

MODERN AGRICULTURAL BIOTECHNOLOGY AND NATIONAL SECURITY

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Few responded to the question "what is the basis of the country's security?" without much thought will not say - a strong army. Not surprisingly - for more than two centuries, only the lazy did not repeat after Napoleon Bonaparte that a people who do not want to feed their army will feed someone else's. An image of a strong army as the main factor of the country's security arises automatically - equipped troops, modern technology, trained personnel. This is correct, but a strong army in ensuring national security is just the tip of the iceberg. Only a few would imagine a support system - supply, management apparatus, technical support service, medical service system, not to mention civilian enterprises developing and producing equipment and technologies. In modern conditions, these services are many times larger than the personnel of army units, otherwise the army is unlikely to be capable and effective. All this, even impeccably organized, is worth little if it is not supported by a stable food supply system of the country that does not depend on external sources. Otto von Bismarck made Napoleonic truism complete: whoever does not want to feed someone else's army must feed his own. It is the words "must feed" that carry the main semantic load. And this "feeding" is a key element in the concept of national security, largely based on the sustainable development of the country and increasing the competitiveness of the national economy[1].

A fairly simple analysis allows us to conclude that the beginning that led to the modern status quo in the international role of countries was the transition to a technological approach to self-sufficiency with food - the transition from hunting and gathering to the technology of food production and non-food products of agriculture and animal husbandry. The main incentive for the development of any technology (especially in an open unsaturated market) is the continuous growth of profits according to the mechanism: more and more products at continuously decreasing prices at a constantly decreasing cost price, which is achieved by improving production technology and optimizing costs. The unconscious implementation of this principle, even at the earliest stage of the development of ethnic groups, led to the emergence of agriculture as a separate and independent branch that ensures the life of society. At the same time, a significant part of human resources was freed up, which could and were professionally used in other spheres of activity: industrial - crafts, metal processing, construction and non-industrial - science, infrastructure, art ... The emergence of the army as a tool of expansion or, on the contrary, protection from an external threat it has demanded and now requires a systemic and guaranteed food supply.

And now it is no longer so important that some ethnic groups were in a more favorable geographic position, which facilitated their transition from hunting and gathering to the domestication and selection of animals and plants and to irrigation agriculture. It is important that, to a large extent, it is precisely those countries that treat agriculture as a high technology and constantly improve this technology,

purposefully investing in it, continue to dominate the world arena and strengthen their leadership.

The place of agricultural technology and its role in the life and development of the country were most accurately expressed by Henry Ford at the beginning of the 20th century: "The main functions are agriculture, industry and transport. Social life is impossible without them. They hold the world together. The cultivation of the land, the manufacture and distribution of consumer goods are as primitive as human needs, and yet more burning than anything else. They are the quintessence of physical life. If they die, then social life will end ... [now] The farmer hopes for happiness and on his ancestors ... That the farmer holds on - this only proves how amazing the profit is, but agriculture itself ... As soon as the farmer learns to look at himself as an industrialist, with all his inherent aversion to wastefulness of material and labor, prices of agricultural products will fall so much and incomes will rise so much that everyone has enough to eat, and agriculture will acquire a reputation for being the least risky and the most profitable profession ... "3.

Considering the role of agricultural technologies in national security, it should be noted right away that modern biotechnologies mean only those technologies that fall under the definition of Article 3, paragraph i of the Biosafety Protocol to the UN Convention on Biological Diversity:

"Modern biotechnology means applying:

- in vitro methods using nucleic acids, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acids into cells or organelles, or
- methods based on fusion of cells of organisms with different taxonomic status, which allow to overcome natural physiological reproductive or recombination barriers and which are not traditional methods for breeding and selection "4.

Thus, modern agricultural biotechnologies are practically identical to the application of genetic engineering and the use of genetically modified organisms. Despite the fact that these technologies have been widely used in the world for more than 10 years, society's attitude towards them is very heterogeneous and ambiguous - from universal acceptance to complete denial. At the same time, it is these technologies and production products that have enormous potential in ensuring the stability and security of the food and agricultural markets.

There are not so many main factors critical for the country's security from the point of view of the system of guaranteed provision of its food and non-food agricultural products. This is primarily:

- selection of strategic crops;
- preservation of the maximum possible reserve of production capabilities, minimization of dependence on climatic conditions, pathogens, pests, and other areas of production and the maximum possible preservation of the natural environment;
- issues of property rights and geopolitics;
- the problem of agroterrorism.

Is agricultural biotechnology a panacea for food and national security? Unlikely. But it is a very powerful tool for ensuring this security. Especially when combined with existing traditional technologies.

Despite the apparent availability, the effective use of this technology is not so simple: many conditions must be met - a country will not be able to effectively use the technology without a developed biological science, a strong seed production system and a system of intellectual property rights. The role of education in society and public communications has already been discussed above. In addition, like any living organisms that have properties that are not inherent in them initially, farm animals and plants require a painstaking and comprehensive risk assessment - how they will interact with the environment, what impact they will have on human health when they are eaten.

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