

# THE INFLUENCE OF SALINE STRESS ON THE WATER REGIME IN BITTER CUCUMBERS (*MOMORDICA CHARANTIA*)

Ștefănică OSTACI<sup>1</sup>, Cristina SLABU<sup>1</sup>, Alina Elena MARTA<sup>1</sup>, Mihaela COVAȘĂ, Iulia MINIATĂ<sup>1</sup>,  
Carmen Doina JITĂREANU<sup>1</sup>

e-mail: stefanaostaci@gmail.com

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## Abstract

Bitter cucumber (*Momordica charantia*) is a tropical and subtropical plant widely distributed in China, Malaysia, India and tropical Africa, with a long history of use in traditional medicine. Soil salinity is a major abiotic stress worldwide that affects plant morphology and physiology leading to reduced growth, reduced production yield or in some cases plant death. Due to the reduction of water accessibility, plants try for its optimal absorption, increasing the concentration of vacuolar juice as a method of combating the hypertonicity of the external environment. To determine the adaptation capacity to saline stress, which is increasingly common, two varieties (Brâncuși and Rodeo) and three experimental lines (Line 1, Line 3 and Line 4) of bitter cucumber were treated with saline solutions of different concentrations (100 mM NaCl and 200 mM NaCl), and following the treatments determinations of free water and bound water content were performed. Research has shown that with the onset of salt stress, the amount of free water in bitter cucumber leaves decreased and the amount of bound water increased in most of the studied plants, which highlights the triggering of a pronounced reaction to this type of abiotic stress. The statistical analysis shows significant differences between the control and the treated variants both in the case of free and bound water.

**Key words:** *Momordica charantia*, salinity, water regime