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The Influence of Natural Factors on the Technological Quality of Tea Leaves

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Aim of the Study: The major natural factors of growth and development of tea plants: climate-atmospheric fallouts, temperature, relative humidity ofthe air and soil–providing plants with water and nutrients.Normal growth and development of the plant depend on how the given natural factors correspond to the plant's needs. The more optimalthese factors are, the higher arethe qualitative and quantitative indicators of the tea production, which affects the technological quality of the tea leaves.

Material and Methods: On the examples of Chakvi and Gvara, changing the climatic and soil conditions determines the different levels of productivity. Tea sprout is the upper part of the young leaf, which consists of a bud, a stem, and leaf. As for the development, according to the number of normal and deaf leaves, it can be single-leafed, double-leafed, three-leafed, four-leafed and so on. According to tenderness, it can be gentle, slightly rough and rough.The elements of tea sproutsare different from each otherwith their biochemical and technological dignity, which are subject to different physical and chemical changes and impacts.Separate elements of the tea sproutare characterized by different technological dignities. A bud and the first leaf give the highest quality products, while the second and third leaves are relatively lowquality.This is conditioned by the fact that gentle elements of the sprout better subject to technological impacts and contain more quantities of substances on the basis of the fermentation and chemical transformations of which the basic quality indicators of the product are established.The technological dignity of the raw material mainly depends on the quantitative ratio and the qualitative composition of the chemical compounds in the tea leaf. Among the compounds in the tea leaf and finished tea, tea tannins have a significant place. During thetechnological processesof the tea production, the tannin is characterized with morequantitative and qualitative variability than any other substance. The color of the brew, the flavor and aroma is entirely dependent on receiving high quality production from the raw materials. As a result of determining tannin of the tea plant we havefound out that in different seasons the raw material is not equal according to the tannin consistency.

Results: Georgian # 1 and Georgian # 2 from the plantations in the area of Chakviare characterized with high content of tannins, while in the tea plants from the territory of Gvarathe content of tannin is less and it is due to thesum of active temperatures of the Chakvi region, the number of which reached 3500-4000°, while during vegetation period the average daily temperature is 18° and more.The relative humidity of air is 75-78%, whereas the absolute minimum of temperature in the territory of Gvara without snow coverwas even lower than 12, which caused some disruption of the process of vegetation. Since tea leaf tannin is the most labilecompound in the tea plant, changing the growth conditions affects the tannin content. These are primarily precipitation, relative humidity, air temperature and insolation.

Keywords: tea, sprout, tannin, relative humidity, brew color