

## FORMATION OF THE HARVEST OF AGRICULTURAL CROPS OF GRAIN-HERBAL AND GRAIN-MASSSED CROP ROTATIONS UNDER DIFFERENT CONDITIONS OF WATER SUPPLY AND MINERAL NUTRITION IN THE STEPPE ZONE OF THE CENTRAL CISCAUCASIA

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*Kabardino-Balkaria retains its position as one of the largest grain-producing regions in Russia and a supplier of high-quality grain. In a market economy, effective use of soil fertility, moisture reserves, mineral fertilizers, biological resources and other means of production in the cultivation of crops is relevant. However, obtaining high and stable yields of good quality in modern conditions is becoming increasingly difficult to achieve, as evidenced by the increasing volumes of poor quality grain.*

*The reason for this is the violation of agrotechnical requirements in the cultivation of agricultural crops. It is not a secret for anyone that at the present stage of agriculture, soil degradation is noted, compared with their state in the previous 50 and even 30 years, which is aggravated not only by human anthropogenic impact, but also by the degree of return of organic matter and nutrient elements to the soil, which in production conditions occurs in extremely small quantities.*

*The article presents the results of the formation of the yield of agricultural crops of grain-grass-tilled and grain-tilled crop rotation under various conditions of water and mineral nutrition in the steppe zone of the Central Ciscaucasia, generalization of the effectiveness of methods of biologization of agriculture. To achieve this goal, long-term data were analyzed in two long-term field stationary experiments, laid down in 1948 and 1979.*

*We have found that the use of mineral fertilizers with the use of biological resources contributed to the preservation and reproduction of soil fertility and obtaining stable yields of field crops of good quality. To ensure the productivity of 1 hectare of agricultural land up to 50 - 55 g.u. all possible sources of organic matter entering the soil should be used along with mineral fertilizers. This is the introduction of manure for row crops of crop rotations with a rate of at least 30 t / ha, the cultivation of green manure crops after harvesting ear crops and other early harvested predecessors and their incorporation, plowing of the straw of the ear crops and the leafy mass of corn in the place of their growth.*

**Keywords:** soil fertility, rainfed and irrigated crop rotation, organic and mineral fertilizers, crop yield, crop rotation productivity.

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