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Isolation of Biologically Active Compounds from Pumpkin (Cucurbita Pepo L.) and Bitter Watermelon (Citrullus Colocynthis L.)

M. Baratova[1], Z. Mirzaeva[2]

[1] Ph.D. Associate Professor, Andijan Institute of Agriculture and Agrotechnologies

[2] Basic Doctoral Student, Andijan Institute of Agriculture and Agrotechnologies

Abstract: Our main active ingredients Pumpkin (Latin) fruit and Abu Jakhl Watermelon (Bryonia alba L) alone are too weak to create biologically active supplements against the diseases listed in the literature. Therefore, based on the results of experiments, we have proposed the following biologically active additives from the dry extracts and oils obtained above.

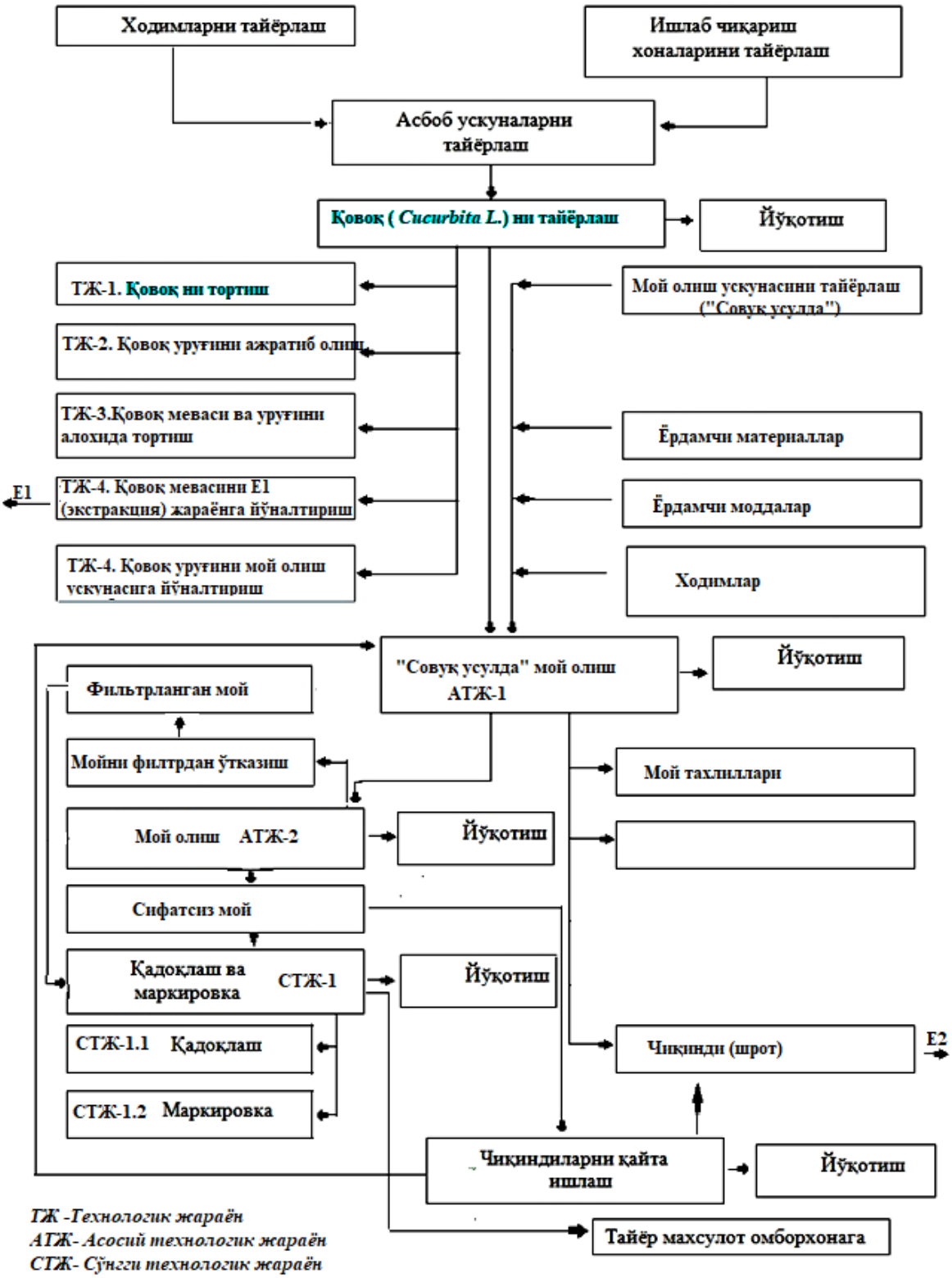
Keywords: Ingredients, process, extract, condensed, medicine, grind, pumpkin, bitter watermelon.

