

U.D.K. 631.115.13(477-25)(06)



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**«NEW AGRICULTURE SYSTEM» BY I. YE. OVSINSKY AT THE
POLTAVA RESEARCH FIELD (1899-1903)**

Summary

Today, a recognized and respected figure, who was at the origins of the scientific basis of soil protection agriculture in the Ukrainian lands, deservedly consider the researcher I.Ye. Ovsinsky (1856–1910), that at the end of the XIX century in the pages of his work «New system of agriculture» and the need to use "fine" plowing (5 cm) in combination with strip-row sowing. It is established that the "New system of agriculture" I.Ye. Ovsinsky provoked a scientific discussion among the agrarian scientific community, in particular members of one of the most authoritative public professional associations of the XIX – early XX century – the Poltava Society of Agriculture. Two meetings of the society were given to this question: on May 20, 1898 and on February 17, 1899, when the reports of the assistant director of the Poltava experimental field Yu.Yu. Sokolovsky. The reports focused primarily on the issue of shallow plowing. Attention is also paid to the moisturizing effect, which was achieved thanks to this technique. However, the president of the society D.K. Kvitka stressed that it was quite wrong to look at the "Ovsinsky's system" only as a shallow plow. After all, it includes various techniques of tillage and sowing (early July plowing, constant loosening, belt sowing, strip-row tillage). The lively discussion of the report was attended by well-known at the time experts and public figures of the region (P.F Tushkan,

M.A. Eristov, V.Yu. Golovnya, M.P. Gan'ko, P.M. Dubrovsky, V.I. Vasilenko, M.V. Kibalchich).

. It is determined that the ambiguity of the assessments of specialists about the effectiveness of agricultural techniques proposed by the innovator stimulated members of the society to organize experiments to test them on the Poltava research field. It is characterized that the conclusions of this research institution became the basis for discrediting I.Ye. Ovsinsky. The methodology of research works of Poltava research field, their results and conclusions are analyzed. It was found that the research work, which was carried out for 5 years (1899–1903), was carried out only to test 2 methods: soil till in 4.4 cm and strip sowing of cereals. Conclusions were made on only two indicators: soil moisture and crop yields. The choice of only these methods was explained by the fact that the issue of plowing depth was the most popular at the meetings of the society in recent decades. Soil moisture measurements were made twice – during sowing and earing of wheat, which showed that in the first case on shallow plowing it was higher by 1-1.5%, and in the second – a significant decrease in humidity in general by 6.2%, however, now a larger decrease was recorded for areas with shallow plowing. Analyzing the then method of humidity measurements, we proved that it was imperfect, so the data were inaccurate. When comparing the yield, it was concluded that the best option for the interdependence between soil moisture and yield was recorded in the area with legumes for deeper plowing. Yields showed that shallow plowing gave lower data compared to deeper plowing, while tape plowing gave better results than conventional plowing. Despite the fragmentary testing of the "Ovsinsky system", the experiments were stopped in 1903. The data of the results of 5-year research works "according to Ovsinsky" (1899-1903) were used during the generalization of the twenty-year experience of the Poltava research field (1886-1905). The final conclusions were unequivocally negative: 1) shallow plowing of Ovsinsky not only has no advantages over the usual (19.8 cm), but even greatly worsens the conditions of moistening of its upper layers, which during sowing of winter crops become drier than in deep plowed early steam; 2)

shallow plowing by Ovsinsky reduces the yield of winter in comparison with the simultaneously conducted deeper (19.8 cm).

It is determined that the conclusions made by the specialists of this research institution are incorrect, so their use in the analysis of the "Ovsinsky system" is not appropriate. However, they leveled the method of I.Ye. Ovsinsky and sent her into oblivion for many decades.

Key words: *I.Ye. Ovsinsky, a new system of agriculture, soil-protective agriculture, shallow plowing, no-till, strip-row sowing, crop yields, soil moisture, agricultural techniques, Poltava research field.*