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INNOVATIVE TECHNOLOGIES FOR SOIL PROCESSING AND EFFICIENCY OF THEIR APPLICATION IN THE GROWING OF GRAIN CULTURES IN CHERKASY REGION

Introduction. Scientific and technological progress plays an important role in improving the efficiency of the production of grain products. At the same time, it also has a negative impact on the ecology of soils. World experience shows the possibility of suspending and overcoming destructive land processes by introducing innovative soil cultivation technologies in the cultivation of agricultural crops.

Purpose. This article aims to substantiate expediency of introduction of innovative resource-saving technologies of soil cultivation at cultivation of grain crops in Cherkasy region.

Results. In the article it is proved that the efficiency of grain production in agricultural enterprises of Cherkasy region, which are using minimal (Mini-till) and zero (No-till) tillage technologies, in comparison with enterprises that use traditional grain growing technology, have indicators, as the price of sale of 1 centner of grain, the profit per 1 centner of grain and the level of profitability, that are much higher.

Thus, the price of 1 centner of grain produced by the “LNZ-Agro” (Mini-till) in 2013-2015 was higher 573.86 UAH, at the “Shpola-Agro-Industry” (No-till) at 390,94 UAH, profit per 1 centner grain is higher than 477.23 and 249.14 UAH; the level of profitability of grain – higher than 201.5 and 71.8 percentage points. A similar

situation is observed in the production of the main grain crops (wheat and maize for grain).

With the application of the newest soil cultivation technologies, there is a decrease in the calculation of fuel consumption and depreciation deductions per hectare.

The expediency of using resource-saving technologies for soil tillage during the cultivation of grain products in agricultural enterprises of the Cherkasy region also indicates by such indicator as the amount of profit per 1 hectare of crops. So, LNZ-Agro (Mini-till) for one hectare of crops received a profit of 43947 UAH, “Shpola-Agro-Industry” (No-till) –16491 UAH, and “Ladis” with traditional grain-growing technology received profit of only 4624 UAH/hectare. The level of profitability of grain in these farms was 249.8; 117.5 and 45.6%.

Conclusions. The conducted researches indicate that the use of innovative resource-saving soil cultivation technologies in agricultural enterprises of Cherkasy region will promote: increase of economic efficiency of cultivation of grain crops; stability of production and competitiveness of grain products; the termination of land degradation, the restoration of soil fertility and its rational use; adaptation of resource-saving technologies to wide use in different regions of Ukraine.

Keywords: *innovative soil cultivation technologies, zero tillage technology, minimal tillage technology, grain production efficiency, production costs, profit, profitability level.*

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