

THE INFLUENCE OF TILLAGE SYSTEM ON THE WHEAT SOWING QUALITY

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Abstract: In agricultural production, sowing is one of the most important agro-technical operations that influence the quality of the product and yield. The crops sowing quality, including wheat, depends on properly prepared soil, that is, on the quality of soil cultivation. However, despite well-executed soil cultivation, satisfactory results cannot always be achieved if sowing is not done in an appropriate manner. The achieved depth of sowing affects the speed of sprouting, rooting, resistance of plants to low temperature and drought, intensity of budding, growth and development, and achieving the highest yield in certain conditions. In unfavorable agro-technical conditions, and especially in the conditions of dry farming, optimal conditions for high-quality sowing often cannot be ensured by applying the conventional method. Therefore, new cultivation and sowing systems are being applied in order to perform high-quality sowing in time. During the experiment, the influences of the tillage system and sowing method on the sowing depth and the depth of the formation of the tillering nodes were registered. The results of two-year study are given, where four methods of tillage were applied, namely conventional tillage at depths of up to 25 cm and three reduced tillage methods at different depths. Reduced cultivation with a disc harrow was done at a depths between 8 and 12 cm, and reduced cultivation with rototiller was done at depths of 5-10 cm and 10-15 cm. During the tests, the sowing depth and the depths of the tillering nodes were determined by direct measuring of the knots positions of the analyzed plants. Furthermore, it was verified that depth of the knot has a significant effect on the resistance of wheat to low temperatures during winter and lack of moisture during summer droughts. Achieved results enable further optimization of applied cultivation and sowing systems.

Keywords: *classic tillage, reduced tillage, sowing depth, tillering node.*