

**O. DUBYTSKY, O. KACHMAR, A. DUBYTSKA,
O. VAVRYNOVYCH, M. SHCHERBA**

Institute of Agriculture of Carpathian Region of NAAS

AGROPHYSIOLOGICAL TRAITS OF GROWTH AND DEVELOPMENT OF WINTER WHEAT LEAVTS UPON CONDITIONS OF ECOLOGICALLY SAFE FERTILIZERS SYSTEMS

The regularities of the formation of the average leaf area index, the photosynthetic potential, the leaf area duration, the minimum and the maximum leaf area index, the maximal amplitude of the mentioned trait (LAI_{TL} , PP_{TL} , LAD_{TL} , $LAI_{TL(Min)}$, $LAI_{TL(Max)}$, $LAI_{TL(Max)}-LAI_{TL(Min)}$), the absolute and the relative growth rate, the net assimilation rate (AGR_{TL} , RGR_{TL} , NAR_{TL}) into the top leaves of winter wheat during the booting – milky ripeness stages depending on ecologically safe fertilizers systems (ESFS) are studied. It has been established that LAI_{TL} , PP_{TL} , LAD_{TL} , $LAI_{TL(Min)}$, $LAI_{TL(Max)}$ are more relevant for characterizing growth, development, productivity of the photosynthetic apparatus of the winter wheat upper leaves, throughout booting – milky ripeness stages compared to the rest of the studied parameters upon the applied fertilizer systems.

With the help of the methods of the two-dimensional correlation analysis it is found close directly proportional relationships between the grain productivity of the winter wheat ear (from the calculation per 1 shoot and 1 m² of sowing area – M_g , g/ear, M_{SAg} , g/m²) and traits LAI_{TL} , PP_{TL} , LAD_{TL} , $LAI_{TL(Min)}$, $LAI_{TL(Max)}$, AGR_{TL} , RGR_{TL} , NAR_{TL} (booting – milky ripeness stages) upon conditions of the studied fertilizers systems.

The conclusion is made that two groups of growth traits of the upper leaves participate in the becoming of the winter wheat grain productivity upon the conditions of the considered fertilizers systems: 1) AGR_{TL} , RGR_{TL} , NAR_{TL} , that reflect the formation, accumulation and the outflow of assimilates from these organs and which are directly proportional to the average values of flows of the energy and substances through the photosynthetic apparatus; 2) LAI_{TL} , PP_{TL} , LAD_{TL} , $LAI_{TL(Min)}$, $LAI_{TL(Max)}$ that characterize the size of assimilation system (the area of leaf canopy), the duration of its operation into the top leaves and, thus, determine the values of fluxes density of energy, substances through these leaves and are directly proportional to the metabolic activity in them.