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МАТЕРИАЛЫ III МЕЖДУНАРОДНОЙ НАУЧНО-
ПРАКТИЧЕСКОЙ КОНФЕРЕНЦИИ,
ПОСВЯЩЁННОЙ 85-ЛЕТИЮ
ТАШКЕНТСКОГО ФАРМАЦЕВТИЧЕСКОГО ИНСТИТУТА
«СОВРЕМЕННОЕ СОСТОЯНИЕ ФАРМАЦЕВТИЧЕСКОЙ ОТРАСЛИ: ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ»

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Усул ва услублар: тавсия этилаётган технологияда олинган қуруқ экстрактнинг нам ютиш кинетикаси Носовицкая ва ҳаммуалиффлари тавсия этган усулда ўрганилди. Тадқиқотларда атроф-муҳитнинг нисбий намлиги 58%, 79%, 90% ва 100% қилиб белгилаб олинди. Тадқиқот тавсия этилаётган технологияда олинган қуруқ экстрактнинг қолдиқ намлигини ўлчаш билан бошланди. Бу тадқиқот ХШ ДФ сида келтирилган усулда, яъни гравитацион усулда амалга оширилди.

Ўрганилаётган қуруқ экстрактнинг нам ютиш кинетикаси ўлчами 2,0-2,6-3,3см бўлган бюксларга жойланиб, 58%, 79%, 90% ва 100% намлик сақловчи климокамераларга жойланди. Тадқиқот даврида бюкслар 22+10^{0}C ҳароратли термостатларда сақланди.

Натижалар: тавсия этилаётган таркиб ва технологияда олинган қуруқ экстрактнинг қолдиқ намлиги 3,87±2,54% ни ташкил этди. Атроф-муҳитнинг нисбий намлиги 58%, 79%, 90% ва 100% бўлганида 7 кундан сўнг ютиб олинган намлик миқдори мос равишда 81,32%, 92,03%, 101,42% ва 105,67% ни ташкил этди.

Олинган натижалар намлик 58% бўлганида тадқиқотнинг етти куни давомида қуруқ экстрактнинг нам ютиш кинетикаси ўсиб борганганлигини кўрсатди. Тадқиқотнинг 1,3,5 ва 7 кунларида ютилган намлик миқдори мос равишда қуйидагича бўлганлиги кузатилди: 17,94-22,44%; 45,65-49,62%; 60,21-64,11%; 75,43-77,62%.

Атроф муҳитнинг намлиги 79, 90 и 100% бўлганда тадқиқот учун олинган қуруқ экстрактнинг нам ютиш кинетикаси кўтарилиб тадқиқот сўнгида мос равишда 90,11%, 112,43% ва 125,32% эканлиги аниқланди.

Олинган тадқиқот натижалари эса ўз навбатида тавсия этилаётган қуруқ экстрактнинг ўта гигроскопиклигидан далолат беради. Ушбу қуруқ экстрактдан қуруқ дори препаратлари яратишда ёрдамчи моддалардан фойдаланиш лозим.

Хулосалар: шундай қилиб, юқоридаги тадқиқот натижаларидан келиб чиқиб, қуруқ экстракт юқори гигроскопик хусусиятга эга ва у атроф муҳит намлиги ортиши билан ортади. Ҳаттоки, намлик ортиши билан қуруқ экстрактнинг агрегат ҳолати ҳам ўзгаради ва тадқиқот сўнгида (7- кун) қуюқ массага айланади.

DEVELOPMENT OF OPTIMAL TECHNOLOGIES FOR OBTAINING DRY EXTRACTS OF TANSY AND WORMWOOD

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Relevance: the Decree of the President of the Republic of Uzbekistan DP-139 dated May 20, 2022 "On measures to create a chain of added value through the effective use of the raw material base and support for the processing of medicinal plants" provides for the introduction of herbal drugs into treatment standards and protocols.

Purpose of the study: to develop an optimal technology for obtaining dry extracts from the flowers of tansy false-yarrow and wormwood herb.

Materials and methods: in the course of the conducted research, the influence of the following factors on the completeness of the extraction of biologically active substances contained in the raw materials was studied: the concentration of the extractant, the ratio of raw materials and extractant, the extraction method, raw material grinding size, temperature factor, etc. To determine the optimal extraction conditions for tansy extract, the quantitative content of total flavonoids in terms of luteolin was determined by spectrophotometry at a wavelength of 310 ± 2 nm, and for wormwood extract, the content of the total flavonoids was determined by spectrophotometry in terms of rutin at a wavelength of 410 ± 2 nm.

Results: studies have shown that the optimal extractant is ethanol at a concentration of 70%, the yield of BAS was 8.14 ± 0.16%. Further, using 70% ethyl alcohol, liquid extracts were obtained by maceration, percolation and circulation extraction. Percolation and maceration methods were not recommended, because when using a more modern and dynamic method (circulating extraction), the yield of total flavonoids in terms of luteolin increased by 9.32%. The next factor under consideration was the hydromodule: three types of raw material and extractant ratios were used: 1:10, 1:20 and 1:30. For the purposes of economic feasibility, it was decided to stop the choice on the ratio of raw materials and extractant, equal to 1:10. The optimal degree of grinding of raw materials was chosen in the size of 2-5 mm, and the temperature was 60 ^{0}C.

Conclusions: based on the conducted studies, the following technology for obtaining dry tansy extract was proposed: medicinal raw materials were crushed to 2-5 mm, loaded into an extractor, 70% ethyl alcohol was poured, taking into account the ratio of raw materials and extractant 1:10. The mixture was heated to 60 ^{0}C and circulating extraction was carried out for 1 hour. Next, the liquid alcohol extract was drained, filtered and left for 24 hours to settle. After repeated filtration, filtrate were dried by spray drying using a high-speed spray dryer "LPG-15 Spray Drier" at a temperature of 40-45 ^{0}C to a residual humidity of 4.5 ± 0.2 ^{0}C. The resulting dry extract was sieved through a sieve with a hole diameter of 100 microns. Similar studies have been conducted to develop a technology for obtaining a dry extract of wormwood herb. For almost all the studied factors, the same parameters were optimal for obtaining liquid extract of wormwood as for obtaining liquid extract of tansy. The discrepancy was found only when considering the temperature factor. So, at 30 ^{0}C and 60 ^{0}C, the yield of total flavonoids in terms of rutin was almost the same and amounted to 0.42 ± 0.018% and 0.42 ± 0.011%, respectively. However, with an increase in temperature to 90 ^{0}C, a sharp decrease in the yield of BAS was observed to 0.35 ± 0.020%. In order to reduce the economic costs of production, it was decided to carry out the process of extracting wormwood at a temperature of + 30 ^{0}C in the future

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СЕКЦИЯ-5. РАЗРАБОТКА НОВЫХ ЛЕКАРСТВЕННЫХ ПРЕПАРАТОВ.
SECTION-5. DEVELOPMENT OF NEW DRUGS.