STRUCTURAL COMPOSITION OF SOD-PODZOLIC SOILS OF VARIOUS LAND USE

L. V. Boitsova

Agrophysical Research Institute,
14 Grazhdansky prospect, St. Petersburg, 195220, Russia
E-mail: larisa30.05@mail.ru

The paper presents the results of the structural composition study for the humus horizons of sod-podzolic soils under various land use. Soil sampling was carried out when the soils of the Menkovo Experimental Station of the Agrophysical Research Institute (Gatchinsky District, Leningrad Region) were mapped. 43 soil pits, characterizing various lands (arable, fallow, hay lands, meadows) were described. The soil structural composition, water resistance of the soil structure and the stability of soil composition were estimated, the structural coefficient (Kc), the water resistance criterion (Kafi), the structural factor (Pc) were calculated. An assessment of the structural composition of the soils' humus horizons showed that 78,9% of the arable soils, 86,7% of the fallow soils, 83,3% of the hay lands and 100% of the meadow soils were in good structural state. Based on the average content of agronomically valuable aggregates (both air-dry and water-resistant), and on the value of Ks, the investigated soils form the following series: meadows> fallows> hay lands> arable lands. The aggregate state of all the studied soils, estimated by the structural coefficient, can be characterized as «excellent» (Kc > 1,5). According to the value of Pc, the fallow soils have the highest capacity for structure formation. The range of variation of the studied parameters was the smallest in the meadow and hay land soils, which indirectly indicates a more stable structural state of these soils.

Key words: sod-podzolic soil, agricultural lands, aggregates, structural coefficient, structural factor.