

## ZOSTERA MARINA HERB AS SOURCE OF BIOLOGICAL ACTIVE COMPOUNDS

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One of the areas of creating medicines and dietary supplements is to develop drugs or dietary supplements for the prevention of iodine deficiency disorders. Prevalence of this disorder is very high among the population of Ukraine and due to the low content of iodine in drinking water in Ukrainian daily diet. Well-known alga - Laminaria is now almost inaccessible to the population of Ukraine, and this sea herb comes in a small amount for our country from the Far Eastern countries, and has been treated by different technology, resulting in the loss of biologically active compounds.

In this regard, sea grass (*Zostera marina*), the family Zosteraceae, attracts particular interest for phytochemical research. This plant forms vast underwater thickets along the coast of the Black and Azov Sea and is made in large quantities of storm waves on the beach.

The aim of our research was to investigate the composition of elements, especially iodine.

*Zostera* herb was collected on the coast of the Azov Sea (Genichevsk) in 2011-2013 year. Dry extracts were prepared by vacuum filtration method in the ratio 1:5 (raw material: solvent). Extractable matters content is 30.50% (solvent- water) and 24.25% (70%-alcohol). To study the elemental composition of marine herb were used the method of atomic emission spectrography at photographic device on a DFS-8.

Analysis of iodine in the samples was carried out by the inversion-voltamperometric measuring the concentration of iodide ions (I<sup>-</sup>) in a solution prepared sample.

It was establish the following regularity for the content of elements in the *Zostera* herb: Na > K > Si > Ca > Mg > Fe > Al > P > Mn > Ni > Mo > Cu > Pb > Zn, and for aqueous extracts of *Zostera* can be represented as follows: Mg > Na > K > Ca > Mn > P > Fe > Ni > Si > Mo > Cu > Pb > Al > Zn, for alcohol extract: Na > K > Mg > Ca > Mn > Ni > Mo > Fe > Si > P > Cu > Al > Pb > Zn.

Using the method of voltamperometry it was determined the level of iodine in *Zostera* herb (more than 0,1%) and extract (0,04-0,07%).

Results of research show that herb and extract of *Zostera marina* are perspective agent in the case of disorder of thyroid function and as a general tonic remedy.