штабная интеллектуализация и роботизация мобильных энергетических и транспортно-технологических средств АПК позволит на ближайшие 5–10 лет существенно повысить урожайность, производительность труда и экологическую безопасность, а также снизит потери урожая и расхода энергии и материалов в 2,5–3 раза.

Цифровизация сельскохозяйственного производства РФ должна обеспечить на ближайшие 3–7лет: рост производства продукции растениеводства и животноводства до 1,5 раз в 2025 году; повышение качества продукции; снижение трудоемкости с/х производства в 1,5 раза в 2025 году; снижение себестоимости и цены- сокращение расходов энергии и материалов; рост урожаи нести, например, в растениеводстве в 1,4 раза; снижение импорт зависимости сельскохозяйственной техники, их аппаратных и программных средств; продвижение автоматизации, роботизации, интеллектуальных машинных технологии [1].

В заключение остается заметить, что не только Россия, но все аграрные хозяйства в мире в процессе глобализации рынка должны в равной степени принять эти вызовы цифровизации. Взаимный обмен, в том числе на международном уровне предоставляет большой шанс: использовать в своей стране накопленный опыт и наверстать отставание. А благодаря этому в долгосрочной перспективе могут выиграть все участники цифровой трансформации.

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MARKET ANALYSIS OF DOMESTIC AGRICULTURAL MACHINERY

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The development of the agro-industrial complex of Ukraine directly depends on the state of technical equipment of technological processes

for the production of agricultural products. Unsatisfactory reproduction of fixed assets is a direct way to limit the production of gross output of the agro-industrial complex [1-3]. The current state of the machine and tractor fleet is characterized by the following indicators: the cost of the available technical means of agricultural enterprises is less than 11 billion UAH with their technological needs of UAH 220 billion; depreciation of the machine and tractor fleet has reached a critical limit: today, almost 95 % of the available machines are used outside the depreciation period (Fig. 1).

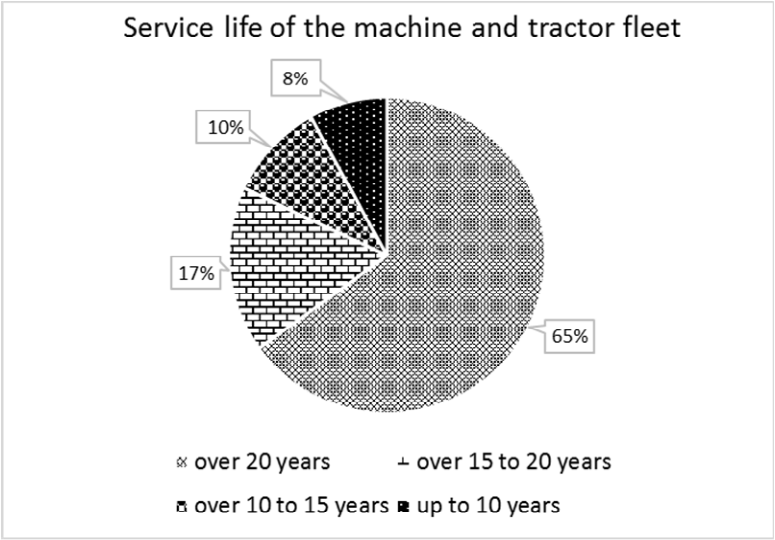

Figure 1 – The life of the machine and tractor fleet

An analysis of the domestic agricultural machinery market indicates significant distortions in its production. Thus, the bulk of manufacturers focused on the production of equipment for tillage. Today, more than 40 enterprises offer equipment of the same functional purpose. Each of them manufactures it on its own element base using imperfect technology, using low-quality materials. As a result, the reliability of equipment and the wear resistance of its working bodies are 3 or more times lower than those of foreign analogues [4, 5].

The decrease in sales of agricultural machinery has become one of the reasons for the loss of qualified machine builders, and therefore the

quality and competitiveness of domestic machinery has decreased. Of the more than 6 thousand samples of machines that have passed the test, only 500 samples received a recommendation for production.

Almost half of the agricultural machines of domestic production (about 38 %) that have passed tests and inspections have revealed non-compliance with the requirements of regulatory and technical documentation, more than 63 % of all tested machines have a time between failures from 10 to 100 hours, a significant part (16 % of machines) do not meets the requirements of labor safety, most agricultural machines (almost 77 %) have a warranty period of up to one year, and only 2.5 % of the total number of tested machines have this period of more than two years [6, 7].

Only about 11 % of the total nomenclature are at the level of foreign analogues, 12 % are approaching the level of these analogues, and over 57 % are significantly inferior. Less than 7 % of the presented machines can be classified as modern, energy-saving.

Today, the vast majority of farmers sow with seeders, the main design solutions of which were implemented back in the 80s of the last century. Practice shows that only uneven seed production leads to a 15–20 % crop shortage and reduces the work of breeders to nothing. The same applies to other technological operations. The vast majority of agricultural engineering enterprises do not own modern technologies and equipment for the creation and production of competitive agricultural machinery. The situation is especially critical in the market of combine harvesters and high power tractors. Their creation and production is complicated by the lack of engines of the required power and the low technical level of the domestic element base.

There are the following problems in the market of agricultural equipment:

1. Domestic agricultural equipment is low-tech, so, despite the low price of imported products, in the domestic market, Ukrainian equipment is inferior to foreign, which leads to market dependence on imports.

2. Since imported equipment is more expensive than domestic, a significant part of the purchased equipment is old equipment, and it, accordingly, fails faster and requires replacement than new.

3. Shadow activity of some agricultural entrepreneurs (for example, purchase of used machinery, which is not reflected in the documentation of enterprises).

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THE STATE OF IMPLEMENTATION OF DIGITAL AGRICULTURE IN UKRAINE

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The competitiveness of agricultural products and the competitiveness of economic entities should be based on a certain level of innovative development, which will help strengthen their development. Ukraine, which has extremely favorable natural and climatic conditions for agricultural production, as a result of technological backwardness, today is not able to provide its population with food products that are affordable and sufficient according to standard standards. The shortcomings of the economic policy of the last decade affected the development of the entire agro-industrial complex, especially in the field of agriculture: the agricultural sector lagged behind other sectors of the national economy in key technical, economic and organizational parameters [1-4].