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**Balance of nutrition elements for cultivation of soybean in the Right-bank
Forest-steppe of Ukraine**

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The results of studies of the balance of biogenic elements of chernozem typical of soybean cultivation, depending on soil cultivation and various predecessors, are presented in the article. Nitrogen replenishment by symbiotic nitrogen fixation is found to be effective for soybean cultivation on black soil. Depending on the basic tillage and the predecessors, the amount of nitrogen fixed from the air for soybean cultivation ranges from 78 to 130 kg/ha.

In the system "plant-fertilizer" for the placement of soybeans after cereals, high nitrogen deficiency (18 kg/ha per year) was created in the variant of soil cultivated without soil tillage by 20-22 cm (chisel-deep-tiller). When placing soybeans after

corn, nitrogen deficiency (- 2 kg/ha), and after sunflower (-7 kg/ha) obtained in the variant during plowing by 20-22 cm. Choice of soybean as a predecessors for soybeans provided a no deficit balance of nitrogen regardless of the main processing soil. The nitrogen balance intensity for soybean placement after cereal crops ranged from 91 to 100%, after corn for grain - from 99 to 109%, sunflower – from 96 to 108% and soybeans - from 100 to 105%.

It was established that in all the studied variants, the supply of phosphorus of the with mineral fertilizers and plant residues was dominated by the takeaway with crops, which ultimately ensured its positive balance (from 40,9 to 49,6 kg/ha per year). With an overall high productivity of the crop, a positive potassium balance was formed at the level of 100-137% relative to the yield. For soybean cultivation, the studied predecessor and systems of tillage the formation of a positive potassium balance from 54,6 to 88,4 kg/ha per year.

Key words: soybeans, chernozem typical, tillage, nitrogen, balance of nutrients.