Establishing the Quality of Fruits at Some Sorts of Tomatoes Cultivated in Braila County

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ABSTRACT

The analysis and determinations had as purpose establishing the quality of fruits at four sorts of tomatoes from crops set up in the field, by seedling. Tomatoes are cultivated for their fruits that have a pleasant taste and a very high food value. Their nutritive value does not consist in relatively modest content of carbohydrates, but especially in mineral substances and vitamins. Out of the vitamins comprised by tomatoes, the most important are: A vitamin (the importance for the eye and for endocrine processes), B complex (B1, B2, B5, B6 – protectors of the nervous system, of the bones’ system, of metabolism), C vitamin (necessary to cardiovascular system, to nervous and endocrine system), E vitamin (vitamin of youth and fertility) and K vitamin (important for the synthesis of certain figurate elements of the blood). The establishing of the quality of fruits was made through determining the physical characteristics (average weight, form – expressed by the form index, specific weight), chemical composition (total dry substance, humidity, soluble dry substance, titrable acidity, ascorbic acid) and the morphological composition of the fruits (pulp, membrane, seeds). The biological material used was represented by four sorts: Rio Grande, Coral, Keskemet and Benfica, the determinations being performed on fruits that reach the consumption maturity. The average weight of the fruits had values of 164.53 g at Benfica and of 154.75 g at Coral, that shows that at these sorts, the fruits are big, and at Keskemet sort, the weight of fruits had the smallest value, of 74.61 g. The sub-unitary values of the form index, but close to unit at Benfica and Coral sorts show that the fruits have an almost spherical form and the super-unitary values at Rio Grande and Keskemet sorts show the elongated form of the fruits. The specific weight varies between 0.75 g/cm³ (Keskemet) and 1.03 g/cm³ at Rio Grande sort and it has close values at Benfica (0.92 g/cm³) and Coral (0.95 g/cm³) sorts, the value of this characteristic being in relation of inversed proportionality with perishability. 

The content in total dry substance had values between 4.51 % (Keskemet) and 4.88 % (Rio Grande), the content in soluble dry substance being in direct correlation with the content in total dry substance. Titrable acidity varied in terms of sort, within quite reduced limits, the sort with the highest value of acidity was Keskemet (3.60), and the sort with the lowest value of acidity was Coral (3.37). The content in ascorbic acid was of over 200 mg/100 g fresh product at Coral and Benfica sorts that are sorts with fruits of almost spherical form and between 110.88-144.14 mg/100g fresh product at the sorts with elongated fruits Rio Grande, respectively Keskemet. The highest percentage of pulp had Coral (81.85%) sort, and the lowest Keskemet (75.94 %). Out of the sorts analyzed, there have been remarked Coral and Benfica from the point of view of the average weight of fruits, 154.75 g respectively 164.53 g and of the content in ascorbic acid of over 200 mg/100 g fresh product. The proportion of the pulp in the morphological composition of the tomato fruits was higher at the two sorts Coral (81.85 %) and Benfica (79.99 %), this recommending them both for consumption in fresh state and for industrialization.