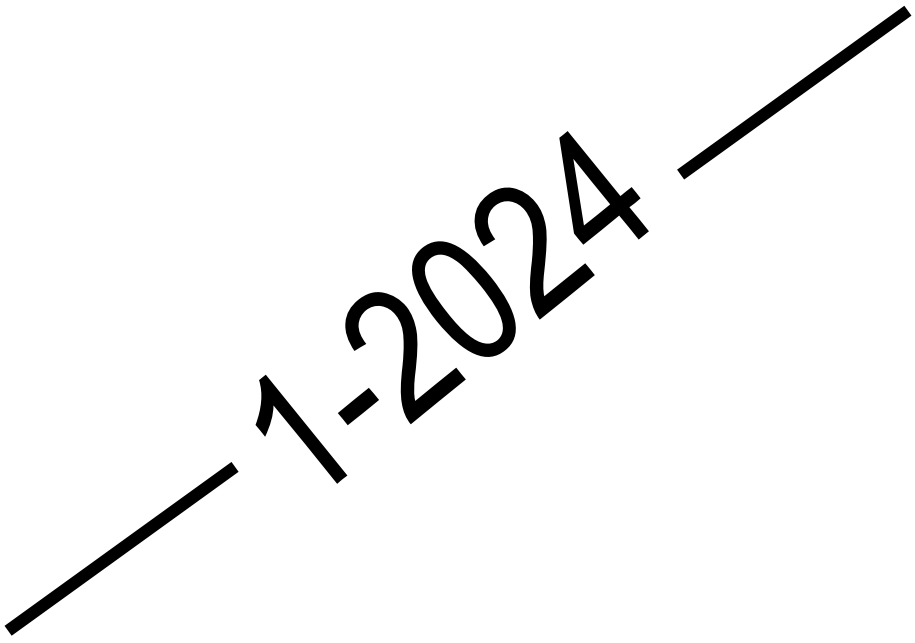
O‘ZBEKISTON RESPUBLIKASI

OLIY TA’LIM, FAN VA INNOVATSIYALAR VAZIRLIGI

FARG‘ONA DAVLAT UNIVERSITETI

FarDU. ILMIY XABARLAR

1995-yildan nashr etiladi
Yilda 6 marta chiqadi



НАУЧНЫЙ ВЕСТНИК. ФерГУ

Издаётся с 1995 года
Выходит 6 раз в год

M U N D A R I J A

Aniq va tabiiy fanlar

FIZIKA-TEXNIKA

KIMYO

BIOLOGIYA

UDC: 613.292 DOI: 10.56292/SJFSU/vol30_iss1/a99

DETERMINATION OF QUALITY AND QUANTITY INDICATORS OF «AYRITOSH» FOOD SUPPLEMENT

«AYRITOSH» OZIQ-OVQAT QO‘SHILMASINING SIFAT VA MIQDOR KO‘RSATKICHLARINI ANIQLASH

ОПРЕДЕЛЕНИЕ КАЧЕСТВЕННЫХ И КОЛИЧЕСТВЕННЫХ ПОКАЗАТЕЛЕЙ ПИЩЕВОЙ ДОБАВКИ «AYRITOSH»

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Annotatsiya

Ushbu maqolada biz dorivor o‘simliklar asosida tayyorlangan o‘t pufagi, jigar, taloq, buyrak va boshqa a’zolardagi ortiqcha tuz va toshlarni erituvchi, immunitetni oshiruvchi hamda boshqa ko‘plab shifobaxsh xususiyatlarga ega bo‘lgan «AYRITOSH» oziq-ovqat qo‘shilmasini ayrim sifat ko‘rsatkich natijalari keltirildi. Ayritosh shifobaxsh oziq-ovqat qo‘shilmasini namligi 5,59 % va kul miqdori 4,5 %, 10 % li xlorid kislotada erimaydigan modda miqdori 1,01 % ga teng ekanligi XI DF talablariga ko‘ra aniqlandi. Ushbu ko‘rsatkichlar XI DF talablariga to‘la mos kelishi tajribalar asosida isbotlandi.

