



DRUG EXTRACTION TECHNOLOGY FROM BITTER WORMWOOD

Kholikov A.A.
Associate Professor

Allanazarov G.Sh.
Assistant, Samarkand Veterinary Medicine Institute

ABSTRACT

This article provides information on the technology of obtaining a liquid extract and the composition and effects of bitter wormwood.

Keywords: bitter wormwood, essential oil, absinthe, anabsintin, chamazulene, carotene, flavanoid, tincture, extract, sterile, injectable,

Аннотация: В статье представлена информация о технологии получения жидкого экстракта, составе и действии горькой полыни.

Ключевые слова: горькая полынь, эфирное масло, абсент, анабсинтин, хамазулен, каротин, flavanoid, настойка, экстракт, стерильный, инъекционный,

Kirish

In the veterinary medicine in Uzbekistan today there are almost no drugs made from medicinal plants, there are no natural dosage forms, especially those administered enterally and parenterally. Bitter wormwood has been used in medicine in various ways. But not developed in the veterinary medicine and the pharmacological effects of the biologically active substances in this medicinal plant on the animal body have not been studied. The advantage of the extract form is that it can be administered in different ways. Today, there is a lot of research in the world on the cultivation and processing of medicinal plants. Many scientific works is being done in Uzbekistan in this direction.

In particular, on 10.04.2020 it was adopted the Presidential Decree PD-4670 "On measures for the protection, cultivation, processing and rational use of available resources of wild-growing medicinal plants" and this resolution sets out the work to be done in this regard in 2020-2021. In accordance with this decision, the appropriate areas for the cultivation of the medicinal plant Ermon bitter wormwood have been identified; according to it, it is planned to cultivate it in Bakhmal, Gallaaral and Forish districts of Jizzakh region, in Kitab and Yakkabag districts of Kashkadarya region, in Koshrabat and Urgut districts of Samarkand region, in Sarosiya and Uzun districts of Surkhandarya region and in Bostanlyk, Akhangaron and Parkent districts of Tashkent region. This decision of our President, his attention to this area, creates great benefits and opportunities for our scientific research. We are conducting research to study the effects of bitter ermon wormwood on rabbits in order to introduce natural herbal remedies into the veterinary field.



The Research Purpose

extracting and improving the extracting method bitter wormwood using a soxlet apparatus. To this end, we have carried out the following work to improve the methods of extracting bitter wormwood.

Materials and Methods

We determined that 70% of the ethyl alcohol was in the alcohol meter. In doing so, we put alcohol in the cylinder and lowered the alcohol meter into it. The alcohol temperature should be 20°C. The thermometer in the alcohol meter read 20°C and the percentage in the upper part of the tube showed 70%. We then extracted the bitter wormwood plant with alcohol in a 1: 1 ratio (200 g) from the crushed material up to 8 mm above the ground and put it into the extractor and installed a ball cooler and evaporated for 8 hours. The separation was then separated into a flask.

We then separated the alcohol by re-driving the separation in the flask using a refrigerator. In doing so, we heated the separation to 78.8°C and this temperature was continued until the amount of re-separated alcohol changed.

Results

The resulting extract is limpid, clear, yellowish-brown, bitter taste, pungent odor - (this odor is due to the essential oil), the liquid is obtained.

As a result of re-driving, the alcohol was separated by evaporation at 78.8°C. As a result, a dark brown-glossy resin of the plant was extracted.

The resulting extract contains B vitamins, for example, B6 and B9, as well as vitamins A, C, PP, the healing properties of these substances are revealed due to the following elements: sulfur, copper, potassium, molybdenum, iron, calcium, zinc, nickel, magnesium, aluminum. [5]

In addition, there are natural useful acids: malic, isovaleric, succinic and acetic acids, essential oils: pellanderen, tujon.

The wide range of bitter wormwood effects can be attributed to the fact that its composition is rich in various vitamins and trace elements.

Vitamin A performs many important biochemical functions in animals. The retina, the main visual pigment, is a component of rhodopsin. Vitamin in the form of retic acid stimulates growth and development. Retinol is a structural component of cell membranes that provides antioxidant protection.

Vitamin A deficiency leads to various epithelial lesions, impaired vision, and impaired corneal hydration. There is also a decrease in immune function and a slowdown in development.

Vitamin B plays an important role in central nervous system function and carbohydrate metabolism, protein and carbohydrate metabolism. This vitamin helps food to be better digested in the gastrointestinal tract. It is essential for the growth and development of the body. As a result of its insufficient absorption into the body, weight loss and fatigue are observed. Changes in the mucous membranes of the eyes and skin diseases can occur. The most important sources of vitamin B2



are milk, cheese, cottage cheese, eggs, meat and bread. It has a positive effect on blood formation. If the body does not get enough vitamin B₆, there is irritability, weakness, skin damage.

Vitamin C is involved in the metabolism of carbohydrates, proteins and minerals, redox processes in the body and blood formation. Vitamin C increases the body's resistance to infections and promotes the growth of tissues and cells. It also strengthens the walls of small blood vessels (capillaries). Fruits and vegetables are rich in this vitamin. Proper storage and cooking is important because vitamin C decomposes quickly during light and boiling.

Vitamin PP plays an important role in cell metabolism. It participates in oxidative processes of the body. It has a positive effect on vascular tension and blood formation. [6]

Conclusion: 1. from the above data, it can be concluded that the bitter wormwood medicinal plant contains essential oils that have a general effect. Taking into account the bitter nature of this drug form, the preparation of injectable drugs gives good results.

2. It can also be used to treat vitamin and mineral deficiencies in animals.
3. Due to the antibacterial properties of the essential oil, it can be used as an antimicrobial.
4. drugs of any form can be prepared from the extracted resin.

References:

1. I.E. Mozgov, Veterinary recipe. Moscow 1966. 174 p.
2. M. M. Mirolimov, Kh. K. Abdullaeva, Z. Ya. Mamatmusayeva, N. A. Azimova. Handbook of Pharmaceutical Technology
3. <https://clione.ru/uz/medicinal-plants/broth-wormwood-bitter-to-fight-worms/>
4. <https://ansya.ru/health/1-dorivor-simlik-hom-ashelaridan-dori-darmonlar-yaratish-istib/main.html>
5. M .M. Mirolimov, Kh.K. Abdullaeva, Z.Ya. Mamatmusaeva, N.A. Azimova Practical manual on the basics of pharmaceutical technology
6. M. Khasanov, Animal biochemistry 1996. 91 p