# INFLUENCE OF FERTILIZER MIXES MADE OF SAWDUST AND POULTRY MANURE ON AGROPHYSICAL STATE OF CHERNOZEM IN KRASNOYARSK FOREST-STEPPE

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The paper presents the results of the field experiment where the influence of fertilizer mixes based on poultry manure and sawdust on agrophysical state of leached chernozem of Krasnoyarsk forest-steppe was studied. The experiment was carried out in 2012–2014 in a crop rotation of «fallow – wheat – wheat». It was found that application of sawdust (3 t $ha^{-1}$) was reducing the soil bulk density of the fallow field to 0.68 g $cm^{-3}$ contributing to significant reduction of productive moisture content in comparison to the control treatment. Lower soil bulk density after the sawdust application resulted in reduced amount of soil clods (>10 mm) to 12–19% and manifested the maximum structure-forming effect in the soil of the fallow field (87–80%). The rapid loss of agronomically valuable fraction of aggregates (10–0.25 mm) in the wheat crops testifies the short-term structural-forming effect of pure sawdust. In subsequent wheat crops the decompressive and structural-forming effect of sawdust was weak. It was revealed that the seasonal dynamics of agrophysical indices after the sawdust application was to a great extent determined by soil moisture (r = 0.77). A stable loosening effect on chernozem was provided by a mixture of poultry manure (3 t $ha^{-1}$) and sawdust (1 t $ha^{-1}$). Application of this mixture to the soil resulted in a low soil bulk density (0.86 g $cm^{-3}$) during the entire observation period. The accumulation of agronomically valuable aggregates (10–0.25 mm) was also recorded (to 67%). Application of poultry manure (3 t $ha^{-1}$) contributed to a significant increase in the total nitrogen and phosphorus content in the leached chernozem.

***Key words:*** leached chernozem, agrophysical properties, poultry manure, sawdust, fertilizer mixes.