

## *Annotation*

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### *Corn yields for grain depending on the basic processing and fertilizing on drained organic soils of Forest Steppe*

*One of the main objectives of the agricultural science in the humid area is to develop effective ways of using drained lands that could provide not only a high return per unit area but also to prevent degradation and improve the natural soil fertility. Agriculture on reclaimed lands has its own peculiarities; it requires monitoring of soils, land improvement and implementation of agro-technical measures applying reasonable doses of organic and mineral fertilizers.*

*The aim of our research is based on identifying technological measures (tillage systems and fertilization) on corn efficiency after perennial grasses on drained organic soils.*

*Scientific studies were conducted during 2013-2014 at Panfylvivka Experimental Station NSC "Institute of Agriculture NAAS" (the Supiy river floodplain) which is located in the left-bank of the Forest-Steppe of Ukraine.*

*Agrochemical characteristics of the soil of experimental plots as follows: the depth of the peat layer is 1.2-1.4 m; content of total nitrogen – 1.3-2.0%; phosphorus – 0.76-0.92%; potassium – 0.09-0.15%; calcium – 20-26%; ash content – 30-40%; pH of salt – 7.0-7.5.*

*The experimental layout included such methods of primary tillage: plowing to a depth of 25-27 cm, disking – 10-12 cm and zero tillage [direct seeding into sod applying Roundup herbicide of the continuous action (5 l/ha)]. Against the background of three different methods of basic soil tillage fertilizers were applied under the scheme: no fertilizers (control), Humisol; Reacom; K<sub>90</sub>; P<sub>45</sub>K<sub>120</sub>; N<sub>45</sub>P<sub>45</sub>K<sub>120</sub>; N<sub>45</sub>P<sub>45</sub>K<sub>120</sub> + Reacom.*

*The most effective primary tillage of carbonate peatlands for corn for grain was plowing to a depth of 25-27cm which provided yield with full mineral fertilizing – 10.4 t/ha; disking – 9.92 t/ha compared with zero tillage – 8.56 t/ha.*

*A complete fertilizing (N<sub>45</sub>P<sub>45</sub>K<sub>120</sub>) combined with Reacom independently of the main tillage had the greatest influence on forming corn grain; applying only Humisol or Reacom provided no significant increase in grain yield.*

***Key words:*** irrigated soils, peatlands, primary tillage, fertilizers, corn, yield.