

FIRST STEPS IN CLIMATE CHANGE ADAPTATION OF CORN TECHNOLOGY WITHIN CONSERVATION AGRICULTURE FRAMEWORK

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The Republic of Moldova is very severely affected by climate change due to its geographical position and intensity of soil degradation processes. The country is reducing GGE and implementing a sustainable soil management approach through a conservation agriculture farming system.

The efforts of the research team are aimed to comparing two farming systems: conventional and conservation farming systems in real field conditions having as scientific and methodological background FAO concept of Conservation Agriculture. The field experiment started in the summer of 2022 soon after winter wheat was harvested. Seven variants with different combinations of practices have been established. The witness is the variant based on conventional farming practices. The variants based on conservation farming practices include variants with and without cover crops, summer mixt and pure cover crops, and winter cover crops with early and late termination. Two programs of herbicide were used during 2022-2023 to terminate winter cover crops and weeds. Corn was seeded on 7 of May, 2023 in all variants of the field experiments. No synthetic fertilizer was used during the mentioned period. Climate and soil conditions were favorable during the research period with the exception of July- August of 2023 when Moldova was hit by unusually high temperatures of the air. The water content in the soil, the above-ground biomass accumulation, the phenological observation of growing stages, and plant density were investigated

The preliminary results obtained during investigation period are very promising. We obtained emergence of cover crops in all variants during September month of 2022. Favorable climate conditions including warm period and abundant precipitations contributed to huge biomass formation of cover crops in all variants. Available water content was higher on the plot covered with winter wheat residues without cover crops. The cover crops and its termination have a great influence on corn emergence and future development. Many challenges appeared during research that need to be address in order to have a clear picture.

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