First, pumpkin (23,600 grams) and Achchik watermelons for the E1 extraction process were crushed to 5-6 mm fineness in the AM-120BD-K grinding machine (1) and weighed (2) and fed to the Chinz SJN2 extractor (3) made in China. was inserted (Fig. 1). From the extractor, it is transferred through the filter (6) to the column (7). A concentrated extract is obtained from the column.

Condensed extract The dry extract is obtained by transferring the spray drying powder to LPG 10 (8). The obtained dry extract is transferred to the process of obtaining a drug form. The pumpkin fruits (23,600 grams) directed to the E1 extraction process above were crushed to 5-6 mm fineness in the AM-120BD-K grinder (1), weighed (2) and put into the Chinz SJN2 extractor (3) made in China (1 - picture).

From the extractor, it is transferred through the filter (6) to the column (7). A concentrated extract is obtained from the column.

Condensed extract The dry extract is obtained by transferring the spray drying powder to LPG 10 (8). The obtained dry extract is transferred to the process of obtaining a drug form. [5]



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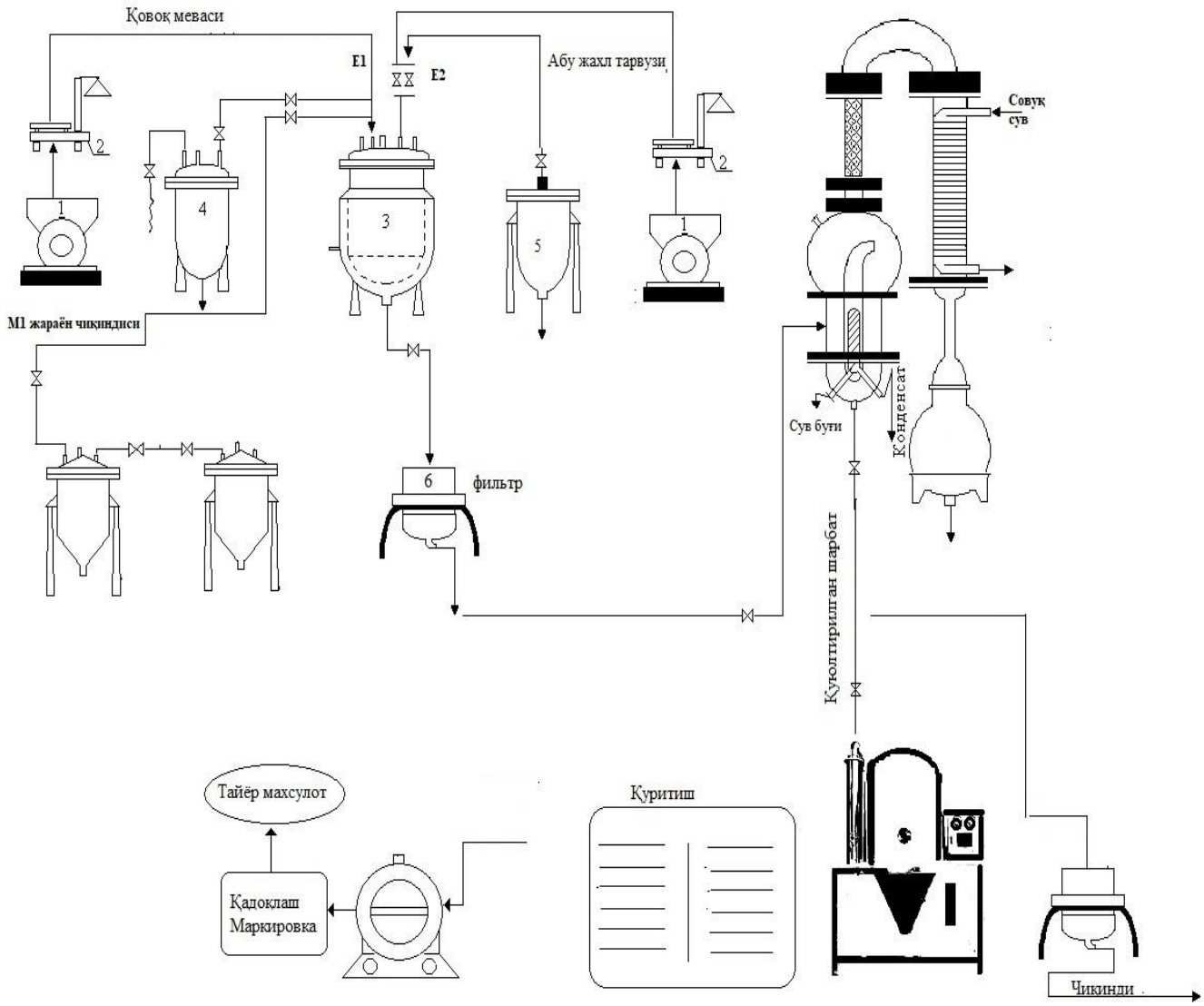
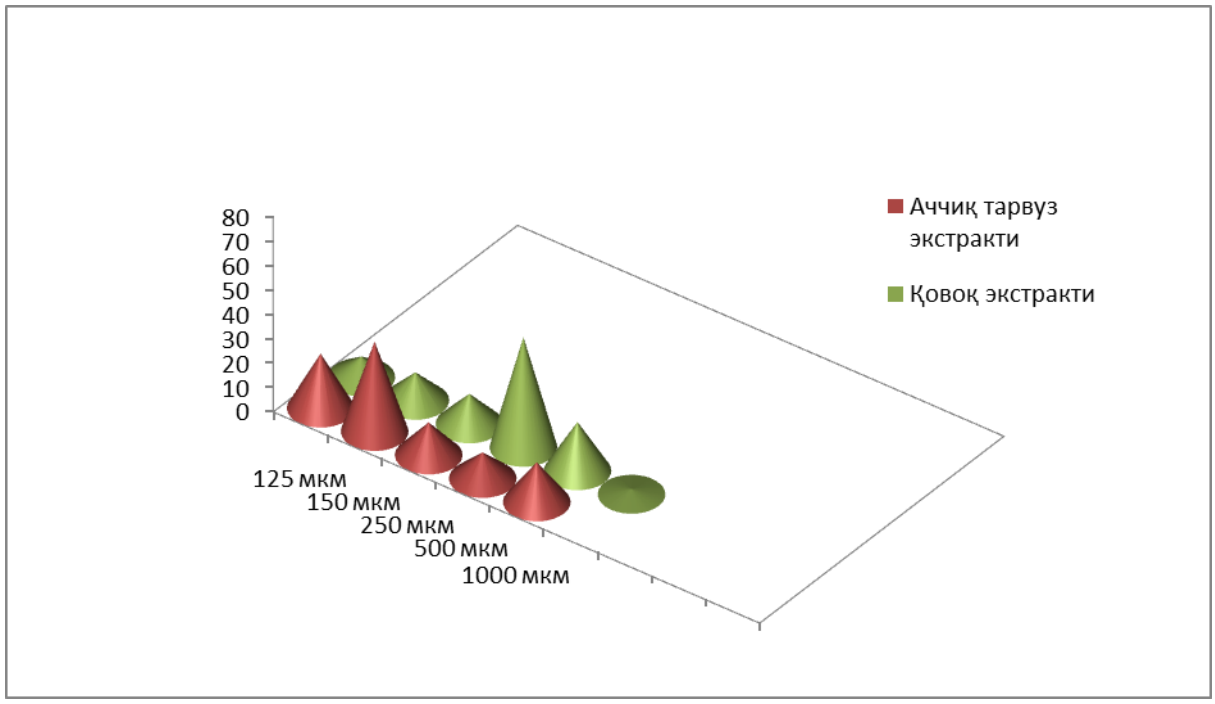
Picture-1. Technological scheme of oil extraction from pumpkin (Cucurbita pepo L.) seeds





Picture 2. Graphic representation of fractional composition of dry extracts.

