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**The mathematical optimization model of Chernozems soil indicators
for obtaining quality grain of soft winter wheat.**

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The methodical approaches to optimization of soil indicators of chernozems with natural fertility for obtaining high-quality grains of soft winter wheat were considered in the work. The purpose of the study is to substantiate the determination of the optimal levels and ratios of main grain quality indicators (protein, gluten, vitrification) and soil indicators of chernozem, which ensure high quality of winter wheat grain. Research methods are direct field studies, laboratory-analytical and mathematical-statistical calculations, and optimization. It was obtained on podzolized chernozems with optimization of soil indicators - protein content - 14.7%, gluten - 20.2%, vitreousness - 62%; on typical chernozems - protein content - 14.6%, gluten - 23.7%, vitreousness - 51%; on ordinary chernozems - protein content - 16.1%, gluten - 35.7%, vitreousness - 60%; on the southern chernozems - protein content - 16.6; gluten - 34.2%, vitreous - 79%. The development approach and results allow for determining the regions of cultivation of high-quality soft winter wheat grain on the territory of Ukraine that is important for farmers, as well as for the agricultural economy in general.