Аннотация

В этой статье мы обсудим «Айритош» – травяную добавку, растворяющую излишки соли и камни в желчном пузыре, печени, селезенке, почках и других органах, повышающую иммунитет и обладающую многими другими лечебными свойствами. Были получены результаты некоторых качественных показателей. Согласно требованиям XI ДФ установлено, что влажность лекарственной пищевой добавки «Айритош» составляет 5,59 %, зольность — 4,5 %, а количество вещества, нерастворимого в 10 %-ной соляной кислоте, — 1,01 %. На основе экспериментов доказано, что данные показатели полностью соответствуют требованиям XI ДФ.

Abstract

In this article, we will discuss «AYRITOSH», a herbal supplement that dissolves excess salt and stones in the gall bladder, liver, spleen, kidney, and other organs, improves immunity, and has many other healing properties. the results of some quality indicators were presented. the results of some quality indicators were presented. According to the requirements of XI DF, it was determined that the moisture content of «AYRITOSH» medicinal food additive is 5.59%, and the ash content is 4.5%, and the amount of substance insoluble in 10% hydrochloric acid is 1.01%. It has been proved on the basis of experiments that these indicators are in full compliance with the requirements of the XI DF.

Kalit so‘zlar: *Qovun urug‘i, tosh kasalligi, podagra, bronxit, namlik, kul, «AYRITOSH» oziq-ovqat qo‘shilmasi*
Ключевые слова: *Семена дыни, каменная болезнь, подагра, бронхит, сырость, зола, пищевая добавка «AYRITOSH»*
Key words: *Melon seeds, stone disease, gout, bronchitis, dampness, ash, «AYRITOSH» food supplement*

INTRODUCTION

Today, there is an increasing demand all over the world for resources that are high in nutritional value in terms of composition and rich in biologically active compounds. Uzbekistan is a region rich in natural medicinal plants, one of such plants is melon [1;2].

Melon seeds are widely used in folk medicine to treat patients suffering from diseases such as tuberculosis, bronchitis, rheumatism, gout, anemia, heart, liver, and atherosclerosis. Melon tinctures have been found to have a calming effect on the nervous system of the human body. Tinctures made from the stem and leaves of the melon plant are used in the treatment of kidney stone diseases, cough and skin diseases [3;4].

MATERIALS AND METHODS

1.Determining the moisture content of «AYRITOSH» food additive

Determination of moisture content of «AYRITOSH» food additive was carried out in accordance with the requirements of XI DF [5]. For the experiment, 3 standard clean porcelain

crucibles were initially heated at 120°C. The heated porcelain crucibles were cooled in a desiccator for 30 min before weighing. 3 samples of 3,06, 3,03, 3,04 grams of «AYRITOSH» food additive were taken on an analytical scale (KERN ABS/ABJ-BA-rus-1018) with an accuracy of 0,001 g. Each numbered as №1, №2, №3 and placed in a pre-weighed porcelain crucible. . Dried in Memmert GmbH+Co KG (Made in Germany) drying equipment at 105°C for 2 hours to constant weight. After every 30 minutes, the placed product was pulled out again. The experiment was repeated 3 times.

2. Determining the total amount of ash in «AYRITOSH» medicinal food additive

Any product heated at high temperature will burn and form ash. The total amount of ash is taken into account for the different growth conditions and vegetation period for each medicinal plant, and the permissible amount is specified in GOST, DF. The ash content of the product was determined according to the requirements of the XI DF. In order to determine the amount of ash in the tested samples, a sample of 2.0232 g of «AYRITOSH» food supplement, weighed accurately on an analytical balance, was taken and placed in 3 porcelain crucibles that were brought to a constant mass and cooled in a desiccator. (Nabertherm GmbH Bahnhofstr. 20, 28865 Lilienthal) Germany, was heated in a muffle furnace at 105 °C for 1 hour. After the specified time, the temperature was increased to 500 °C and the sample was heated until complete combustion. The crucible was cooled in a desiccator each time before weighing on an analytical balance.

