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CONTENT HYDROMICA MINERALS IN TYPICAL BLACK SOIL.

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Annotation. On the soil surface the black-steppe zone type, constituting about 5% of the arable soil zemel.In most potassium is found mainly in the mineral part, in the crystal lattice of primary and secondary minerals in both exchange and non-exchange or so-absorbed state in soil colloids. The most available to plants reserve of this element in the soil is hydromica, vermiculite, montmorillonite, feldspar. There is sufficient minerals in soil type black steppe and forest steppe zones. Our ztask to determine the content of finely dispersed fraction of a typical black soil of gross potassium contents hydromica identify as the most accessible reserve potash plant nutrition. A knowledge of the properties and the mineral potassium compounds in soils is large importance is a product of weathering of mica, feldspar, hydromuscovite.

Keywords: *typical humus, total potassium, silt fraction, hydro-mica reserves*

The molecular ratio SiO2: R2O3 in hydromicas is 2,5: 3,0. The structure is hydromica numerous isomorphic substitution of aluminum, magnesium, silicon in aluminum. As a compensating cation is potassium, which is located in spaces. Illite are mainly dispersed fractions of soil minerals belong to the grid that does not expanding because potassium as an offsetting charge is non-exchange.

Gorbunov this scheme enables communication cations ground with power plants: 1) power supply plants is soluble salts; 2) direct exchange reserves are cations and soluble salts; 3) The reserve is near hydromica, vermiculite, secondary chlorite, montmorillonite, non-exchange cations, soluble salts; 4) potential reserves are feldspar, mica, primary chlorite, pyroxene, amphibole, apatite.

The proper and effective use of potash, our goal was to investigate the contents of finely dispersed fractions typical black soil content of potassium in the soil in

general and silt fractions, define content hydromica as the most accessible reserve potash plant nutrition.

The study was conducted black typical soil. Chemical analyzes were carried out following methods: Gross potassium determined by Smith, silt isolated by the method of measurement IIM 31-497058-003-2001, by centrifuging modification NNTSIHA, content hydromica - calculation method for Gorbunov.

Number of gross genetic potassium upper horizon (0-41 cm) of a typical black soil – 2,30%, which is 113 tons/ha. Carbonate loess has a composition slightly less gross potassium – 1,97%

The most active part of the soil on which it largely depends agrophysical and physico-chemical properties and, in the end - fertility is silt fraction. Note that mineralogical analysis of soil can be replaced, to some extent, chemical and mineralogical. Since clay minerals make up a fraction < 0,001mm, so we determined the number of fractions.

Knowing that hydromicas 6% K2O, we determined the gross content of potassium fine fraction rest of this soil. The method is based on the allocation of silt fraction < 0,001mm elutriation and subsequent deposition using tsentryfuhy. It should also be noted that the content of fractions less than 0,001mm approximately equal content of clay minerals.

The content of the sludge is increased to lower the transition horizon (Rhk) and is 24,3%. From the bottom of the transitional horizon to breed its amount reduced. The content of potassium in gross sludge is reduced to the lower transitional horizon and reduced to breed. These changes can be explained by a change in the mineralogical composition of silt fraction in genetic horizons. Upper genetic horizon containing H – 2,30% gross of potassium, which is associated with the content of silty fractions consisting dominated hydromica.

In a typical black soil composition varies little silt fractions in Profile dominated hydromica minerals, mica, smectite mixed formation, kaolinite, chlorite, half oxides - goethite and bibsyt the top of the profile. Also silt fraction of black soil containing quartz. There is a slight increase down the profile montmorylonites of minerals and

reduction hydromica. This is Illitization swelling minerals due to fixation of potassium and hydration mica. Content hydromica in black soil uniformly decreases down the profile from 42,8 to 36,3%.

Out of the data content of potassium in gross fraction less than 0,001mm and the total fraction of mechanical elements, we calculated the reserve near the element. So in the upper humus reserve is near H - 620, 542- Hpk, Phk - 549 mg / 100 g soil.
The upper horizon is more available to plants potassium - 27% of its gross content is in the near reserve.

Black typical soil have a sufficient supply of movable potassium. Hydromica presence is indirect proof of sufficient reserves of potassium in the soils studied. It is important of potash fertilizer potassium to the number that can be assimilated by plants and determine its reserves in the soil.

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