

**SOME BIOLOGICAL PROPERTIES OF DIHYDRAZIDES OF TRANSITION METALS
O THE BASE OF SEMICARBAZIDDIACETIC ACID**

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The utilization of complex combinations of the transition metals with polyfunctional, polydentate ligands in the biosynthetic process in biology, medicine, animal breeding, agriculture is just present-day problem.

There have been synthesized new complexes of some transition metals (zinc, manganese, nickel, iron, vanadium) with dihydrazide of semicarbaziddiacetic acid (Dig) according to the scheme:



where Me - Zn²⁺, Ni²⁺, Mn²⁺ (X = Cl⁻); Me - Fe²⁺, VO²⁺ (X = SO₄²⁻); n = 1, 2

and studied their biological activity concerning biosynthesis and intracellular hydrolysis of the different species of micromycete: *Penicillium viride* (producent of pectynases), *Aspergillus niger 33* (producent of amylases), *Rhizopus arrhizus* (producent lypases).

The tests have been performed with the solutions of different concentrations of the suggested substances in individual selected conditions for each shtam through known methods in enzymology. The assessment of biological properties of taken substances showed, that these, in different way, influence upon the biosynthesis and the activity of different kinds of hydrolases, in dependence on the origin of the fermentative system (shtam producent).

On the basis of the achieved tests were found, that some obtained coordination compounds manifested weak inhibitory properties, and others - stimulators of biosynthesis intracellular amylolytics ferments. Therefore, for micromycete *Aspergillus niger 33* – producent of amylases the best stimulator has been proven to be the complex combination VODigSO₄·2H₂O, the stimulated effect is 20,4 – 38,9% for acido-stable amylases and 15,8 – 27,5% for standard amylases.

The accumulated results give the possibility to describe thoroughly the mechanism and the properties of influence of the proposed complexes upon the biosynthetical processes of the microbiological systems.