

Experience in the application of the phenomenon of information transfer in viticulture
when creating transfer preparations of biologically active substances
to increase the productivity of plantations
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The demand for environmentally friendly raw materials and food products, which is available in modern society, requires producers of agricultural products to create new technologies, the use of which in the national economy will allow them to obtain safe products and preserve them with a minimum cost of resources, labor and time. As a result, this promises to result in a significant reduction in the cost of production and an increase in the economic efficiency of its production, which makes search work in this direction relevant [1].

It is known from quantum mechanics that any elementary particle invariably possesses three fundamental properties: charge and mass, as well as spin, which depends on the first two. The influence of spin on the possibility and nature of chemical reactions has been reliably established by modern science, and quantum chemistry and its subsection spin chemistry are engaged in the study of this issue, from which it is known that chemical reactions are controlled by two fundamental factors - energy and spin. The mechanism by which informational interactions are carried out among living systems, from the point of view of official modern science, it consists in the direct participation in this process of the spin component of elementary particles. At the same time, the prohibition of chemical reactions along the back is insurmountable. If in a reaction medium the interacting particles are in a singlet state (with low energy), then in the overwhelming majority of cases, chemical reactions are impossible, and if the interacting particles are in a triplet state (excited), then a chemical bond is formed. Any chemical reaction is associated with the displacement of the atomic nuclei that make up the reactant molecules, and with the restructuring of their electronic environment. The potential energy of a system of atoms is determined by the arrangement of electrons and nuclei, and since the distribution of electrons is given by the mutual arrangement of the nuclei, then any such arrangement corresponds to a single value of the potential energy of the system. The transition of a molecule from one potential energy surface to another is associated with a change in the electronic and (or) spin state of the molecule [2].

Thus, in biochemical reactions, not only molecular, but also spin dynamics is of great importance, which plays a double role in elementary chemical acts: on the one hand, it actively affects the reaction mechanism and kinetics, and on the other hand, it reacts very sensitively to molecular dynamics. elementary chemical act [3].

The specificity of spin interactions manifested in influence ordered orientation of one system of nuclear spins to another. Wherein

a single "weighted average" orientation of differently directed spins is spontaneously formed. In contrast to chaotic disturbances, the directed nature and the possibility of accumulating the orientational influence may become sufficient for ordering not only micro-, but also macrosystems. And since in any living organism a number of chemical reactions occur simultaneously, then by acting on the spin component of the substances participating in them, it becomes possible to correct certain biochemical processes, initiating them, or preventing them from proceeding. Such influences are recognized by quantum mechanics, according to which the main role in the establishment of spin-spin equilibrium is played by some special (field) interaction of identical particles [4].

Experimentally established phenomenon distant intercellular electromagnetic interactions between two tissue cultures when one of them is exposed to factors of a biological, chemical or physical nature with a characteristic reaction of another (intact) culture in the form of a mirror cytopathic effect, which defines the cellular system as a detector of modulation characteristics of electromagnetic radiation and is one of the information channels in biological systems. This shows the role of quantum phenomena in the mechanisms of functioning of the genetic program of the cell and the processes of coding information in specialized cellular systems, for example, neutrons. It allows you to create methods of influencing the processes occurring in biological systems by creating signals and correcting interference arising in the photonic channel of biological information transmission.[5].

Application hardware registration for implementation process information transfer allows direct transfer of the frequency spectrum of chemical and biological preparations to other objects both with the participation of intermediate carriers (water, alcohol, saline solution, free-flowing crystalline objects, etc.) [6, 7], and by direct action. The use of such technologies can radically change the face of modern agriculture, make it highly efficient, profitable and environmentally friendly [8, 10].

Studies to establish the effectiveness of the use of activated water with the properties of biologically active substances were started by us in 2007 on the site of the technical grape variety Bianka in the educational and experimental farm "Kuban" of the Kuban State Agrarian University. Foliar treatment of bushes was carried out according to the phases of vegetation: in the phase of growth of shoots and inflorescences, on the eve of flowering grapes, at the beginning of growth and ripening of grapes [9, 10].