Ash in a porcelain crucible contains many elements in the form of oxides, which form water-soluble salts under the influence of 10 % hydrochloric acid. Silicic anhydride in ash does not dissolve in 10 % hydrochloric acid and remains in the sediment. This precipitate is called "dead ash" or ash insoluble in 10% hydrochloric acid. To determine the ash insoluble in 10 percent hydrochloric acid, 15 ml of 10 percent hydrochloric acid solution was poured into the total ash in a crucible heated in a muffle furnace, and then the crucible was covered with glass and heated in a boiling water bath for 10 minutes. The crucible was removed from the water bath, diluted with 5 ml of hot water and filtered on ash-free filter paper, then washed several times with hot water to remove the chloride ion from the precipitate left on the paper. After that, the precipitate was put into the previous crucible together with the filter paper. The crucible was fired and placed in a muffle furnace and heated at a high temperature of 500°C until constant weight.

RESULTS AND DISCUSSION

The results obtained in determining the moisture content of «AYRITOSH» food additive was presented in table 1 below.

Table 1

Time dependence of the moisture content of «AYRITOSH» food additive

N	Weight of food additive (gr)	Porcelain crucible weight (gr)	Weight of porcelain crucible and food additive (gr)	Masses after heating (gr) Time (minutes)				Moisture % Time (minutes)				Unchanged moisture content of the food additive after drying (%)
				30	60	90	120	30	60	90	120	
1	3,06	45,50	48,50	48,47	48,42	48,40	48,40	2,94	4,57	5,2	5,2	5,23
2	3,03	33,17	36,20	36,09	36,02	36,02	36,02	3,63	5,94	5,9	5,9	5,94
3	3,04	46,40	49,44	49,34	49,31	49,27	49,27	3,28	4,27	5,6	5,6	5,60
							Medium	3,28	4,93	5,59	5,59	5,59

The experimental results were calculated by the following formula based on the requirements of GOST 22839-88

$$x = \frac{(a-b)\cdot 100}{a}$$

To find the percentage moisture content of 3 samples:

$$x_1 = \frac{(3{,}06 - 2{,}90) \cdot 100}{3{,}06} = 5{,}23\ \%$$

$$x_2 = \frac{(3{,}03 - 2{,}89) \cdot 100}{3{,}03} = 5{,}94\ \%$$

$$x_3 = \frac{(3{,}04 - 2{,}87) \cdot 100}{3{,}04} = 5{,}60\ \%$$

$$x\ medium = (x_1 + x_2 + x_3) : 3 = 5{,}59\ \%$$

In the requirements for the moisture content of medicinal plants, the moisture content is defined as 12 %. As a result of our research, «AYRITOSH» food additive has a moisture content of 5,59 %. These humidities fully meet the requirements.

When determining the total amount of ash in «AYRITOSH» medicinal food additives, it was calculated using the following formula

$$x = \frac{m_1 \cdot 100}{m_2}$$

in this equation: x - amount of total ash (%);

m_1 – mass of ash, g;

m_2 – sample mass, g.

The calculation results are as follows:

$$x = \frac{0{,}1343 \cdot 100}{3{,}0145} = 4{,}5\ \%$$

The average total ash content of «AYRITOSH» food additive was 4,5 %. (DF requirement up to 8 %). It can be seen from the results that the total amount of ash in the inspected plant meets the requirements of DF.

The amount of ash insoluble in hydrochloric acid in the total ash (percentage) is determined by the following formula:

$$x = \frac{c \cdot 100}{b}$$

in this equation:

x: — amount of ash insoluble in hydrochloric acid;

s -weight of this ash;

b - total amount of ash.

$$x = \frac{0{,}052 \cdot 100}{4{,}5} = 1{,}01\ \%$$

The results were calculated on the basis of 3 parallel experiments and the average amount was determined (Table 2).

Total ash and 10% hydrochloric acid insoluble matter in «AYRITOSH» medicinal food additive

№	Total ash content (%)	Amount of substance insoluble in 10% hydrochloric acid (%)
1.	4,6	1,01
2.	4,5	1,01
3.	4,5	1,02
medium	4,5	1,01

Total ash in Ayritash medicinal food additives is 4,5 % and amount of substance insoluble in 10 % hydrochloric acid was found to be 1,01 %.

CONCLUSION

It was found out from the experiment that the moisture content of «AYRITOSH» food additive is 5,59%, the total ash content is 4,5 %, and the amount of matter insoluble in 10 % hydrochloric acid is 1,01 %. It can be seen from the information obtained through inspection that «AYRITOSH» medicinal food additive studied by us fully meets the requirements of XI DF.

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