



PREPARATION OF CREAM BASED ON *CARTHAMUS TINCTORIUS* L. FLOWER EXTRACT AND EVALUATION OF ITS QUANTITATIVE INDICATORS

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Introduction. In recent years, the prevalence of dermatological diseases has been increasing, leading to a significantly greater demand for effective and safe skin care products. Between 1989 and 2008, the number of dermatological products prescribed by physicians in the United States exceeded 320 million. This trend highlights the relevance of innovations in cosmetic and pharmaceutical products. *Carthamus tinctorius* L. (safflower) flowers are rich in flavonoids, carotenoids, phenolic compounds, alkaloids, essential oils, and other phytochemicals, and have long been used in traditional medicine. This plant extract is recognized as a highly biologically active component in cosmetology.

Aim of the Study. The primary objective of this study was to develop a cosmetic cream based on *Carthamus tinctorius* L. flower extract, to determine its optimal composition, and to evaluate its quantitative parameters.

Methods and Results. Within the scope of the research, creams with different formulations were prepared using safflower flower extract, and their physicochemical properties were investigated. Two formulations were analyzed: • **Formula 1:** 2.0 g extract, 5.0 g vaseline, 5.0 g amaranth oil, 7.0 g lanolin, and 1.0 g purified water. • **Formula 2:** 2.0 g extract, 5.75 g amaranth oil, 5.75 g sunflower oil, 4.5 g wax, 0.6 g Tween-80, and 1.4 g purified water.

To evaluate the creams' quantitative indicators, physicochemical tests were carried out in accordance with pharmacopoeial requirements. The pH value was determined according to Eur 2.2.3 using the potentiometric method. For this purpose, 1% solutions of each cream were prepared by dissolving 1 g of cream in a 100 ml volumetric flask filled up to the mark with purified water and heated to 80°C. After cooling to room temperature and filtering, the pH values were measured potentiometrically.

Table 1

Physicochemical properties of the creams

Parameters	Cream No. 1	Cream No. 2
Appearance	Soft	Semi-solid
Color	Pale yellow	Pale yellow
Odor	Characteristic	Characteristic
pH	6.40	5.98
Colloidal stability	Stable	Stable
Thermal stability	Stable	Stable

Conclusion. During the study, two types of cream formulations based on *Carthamus tinctorius* L. flower extract were developed, and their physicochemical properties were evaluated. The results demonstrated that both formulations exhibited good stability and were suitable for use. Moreover, the presence of amaranth oil in the cream composition was found to play an important role in enhancing biological activity. In the next phase, the dermatological properties and therapeutic effectiveness of these creams will be investigated.