (0,43g/l Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>) and 0,5X (0,215 g/l Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>). Analyzing the values obtained by determining the leaf area per plant, finds the following: variations were mycorrhiza showed a higher leaf area (339.97 ± 24.02 cm<sup>2</sup>), where they were watered with nutrient solution with content normal phosphorus respectively halved. Following experiments is an increase of photosynthetic intensity with increasing phosphorus concentration. The most intense photosynthetic variant proved to 1PM (896.33 ± 4.49) and lowest intensity was recorded version 0PN (225.12 ± 0.34).

**Keywords:** mycorrhiza, *Lactuca sativa*, chlorophyll, photosynthesis, leaf area