

**Influence of sowing methods on anti-erosion efficiency, productivity  
and grain quality of spiked crops on sloping lands  
of the Kabardino-Balkarian Republic**

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**Annotation.** The research was carried out in order to study the influence of sowing methods on the intensity of erosion processes, productivity and grain quality of agricultural crops in the conditions of slope agriculture of the Kabardino-Balkarian Republic. The work was carried out in 2018-2020 in the mid-mountain zone on the slope of the northwestern exposure with a steepness of 3-6°, an altitude of 980m above sea level. The scheme of the experiment provided for the placement of the studied crops along different variants of the slope of the upper (watershed), middle and lower parts when sowing along and across the experimental plot. The material for the research was the winter wheat variety Yuzhanka and the spring barley variety Eney-UA. As a result of field experiments, it was revealed that the use of the method of sowing across the slope is one of the most important of available agricultural practices for combating water erosion on sloping lands with a steepness of 3 to 6 degrees, decreasing the slope erosion 2.5 times and providing increase of grain yields about 2.2-3.0 c/ha. The anti-erosion role of this method of sowing is due to the fact that the transverse sowing of cereal crops changes the microrelief of arable land towards the formation of small furrows perpendicular to the direction of runoff, increases the surface roughness, reduces the macro-dissection of the slope, which contributes to a significant decrease in the intensity of erosion processes and an increase in field crop yields. The results of the research are recommended to be included in the system of mandatory agricultural practices in the cultivation of cereal crops by agricultural organizations of all categories on the sloping lands of the mid-mountain natural - climatic zone of the Kabardino-Balkarian Republic. In recent years, research institutions have proposed many anti-erosion measures aimed at further development of the theory and practice of soil-protective agriculture in the zonal aspect, and above all, the influence of the mechanism of erosion processes on changes in soil fertility and the development of both individual soil-protective methods and regional complexes. However, these anti-erosion measures can provide a positive result when they are tested in different regions, taking into account the peculiarities of the natural and climatic conditions of the Republic. The purpose of this work is to study the influence of sowing methods on the intensity of erosion processes, the yield and quality of grain of spiked crops on the sloping lands of the Kabardino-Balkarian Republic.

**Key words:** soils, slopes, precipitation, erosion, accounting profile, soil runoff, waterholes, fertility, productivity

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