

RESEARCH ON THE PHYSICO – CHEMICAL CHARACTERIZATION OF IMPROVED GENOTYPES FOR *LYCOPERSICON ESCULENTUM* MILL. OBTAINED IN THE ECOLOGICAL SYSTEM

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Abstract

Currently, world, horticultural producers and processors are concerned to obtain high quality organic products in conditions of economic profitability. The main aim of the research is to highlight the physico – chemical characteristics of some improved genotypes from the species *Lycopersicon esculentum* Mill. obtained in ecological system in the experimental field within USAMV Iasi in 2019. Thus, the aim was to highlight some qualitative parameters, respectively: titrable acidity, pH value, total dry matter content, soluble dry matter, vitamin c, carotene and lycopene content. The biological material was represented by 37 improved tomato genotypes in order to ensure competitive horticultural techniques. The 37 genotypes of *Lycopersicon esculentum* Mill. showed an average value of the total dry matter content of $7.07 \pm 0.5\%$, showing an oscillating amplitude of the lower delimited values of 4.64% (G223) and 17.9% (G265). The average pH value was 4.4 with limits that fell within the range of variation [4.15 – 4.85]. The content of vitamin C ranged between 14 mg/ 100 g and 29 mg/ 100 g. Other components with antioxidant value that have been shown in important proportions are represented by carotenes (2.36 – 21.22 mg/ 100 g) and lycopene (3.01 – 33.7 mg/ 100 g). This research results strengthens the data in the literature referring to the bioactive compounds of tomatoes emphasizing that the study was conducted for different genotypes grown in organic conditions.

Key words: tomatoes, chemical composition, carotenes, lycopene