

Application of bioinformation technologies  
and the phenomenon of energy-informational transfer in agricultural  
production

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Innovative activity is one of the necessary conditions for the development of agricultural production in Russia and acts as the most important side in scientific and technological progress. The defining fact of innovation is the emergence of new discoveries and inventions, as well as their introduction into production. Along with the use of traditional technologies, methods of cellular and genetic engineering are being developed and applied, as well as activators of metabolism - low-energy factors (biologically active substances and weak physical radiation) to increase the efficiency of the use of energy and nutrients by living organisms.

Along with the use of traditional technologies, methods of cell and genetic engineering, as well as metabolism activators, are being developed and applied. - low-energy factors (biologically active substances and weak physical radiation) to increase the efficiency of the use of energy and matter flows by biological objects.

According to experts from the United States and some other countries, the growth of agricultural production in the world will be determined, first of all, by the level of development and application of two types of science-intensive technologies: biological and information technologies. The latter include the use of computers, the transfer of genetic information into the body (link with biotechnology) and address information in the form of chemical and physical signals of a certain property.

Controlling a living organism by means of targeted exposure to signals of a chemical nature and physical fields of a certain structure, in fact, belongs to the category of information technologies.

The phenomenon of bioresonance - it is the possibility of energy exchange of the vibrational system of a living organism with the external environment when the frequency of exposure coincides. Various methods of exposure to superweak radiation received the name "bioinformation technologies".

The genetic apparatus, enzymatic systems, cell membranes, intercellular connections and the biological clock of living organisms are highly sensitive to weak physical influences, their highly effective the effect is associated with the physiological and biochemical processes, induction of the phenotypic activation of productivity and resistance.

Recently, several dozen different ways of influencing physical factors on microorganisms, plants, animals have been proposed to activate biological processes and increase productivity. They are based on the fact that most of the physiological processes occurring in a living organism are accompanied by electromagnetic oscillations in a certain frequency spectrum and the external influence of such

the same spectrum of electromagnetic frequencies (EFS) causes the phenomenon of resonance (bioresonance), which in turn stimulates or suppresses certain biochemical processes. The use of growth regulators of this kind, exhibiting a modification effect, on agricultural objects does not lead to a change in the genome of the organism, but causes its expression only for the period of ontogenesis.

The results of research in this area in no way diminish the importance of selection. On the contrary, when combined with the use of phenotypic activators of productivity and resistance of birds of chemical and physical nature, both categories of additional genetic resources are summed up: hereditary and non-hereditary.

Russia occupies a leading position in the development of information technologies based on electromagnetic and torsion radiation. Nowadays there is an opportunity with the help of instruments identify many of them, record their technical characteristics and reproduce the signal, having previously predicted its effect on a living organism. Research on the effect of low-intensity millimeter-wave electromagnetic radiation (EMR) on biological objects is being carried out in many research centers in different countries. In the former Soviet Union and later in the CIS countries, research was carried out under the guidance of Academician N.D. Devyatkov in Russia and Professor S.P. Sitko in Ukraine, in Germany, the M. Planck Institute in Stuttgart, Italy joined the work-scientists from the University of Milan.

A large amount of experimental material indicates that the mechanisms of such interaction with both an individual living cell and a multicellular organism affect the fundamental aspects of their life.

With regard to a number of bioinformation technologies, there is experimental evidence of their practical implementation and extremely high efficiency. Their effectiveness is not assessed in units of percent, as usual, but is calculated in times and orders. One of the possible aspects is the transfer of the properties of one biologically active substance to a secondary carrier. The ability to get countless copies from one doses the original drug, matrices, will determine indisputable the cost-effectiveness of this new technology.

Application of bioinformation technology in agricultural production - an innovative phenomenon and capable of solving a number of important practical problems, such as diagnostics and therapy of various diseases, increasing early maturity, strengthening one direction or another productivity, as well as many other tasks. The need to obtain environmentally friendly, biologically valuable food products, to create new resource-saving methods of management makes the use of bioinformation technologies and the phenomenon energy-informational transfer in agricultural production.

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