QUANTITATIVE DETERMINATION OF CARBOHYDRATES IN RADIX HARPAGOPHYTUM PROCOMBENS DC

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With each year the treatment with herbal medicines is gaining increasing popularity. This makes it important to identify and study the properties of biologically active substances (BAS) of plant raw materials and drugs based on them. Harpagophytum procumbens DC. of the Pedaliaceae family is used in official medicine for the treatment of the musculoskeletal system, due to the presence of anti-inflammatory and analgesic properties.

With **aim** of more detailed study of BAS Harpagophytum procumbens DC., it was determined the total content of polysaccharides and their individual fractions. Determination the content of free and total monosaccharides in the studied raw materials.

Materials and methods of research. The total content of polysaccharides was determined by the well-known reproducible gravimetric method. The content of individual fractions of polysaccharides: water-soluble polysaccharides (WSPS), pectin substances (PR), hemicellulose A (GC A), and hemicellulose B (GC B) was determined in the rest that remainder after obtaining lipophilic fractions.

The study of the qualitative composition and quantitative content of free and total monosaccharides was performed by gas-liquid chromatography-mass spectroscopy (GC/MS).

The **results** of the study. The studies found that the total amount of polysaccharides from the raw radix of Harpagophytum procumbens DC is 12.01±0.11% of the absolutely dry raw material. The contents of individual fractions of polysaccharides: WSPS – 5.66±0.12%; PR – 12.14±0.10%; GC A 0.15±0.13%; GC B – 3.50±0.13%.

As a result of the study, a qualitative composition of free monosaccharides was established, which is represented by sucrose – 45.20±0.02 mg/g; glucose – 3.80±0.02 mg/g; galactose – 1.91±0.03 mg/g; fructose – 1.74±0.02 mg/g from absolutely dry raw materials. The components of bound (common) monosaccharides are - galactose –77.98±0.03 mg/g; glucose – 64.12 ± 0.05 mg/g; rhamnose – 4.38±0.04 mg/g from absolutely dry raw materials.

Conclusions. According to the conducted studies it was found that the total amount of polysaccharides in the studies raw material is 12.01±0.11%. The predominant component of free monosaccharides is sucrose with a quantitative content of 45.20±0.02 mg/g from absolutely dry raw materials.