

## **BETA VULGARIS IS PROSPECTIVE PLANT FOR DEVELOPMENT NEW MEDICINES**

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The creation of herbal medicines is relevant both in Ukraine and abroad. This is based on the effective action of herbal remedies on various systems of the human body, the possibility of a long course of treatment, availability and profitability.

Among plants, which have a sufficient raw material base and are widely cultivated, there is beet. Beetroot, an annual or biennial cultivated form of *Beta vulgaris* subsp. *vulgaris* *conditiva*, includes a variety of edible taproots originated from the Middle East, which has been spreading worldwide, from the Americas to Europe and Asia. As a rich and nutritious source, it is believed to hold health-promotional characteristics, anti-oxidant and anti-inflammatory effects, anti-carcinogenic and anti-diabetic activities and hepato-protective, hypotensive and wound healing properties.

Beetroot consist of multiple biologically active phytochemicals including betalains (e.g., betacyanins and betaxanthins), flavonoids, polyphenols, saponins and betaines, vitamins, amino acids and other components; it is also a rich source of diverse minerals such as potassium, sodium, phosphorous, calcium, magnesium, copper, iron, zinc and manganese. It is commonly consumed in form of supplemental juice, boiled, oven-dried, pickled, pureed or jam-processed across different food cultures. In Ukraine it is extremely popular as component of national dish – ‘borsch’.

The phytochemical study of the leaves of three *Beta vulgaris* varieties was carried out in the National University of Pharmacy, Pharmacognosy department. The presence of coumarins, flavonoids, hydroxycinnamic acids, condensed tannins, polysaccharides, reducing sugars, amino acids, ureides and betaine in all three varieties as red beet *Beta vulgaris*.var *conditiva*, sugar beet *Beta vulgaris* var *saccharifera* and fodder beet *Beta vulgaris* L. var *crassa* was found and 19 substances were isolated from the fodder beet leaves and their structures were established.

Water-soluble polysaccharide complex (WSPC) was isolated from the leaves of beet (fodder), which was attributed to arabogalacturonan and contained 44.9% D-galacturonic acid, 22.46% arabinose, 5.80% rhamnose, 5.48% xylose, 3.92% glucose and 1.53% galactose. Pharmacological studies in rats were carried out at the Biochemistry and Pharmacology departments and have shown that WSPC exhibited a pronounced anabolic activity that is slightly inferior to the non-steroidal anabolic preparation potassium orotate in equal doses. Moreover, the WSPC didn't reveal androgenic action.

To sum up *Beta vulgaris* L. is prospective plant for creation new medicines and was object for investigation as Ukrainian as foreign scientists. In frame of experimental part of Master work, we are going to continue research of the plant and will focus on comparative study of beet root and leaves of Ukrainian varieties.