

Determination of technological parameters of raw materials of plants of the genus *Forsythia*

Komisarenko M. A., Huzieiev D. V.

National University of Pharmacy

Pharmacognosy Department (Kharkiv, Ukraine)

a0503012358@gmail.com

Introductions. Nowadays, the demand for herbal preparations is growing, due to the fact that they contain ecologically clean, biologically active substances in an individual state, or their complexes. In terms of pharmacological properties, they are similar to means of synthetic origin, but they are characterized by naturalness. The development of the technology for obtaining drugs from herbal drugs is also presented in the study of the dynamics of extraction and determination of the yield of active substances in the process of extraction of raw materials. It depends on the technological properties of raw materials, the method of conducting the process and the equipment used. Plants of the *Forsythia* genus of the family *Oleaceae* are widely used in Chinese folk medicine. Raw materials contain biologically active substances: forsythin (helps to strengthen iron), rutin (strengthens blood vessels), various acids (oleanolic, ursolic, betulinic, caffeic), vitamin P, essential oils and phenolic compounds necessary for the regulation of metabolic processes in organism. In this aspect, the plant *Forsythia ovata* attracted our attention.

The aim of the study. Determination of technological parameters of *Forsythia ovata* flowers.

Materials and methods. Flowers of *Forsythia ovata* became as the object of research, they were harvested in May-June 2021.

Results and their discussion. The technological parameters of *Forsythia ovata* flowers were determined with the help of well-known methods. The results are shown in the table 1.

Table 1

Technological parameters of *Forsythia ovata* flowers

№	Name of technological parameters	Units	Results (n=3)
1	Loss on drying	%	7.05±0.09
2	Powder fineness (particle size)	mm	4.15±0.07
3	Specific gravity	g/cm ³	1.65± 0.02
4	Volumetric density	g/cm ³	0.59 ± 0.01
5	Bulk density	g/cm ³	0.43 ± 0.01
6	Porosity	–	0.64 ± 0.02
7	Layer difference	–	0.27 ± 0.01
8	Free volume of the layer	–	0.74 ± 0.02
9	Powder flow	g/second	∞
10	Water absorption coefficient	–	4.11 ± 0.10
11	Absorption coefficient of the solvent (ethanol 50%)	–	3.81 ± 0.10

The loss on drying of *Forsythia ovata* flowers did not exceed 10%. The specific gravity of *Forsythia ovata* flowers will be taken into account when loading the *Forsythia ovata* raw material into the extractors. Given the bulk density, *Forsythia ovata* flowers will occupy a small volume in the extraction container.

Conclusions. As a result of the conducted research, the technological parameters of the *Forsythia ovata* flower were determined, which will be used in the development of the technology for obtaining the substance from the studied raw materials.