



# МАТЕРІАЛИ

НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ  
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ПРИСВЯЧЕНОЇ 25-РІЧЧЮ  
ФАРМАЦЕВТИЧНОГО ФАКУЛЬТЕТУ

**ФАРМАЦЕВТИЧНА ОСВІТА,  
НАУКА ТА ПРАКТИКА:  
СТАН, ПРОБЛЕМИ,  
ПЕРСПЕКТИВИ РОЗВИТКУ**

19-20 ГРУДНЯ 2023  
КИЇВ

НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ  
ІМЕНІ О. О. БОГОМОЛЬЦЯ  
ФАРМАЦЕВТИЧНИЙ ФАКУЛЬТЕТ

**ФАРМАЦЕВТИЧНА ОСВІТА, НАУКА ТА  
ПРАКТИКА: СТАН, ПРОБЛЕМИ,  
ПЕРСПЕКТИВИ РОЗВИТКУ**

Матеріали  
науково-практичної конференції з міжнародною  
участю, присвяченої 25-річчю фармацевтичного  
факультету Національного медичного університету  
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Therefore, improving the technology of a new medicinal product in the form of suppositories for the prevention of proctological diseases is an urgent task for the development of domestic pharmaceutical science.

**The purpose of the study:** improvement of suppository technology for the treatment and prevention of proctological diseases with fenugreek oil.

**Research methods.** In order to achieve the set objectives, generally accepted means of pharmaco-technological research according to the State Pharmacopoeia of Ukraine were used in the work of the tasks.

**Results.** For emulsion compositions obtained under the same conditions, indicators of thermal and colloidal stability were determined for all samples according to the methodology specified in the State Pharmacopoeia of Ukraine. It was found that the compositions in prescriptions № 1 and ; 10 do not withstand the test and delaminate with a thinning of the structure and precipitation in the form of a white cheesy mass. This indicates the likely interaction of active substances with cellulose and carbomer. In all other investigated compositions, no delamination was observed under conditions of elevated temperature and centrifugation.

It was established that the value of the "mechanical stability" of the 5 % emulsion cream is 1.4, which also confirms the high thixotropic properties of the composition, which allow to ensure the complete restoration of its structures after applied stress, which often occurs during the technological process of manufacturing soft dosage forms.

**Conclusions.** The study of structural-mechanical and physico-chemical properties of the gel is aimed at improving its therapeutic efficacy, mechanical stability and consumer properties.

## **PHARMACEUTICAL TECHNICAL PROPERTIES OF EPIMEDIUM EXTRACT: OPTICAL MICROSCOPY, BULK DENSITY AND TAPPED DENSITY EVALUATION**

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**Introduction.** In the contemporary era, where the imperative task is the creation of new and efficacious pharmaceuticals, considerable focus is directed towards investigating natural plant extracts as potential reservoirs of valuable biologically active compounds. Epimedium grandiflorum extract stands out as one such extract garnering the attention of scientists. Optical microscopy provides a means to scrutinize the crystal structures of the substance under examination, a crucial aspect for comprehending its potential interaction with excipients. The examination of fluidity, recognized as one of the pivotal pharmaco-technological properties of a powder, assumes equal importance. It plays a decisive role in determining the viability of employing the investigated extract in diverse dosage forms. The effectiveness of use

can be influenced by a material's ability to disperse efficiently and interact with other components.

**The purpose of the study.** This study aims to thoroughly investigate some pharmaceutical technical properties of Epimedium extract with the intention of facilitating its subsequent use in the development of a solid dosage form – specifically, chewable tablets.

**Research methods.** To attain this objective, the following research methods were employed: optical microscopy (at 10- and 40-times magnification using a monocular XSM-20 microscope, SPhU 2.0, 2.9.37, p. 481), determination of bulk volume before and after powder tapping, measurement of bulk density before and after mechanically tapping the cylinder, assessment of powder compressibility values through the calculated Compressibility index and Hausner ratio (Pharma Test PT-TD200, SPhU 2.0, 2.9.34, p.473).

**Results.** Before commencing the research, an external examination of the substance was conducted to establish its organoleptic characteristics, encompassing color, aroma, and taste. The Epimedium extract manifested as a finely powdered, dark brown substance with a faint characteristic odor and a bitter taste. The properties of the crystals of the dry extract were initially evaluated at 10 times magnification (providing insight into particle bonding) and 40 times magnification (allowing an assessment of particle condition and surface characteristics). The optical microscopy results revealed that the Epimedium extract powder is crystalline and finely dispersed, comprising acicular and columnar particles with a smooth surface, forming a polydisperse crystal system of an anisodiameter type. The particles are conglomerates with rounded edges, many of which are broken. Optical properties include being colored, translucent, and light brown.

The determined values of bulk volume before and after powder tapping, bulk density and tapped density after 2500-cylinder taps, along with calculated Compressibility index and Hausner ratio, indicate unsatisfactory fluidity of the studied mass. The powder exhibits a high tendency to shrink and hang up, posing challenges in dosing and implementing technological methods such as die channel filling during pressing.

**Conclusions.** Based on the study findings, it was concluded that further efforts in developing solid dosage forms from Epimedium extract necessitate the incorporation of excipients to rectify the fluidity issues observed in the mass.

## TECHNOLOGICAL STUDIES OF DRY GRAPE EXTRACT

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**Introduction.** Considering the issue in this direction, improvement of the cream is promising. Medicinal and cosmetic products with a moisturizing effect are in great