The following options for foliar treatment of bushes were tested:

- water (control);
- 0.1% solution of the drug "Rostok";
- 0.1% solution of the drug "Silicon";
- activated water with the properties of the "Rostok" preparation;
- activated water with the properties of the drug "Silicon". Activated water with the properties of the tested biologically active

substances were prepared using matrices of these substances in their native form (factory originals of preparations) by means of apparatus action through them on the carrier. As criteria for evaluating the effectiveness of the tested variants of the experiment, we used the data obtained on the yield of grapes (t / ha), the average weight of the bunch (g), sugar content of the juice of berries (g / 100 cm³).

Based on many years of research, it was shown the effect of foliar treatments of bushes with 0.1% solutions of biologically active substances and activated water with the properties of these drugs on increasing the productivity of grape plantations and quality indicators of the yield of the Bianca variety in comparison with the control.

Below are the average data for 2009–2013.

According to the variants of the experiment, the average yield per hectare for the study period was, t:

- water (control) - 8.3;
- 0.1% solution of the drug "Rostok" - 10.2;
- 0.1% solution of the drug "Silicon" - 10.6;
- activated water with the properties of the drug "Rostok" - 11.7;
- activated water with the properties of the drug "Silicon" - 12.6.

In relation to the control, it was, %:

- water (control) - 100;
- 0.1% solution of the drug "Rostok" - 123.6;
- 0.1% solution of the drug "Silicon" - 127.8;
- activated water with the properties of the drug "Rostok" - 141.8;
- activated water with the properties of the drug "Silicon" - 152.9.

We also studied the effect of foliar treatments of grape bushes with the indicated preparations in various variants of experiments on an increase in the average mass of a bunch, g:

- water (control) - 82.9;
- 0.1% solution of the drug "Rostok" - 102.4;
- 0.1% solution of the drug "Silicon" - 80.8;
- activated water with the properties of the drug "Rostok" - 117.4;
- activated water with the properties of the drug "Silicon" - 88.0.

According to the variants of the experiment, the average mass of a bunch of grapes of the Bianca variety turned out to be in the variant where foliar treatment of the bushes was carried out with activated water with the properties of the "Rostock" preparation. It was 128.4 g, or 141.6% of the control.

The influence of foliar treatment of Bianca bushes on the sugar content of the juice of grapes was studied according to the variants of the experiment.

According to the variants of the experiment, the sugar content was, g / 100 cm³:

- water (control) - 24.3;
- 0.1% solution of the drug "Rostok" - 23.5;
- 0.1% solution of the drug "Silicon" - 25.1;
- activated water with the properties of the drug "Rostok" - 24.6;
- activated water with the properties of "Silicon" - 24.5.

In relation to the control, it was, %:

- water (control) - 100.0;

- 0.1% solution of the drug "Rostok" - 96.7;
- 0.1% solution of the drug "Silicon" - 103.3;
- activated water with the properties of the drug "Rostok" - 101.2;
- activated water with the properties of the drug "Silicon" - 100.8. It is shown that foliar treatment of bushes with biologically active substances and their information copies had an insignificant effect on the sugar content of the juice of grape varieties Bianca.

In the course of our studies, we found that water, activated by transferring the properties of original preparations of biologically active substances to it by a hardware method, acquires the properties of matrix preparations, and its effect on a grape plant in its effectiveness surpasses the results obtained during treatment with solutions of original preparations biologically active substances more than 1.3 times. Moreover, in activated water there is not a single molecule of chemical preparations used as matrices, i.e. the increase in quantitative indicators was obtained solely due to the effect of information transfer. In fact, we write down the properties of the preparations of the tested biologically active substances into the structure of water.

Based on the results of the studies carried out, it can be concluded that the application of the phenomenon of information transfer of chemicals to intermediate carriers in order to influence biological objects and the technology based on it in viticulture has significant prospects and requires further development and improvement.

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