THE INFLUENCE OF SALINE STRESS ON THE CONCENTRATION OF TOTAL POLYPHENOLS IN BITTER CUCUMBERS (*MOMORDICA CHARANTIA*)

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Abstract

Momordica charantia is a climbing plant from the *Cucurbitaceae* family known and widely used for its many medicinal properties including the fight against diabetes. Salinity is the main abiotic stress factor affecting every aspect of plant physiology and biochemistry significantly affecting growth, development and production yield. Polyphenols are natural phytokinins synthesized in plants as secondary metabolites with the role of signaling, plant defense, mediating auxin transport, antioxidant activity and free radical scavenging. To determine salinity resistance, 5 bitter cucumber genotypes were studied that were treated with different salt concentrations. The highest amount of total polyphenols was observed in the case of Line 4 where the value recorded at the treatment with saline solution 200 mM NaCl determined an increase by 125.9% compared to the untreated control. This value correlated negatively with the number of lateral shoots, which highlights a poor adaptation of the genotype to salt stress. Compared to this genotype, Line 3 showed a reduced increase in the content of polyphenols in the variants subjected to saline stress, but also an increase in the number of lateral shoots, observing a positive correlation in the two factors. This response of the genotype highlights a good adaptation to salt stress.

Key words: *Momordica charantia*, polyphenols, spectrophotometry, salinity