

## RESULTS OF AN EXPERIMENTAL STUDY TO DETERMINE THE POSSIBLE VALUES OF TRAUMING SOFTWARE PARAMETERS

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### ABSTRACT

*The parameters of the comprehensive small-leveler levelers developed in the article, that is their installation angle with respect to the direction of movement, length, vertical distance from the lower edge of the levelers to the rod and the speed of the aggregate are determined by the heights of irregularities in the treated area. The results of multivariate experimental studies to determine the optimal values that provide the average quadratic deviation and soil density at the level of agro-technical requirements with low energy consumption are presented. The multivariate experiments were performed according to the Hartley-3 plan. The data obtained from the experiments were processed by the PLANEXP program developed in the experimental department of QXMITI and regression equations adequately representing the evaluation criteria were obtained. The Cochran criterion was used to assess the homogeneity of the variance, the Student's criterion was used to assess the value of the regression coefficients, and the Fisher criterion was used to assess the adequacy of the regression models. The obtained regression equations show that the average square deviation of the heights of the irregularities in the zone treated by the straighteners is not more than  $\pm 2$  cm, the density of the soil in the zone treated by the straighteners is in the range of 1.1-1.2 g/cm<sup>3</sup>. The optimum values of the parameters of the solution are determined together with the condition that the gravitational resistance of the device is minimal.*

**KEYWORDS:** *Comprehensive Small-Leveler, Trace Softener, Trace Softener leveler, Installation Angle Of The Leveler Relative To The Direction Of Movement, Length Of The Leveler, Vertical Distance From The Lower Edge Of The Leveler To The Barbell, Speed Of Movement, Standard Deviation Of Uneven Heights, Soil Density, Gravity. Standard Deviation of Roughness Heights*

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