SOIL AND ECOLOGICAL EVALUATION OF GRASSLANDS OF OB AND VAKH COLLECTION SITES

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Abstract:

The taiga zone of the West Siberian Plain is characterized as a zone with risky agriculture. First of all, this is due to the natural climatic conditions of the northern part of the area under study. The soil and ecological evaluation of grasslands proves the possibility of feed production for dual-purpose cattle due to the natural fertility of Ob and Vakh floodplains alluvial soils. The study of these soils for evaluation of their soil, agrophysical indicators is based on the methodological basis of the soil-ecological evaluation developed by L.L. Shishov, D.N. Durmanov, I.I. Karmanov, V.V. Efremov [1]. The results obtained allowed for identification of the most fertile alluvial soils in the Ob floodplain with the aggravating factor being the water erosion of soil. In the Vakh floodplain, the negative factor is the increased hydromorphism and, as a consequence, the decrease in soil fertility and haying productivity. The soil and ecological evaluation allowed for identification of the most favorable floodplain areas for haying. According to the grassland soil, agrochemical indicator study findings, the following conclusions were made: In the Ob floodplain, grasslands are represented by sedge meadows; the following spices grow in the herbaceous layer: Carex acuta L. 55%, Carex cespitosa L. 40%, Veronica longifolia L. 1%, Lysimachia vulgaris L. 1%, Comarum palustre L. 1%, Equisetum arvense L. 2%. Projective cover: 100%. Alluvial sod soils demonstrate high fertility potential in comparison with similar soils of the Vakh. One of the main factors factoring into the high potential of soils fertility is a sandy loam composition of the rocks and the broad floodplain (20 30 km). These factors influence over hydromorphism degree reduction, which adversely affects the grassland productivity. In turn, the sandy loam composition of rocks is subjected to erosion processes, leading to a decrease in the area of grasslands. In the Vakh floodplain, in the meridional area falling into the low course of the river, the projective plant cover is 100%. Among them, Carex acuta L., Carex vesicaria L. 70%, Poa palustris L., Festuca pratensis Huds 10%, 5%, Comarum palustre L., Galium boreale L.. Galeopsis bifida Boenn., Sanguisorba officinalis L. 5%. In the moss cover of hayfield, Brachythecium mildeanum Schimp., Calliergon cordifolium Hedw. grow, which negatively affects the characteristics of hayfield. Alluvial humic gley soils have the highest fertility in the taiga zone of the West Siberian Plain. The soils demonstrate moderate and high potassium- and phosphorus-supplying power: 93.6 mg/100 g-E, 260.3 mg/100 g-E, these data indicate the raised fertility of these soils.

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