

THE INFLUENCE OF SOIL TILLAGE ON THE SOME PHYSICAL INDICATORS OF CHERNOZEM CAMBIC FROM MOLDOVA

Tamara LEAH¹

e-mail: tamaraleah09@gmail.com

Abstract

The paper presents research results of soil tillage influence on some physical properties of the chernozem cambic over 60 years period. For the witness soils were investigated the same indicators of cambic chernozem non modified anthropogenic from forest protection belt. The intensive agriculture in Moldova led to physical, chemical and biological soil degradation. The fallow cambic chernozem is characterized with loamy-clayey texture throughout the profile and a pronounciation cambic Bhw1 and Bhw2 horizons. The physical clay content varies in its profile from 51% in the fallow layer up to 55% in the cambic horizons, and clay content - from 35% to 38%, respectively. The arable cambic chernozems have a clayey-loamy texture, the physical clay content about 60-61% in the humiferous profile, 56-58% - in the BC and C horizons The clay content in A and B horizons varies between 39-40%, and in the BC and C horizons - within the limits of 56-57%. The conventional soil tillage system in Moldova based on the annual plowing with returning furrow had the effect of lowering the reserve of humus, through intensification of the organic matter mineralization in soil arable layer, decreasing hydrostability of the structural aggregates, increasing vulnerability of soil to degradation by compaction. Insufficient use of chemical and organic fertilizers, secondary strong compaction of the arable layer leads to decreasing their production capacity by two times.

Key words: soil tillage, physical properties, cambic chernozem, Moldova