

**Analysis of the Modification Changes According to Variation Row of the Leaves in
Quercus castaneifolia C.A.Mey.**

Zumrud MAMMADOVA, Gullu ALIYEVA, Rana AKBAROVA
Institute of Dendrology of ANAS
bio890@mail.ru

Aim of the study: In plants arise the morphological adaptation to adapt unfavorable environmental conditions, it is accompanied by the appearance of certain form diversity in vegetative and generative organs. In the article the observed modification changes in the leaves of chestnut-leaved oak were analyzed with mathematical methods.

Material and methods. Examples of plant which was investigation object have been phenological observed constantly in investigation base of the Institute of Dendrology, in march- July months of 2016. In July formed leaf samples have been gathered and morphological investigated. Thus, collected 74 leaves and each of them weighted and were registered. The numbers in non-sequential order was systematized and compiled variation order, established variation curve which reflecting the diversity of variation row, identified the smallest and largest extent of variation according to the width and length of the leaf, analyzed with mathematical methods.

Results: Determined from measurements that, the maximal limit of reaction rate is $l_{\max} = 18.5$ cm, the minimum limit of reaction rate is $l_{\min} = 4$ cm for length of chestnut-leaved oak leaves, calculated the average mathematical figure \bar{x} for length and the limits of the reaction rate was analyzed, so calculated $\bar{x} = 11.56$ cm. Prevalence frequency of options are different, come across external dimensions of variation very rare, decreases the prevalence frequency to the both end side of the line. The number of variants was calculated and defined that, middle members of the variation row is more often found. Calculated the standard deviation of average by mathematical indicator for length of leaves in $\sigma = \pm 1.66$ sm it shows that, each variation may differ from average mathematical indicator (\bar{x} -døn) as approximately ± 1.66 . The main parameters of variation row for width of the leaves were analyzed: average mathematical figure of variation row is $\bar{x} = 5.34$ sm, the maximal limit of reaction rate is $e_{\max} = 8.5$ cm, the minimum limit of reaction rate is $e_{\min} = 2$ cm. The average price is come across more, deviation from maximum and minimum average price of variation is come across less. . Calculated standard deviation of average mathematical indicator for width of leaves: $\sigma = \pm 2.43$. The results give an idea about the modification volatility. The fluctuation of reaction rate is great importance for adapting organisms to the natural environment, so it ensures the keeping and increase of species.

Key words: *Quercus castaneifolia* C.A.Mey., variation row, modification variability species