RESEARCH OF TANNINS SMALLANTHUS SONCHIFOLIUS

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Introduction. Plants are an inexhaustible source of medicines. The rapid increase in the incidence of diabetes worldwide has prompted an expansion in the search for natural sources of biologically active substances that improve the quality of life and enrich the diet of this category of patients. The World Association of Scientists named the four most useful plants for humans, dubbed them plants of the 21st century. These plants are Stevia rebaudiana, Amaranthus, Helianthus tuberosus and Smallanthus sonchifolius (yakon). One of the most promising is the yakon. Yakon (Smallanthus sonchifolius) is a species of perennial herbaceous plants of the genus Smallanthus of the Asteraceae family. It grows wildly in South America, Colombia, Ecuador.

Yakon is introduced into the culture in many countries of the world. It renders hypoglycemic, restorative, anti-inflammatory, immunomodulating, antioxidant effects.

Aim. Continuing the study of the biologically active substances of the yakon, a determination of the qualitative and quantitative content of tannins in the root crops and the herb of the plant under investigation was made.

Materials and methods. The objects of study were the root crops and the yakon herb which were harvested in 2015 in the Kharkiv region.

To carry out qualitative reactions, the water extract of the root crops and the yakon herb were used. Well-known qualitative methods (with 1% gelatin solution, with iron (III) chloride, with vanillin in acid medium, with lead acetate in acetic medium) were used. The quantitative content of tannins in root crops and herb was determined by the method of permanganatometric titration given in State pharmacopoeia XI.

Results and discussion. It is established that in the root crops and herb of the studied plant contain condensed tannins.

This method determines not only the content of tannins, but also all oxidative compounds: simple phenols, phenolcarboxylic acids and other polyphenols.

The amount of polyphenolic compounds in the root crops is 2.25%±0.01, in the herb 6.79%±0.04. We used the «Statistica» software package according to the State Pharmacopoeia of Ukraine.

Conclusions. Yakon is a promising raw material for the treatment and prevention of diabetes, therefore it is advisable to study it more deeply.