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INFLUENCE OF AGROTECHNICAL TECHNIQUES ON THE QUALITY INDICATORS OF GRAIN, MALT, AND BEER WORT

Madina Borisovna Khokonova^{1*}, Ruslan Khazhimusaevich Kudaev¹, Murat Vladimirovich Kashukoev¹, Vladimir Safarbievich Bzheumykhov¹, Abdulabek Rasulovich Rasulov¹

¹*Kabardino-Balkarian State Agrarian University named after V.M. Kokov, Nalchik, Kabardino-Balkarian Republic, Russian Federation;*

*Corresponding Author Madina Borisovna Khokonova, e-mail: dinakbgsha77@mail.ru;

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ABSTRACT

About half of all barley areas are concentrated in the North Caucasus, where grain production has historically specialized in its use for fodder purposes. However, for brewing, it is not so much the quantity but rather the quality of barley grain as a raw material that is important. This work is devoted to comparing the parameters of the density of sowing seeds with different levels of mineral nutrition, depending on their size, taking into account their influence on the brewing qualities of barley grain, malt, and beer wort in the foothill zone of the Kabardino-Balkarian Republic (Russia). The conducted studies allowed establishing that both in winter and spring varieties, an increase in the density of sowing from 450 to 550 seeds/m² was accompanied by a slight decrease in grain size. The extractivity was noticeably higher against the nitrogen, phosphorus, and potassium background in both forms of barley. It was determined that as the density of sowing increased, the solubility of malt protein decreased. It negatively correlated with the protein content in malt, i.e. as the density of sowing increased, malt contained more protein, but the degree of protein transition to wort decreased. It has been established that the best quality of malting barley and wort grains are noted at a stem density of 500 seeds/m² against the nitrogen, phosphorus, and potassium background.

Keywords: sowing density, barley, varieties, malt, quality, beer wort.