СУЧАСНІ ДОСЯГНЕННЯ ФАРМАЦЕВТИЧНОЇ НАУКИ В СТВОРЕННІ ТА СТАНДАРТИЗАЦІЇ ЛІКАРСЬКИХ ЗАСОБІВ І ДІЄТИЧНИХ ДОБАВОК, ЩО МІСТЯТЬ КОМПОНЕНТИ ПРИРОДНОГО ПОХОДЖЕННЯ

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STUDY OF THE CHEMICAL COMPOSITION OF FALSE SUNFLOWER (*HELIOPSIS HELIANTHOIDES* (L.) SWEET)

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Introduction. False sunflower (*Heliopsis helianthoides* (L.) Sweet – a perennial herbaceous plant belonging to the aster family (*Asteracaee*). The name of the plant comes from Greek words *helios* – «sun» i *opsis* – «similar», which is due to the characteristic shape of the inflorescences, which resemble sunflowers. False sunflower is native to North America and, thanks to its ability to easily adapt to different environmental conditions, is cultivated in many countries around the world. The plant reproduces using underground organs (vegetatively) and fruits (generatively). False sunflower actively grows, forming dense, stable thickets, sometimes difficult to fight with them. Regarding growing and cultivating: the plant is unpretentious, requires moderate watering, and a small amount of organic fertilizer.

False sunflower is not used in official medicine, but is popular in folk medicine: infusions and decoctions of the raw material have general strengthening and tonic properties, have a positive effect on the state of immunity, and are often recommended for the treatment of colds [2, 3].

The aim of the work was to study the chemical composition of the herb and inflorescences of false sunflower.

Materials and methods. The raw materials were grown and harvested in the Chernihiv region during the mass flowering period (late June - early July 2025). To identify certain groups of biologically active substances, in vitro qualitative reactions (sedimentation, color) and chromatographic analysis methods were used. During the study, the methods given in the State Pharmacopoeia of Ukraine, second edition, were used [1].

Results and discussion. In the raw materials (herb, inflorescences) of false sunflower, the presence of the following groups of biologically active substances was established using chemical reactions, paper and thin-layer chromatography: carbohydrates, amino acids, organic acids, flavonoids, hydroxycinnamic acids, and tannins.

Conclusions. The results of studying the chemical composition of false sunflower raw materials will be used in further research.

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DEVELOPMENT OF TECHNOLOGY OF WATER-SOLUBLE POLYCOMPLEX COMPOSITES AS A BASIS FOR SOFT DRUGS

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Relevance: Currently, the main methods of obtaining composite materials are mixing and polymerization filling. The first method was used to obtain a new water-soluble polycomplex composite based on a cellulose derivative, a polyanion of sodium carboxymethylcellulose (Na-CMC) and linear polyacrylamide (PAA).

Purpose of the study: Such military-industrial complexes are very promising and occupy an important place in materials technology, engineering, medicine, and other areas of the national economy, as they exhibit a number of unique and most valuable properties.

Materials and methods: The main object of the study was purified Na-CMC - a product of the Namangan Chemical Plant, with a degree of substitution (NW) - 70 and a degree of polymerization (SP) - 450. The second component of the water–soluble polycomplex composite is polyacrylamide, a product of the Navoi Chemical **Plant**. PAA is an odorless solid amorphous substance with a white-yellowish color, with a molecular weight of 104-107, with hygroscopic properties, harmless, and forms a soft gel when dissolved in water.

Results: The reaction mixtures were prepared by mixing concentrated (C=0.4 basic mol/l) solutions of Na-CMC and PAA under certain technological conditions and in certain component ratios. VPCC solutions are prepared as follows: distilled water is poured into the reactor tank up to half the mark. The reactor agitator is switched on. The dry purified Na-CMC component is supplied in the amount prescribed by the technological regulations by means of a weighing measuring device to the reactor in uniform portions with simultaneous stirring. Next, the water is filled to the full mark. After adding the entire amount of Na-CMC, the mixture is mixed for 4-5 hours until a homogeneous mass is obtained. During mixing, a ready–made PAA solution is poured into the reactor in an amount of 40% of the total mass of Na-CMC. Then, with constant stirring, glycerin is added in an amount of 20% of the total weight of the polycomplex composite. The finished solution of the water-soluble polycomplex composite is mixed until a homogeneous mass is formed. After