Before developing the technology of pharmaceutical forms, it is necessary to study the technological properties of their active ingredients (in our case, dry extract). First of all, it is necessary to

determine the fractional composition of dry extracts. The fractional composition of dry extracts is determined according to the method given in XI-DF. For this purpose, 100 g of dry extract is placed on top of a set of sieves with hole diameters of 1000, 500, 250, 150 and 125 μm and placed in the vibrating device of "Erveka" company for 5 minutes (at a speed of 36 rad/s). After the specified time, the sieves are opened and the mass in each sieve is weighed individually to the nearest 0.01 g. [6]

If the fractional content is between 500 μm and 1000 μm at 60% or higher, the possibility of packaging a dosage form directly from this dry extract increases. [7]

The obtained results are presented in Figure 5.4, which shows that the fractional composition of the dry extracts has different values in the intervals of 125 μm and 1000 μm. These results show that it is not possible to obtain a high-quality pharmaceutical form from the studied dry extracts, it is necessary to add excipients and use wet granulation method. [8]

Determination of scattering. Dispersibility is one of the main parameters determined in the development of drug technology. Depending on the dispersion of the substance, the accuracy of doses, the performance of the packaging machine and the quality indicators of the finished product can be predicted. Dispersibility is intrinsically dependent on powder particle shape, size, dispersive density, residual moisture, and particle electrification properties. If the shape of the particles is complex, the residual moisture is high, and the electrification property is large, the dispersibility is unsatisfactory.

The angle of natural deviation represents the dispersion level of powders and determines the property of internal friction of particles. The smaller the value of the natural deviation angle of the mass, the greater the scattering of the substance. The dispersion and natural deviation angle of the station were determined using VP-12A and protractor instruments. [9]

Study of the effect of excipients and technological process on quality indicators of pressed mass and tablets

Theoretically justifying the production process of the drug form and obtaining a high-quality finished product depend on the fact that the excipients used in many ways are insensitive to the body, relatively cheap, and fully meet the requirements of the current market economy. Drug forms were prepared by selecting some of the mentioned excipients and adding them separately in the same amount, and each mass was tested under standard conditions.

The tested drug forms showed that their physico-mechanical parameters were not at the required level. This requires the use of the method of adding excipients to drug forms. Purified water, 40%, 70% ethyl alcohol, 5%, 10% starch paste, 60% sugar paste, 5% MTs and Na-KMTs gels were used as auxiliary substances, and the results were analyzed.

Our main active ingredients Pumpkin (Latin) fruit and Abu Jakhl Watermelon (Bryonia alba L) alone are too weak to create biologically active supplements against the diseases listed in the literature. Therefore, based on the results of experiments, we have proposed the following biologically active additives from the dry extracts and oils obtained above.

The biologically active additive to the first feed was given the conditional name "Tykva sun" and its normative technical documents were approved by relevant organizations.

Pumpkin sun

Extract plody shipovnika - 50 mg

Chamomile extract - 50 mg

Pumpkin seed oil - 100 mg

Extract travy rastaropshi - 50 mg

Extract plody barbarisa - 50 mg

Extract plody painful - 50 mg

Our second product, as a biologically active additive to food, with the conditional name "Sucurbitoil" has been approved by relevant organizations in regulatory technical documents (listed in the appendix of the thesis).

Sucurbitol

Extract plody perestupen

white (Bryonia alba L) (watermelon) – 50 mg

Pumpkin seed extract – 100 mg

Pumpkin seed oil - 50 mg

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