

STUDY OF THE TECHNOLOGICAL PROPERTIES OF COLLECTION

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Introduction. The completeness of extraction is influenced by a number of technological parameters of medicinal plant materials, such as specific gravity, bulk density, bulk density, porosity and porosity of raw materials, free volume of the layer, angle of natural deflection, coefficient of water absorption [1]. An important factor in regulating the process of extracting medicinal raw materials is the absorption coefficient of the extractant. Since the amount of the extractant that is applied to the raw materials during the infusion is obligatory taking into account the absorption coefficient, improves the conditions for the extraction of biologically active substances, increases their content in the prepared extracts and ensures the receipt of the nominal volume of the dosage form.

Aim of research. To study the value of the absorption coefficient of a medicinal plant collection for the subsequent extraction process.

Research methods. Information and analytical, organoleptic, physicochemical, pharmaceutical technological.

The main results. To establish the experimental value of the water absorption coefficient, a water extract was prepared from each type of raw material with a raw material to extractant ratio of 1:10, according to the decoction method according to SPh XI, vol. 2, page 147. The sample was poured with a measured amount of purified water, heated for 30 minutes in a boiling water bath, filtered and further, after cooling and squeezing the raw material through cheesecloth, the volume of withdrawal was measured. The results of determining the W_a are shown in Table 1.

Table 1.

Water absorption coefficient of plant raw materials, n=5

Medicinal plant raw materials	№ sample / Results					
	1	2	3	4	5	Aver. value
Calendula officinalis flowers	3.42	3.55	3.33	3.67	3.89	3.57±0.05
Plantain large leaves	2.12	2.32	2.27	2.34	2.23	2.26±0.02
Sea buckthorn fruit	1.11	1.62	1.69	1.22	1.83	1.49±0.03
Coriander seed fruit	1.06	1.12	1.03	1.09	1.21	1.11±0.03
Marsh grass	2.15	2.25	2.35	2.45	2.41	2.32±0.04
Phytocomposition	2.17	2.28	2.45	2.18	2.27	2.27±0.05

The water absorption coefficient had a value in the range of 1.1–3.6, and for collection it was 2.27. This indicator is an important characteristic when calculating the amount of extractant in the further production of the infusion from the collection.

Conclusions. The determined indicators are qualitative parameters of technology, allow to control, and evaluate the technological parameters of the preparation of the collection.

List of references

1. Ong, E.S. Extraction methods and chemical standartization of botanicals and herbal preparations. E.S. Ong. J. Chromatogr. B. 2018. Vol. 812. P. 23 – 33.