UDC: 665.664.1

INVESTIGATION OF THE CHARACTERISTICS OF SOME MEDICINAL PLANTS

Majidov Kakhramon Khalimovich

Majidova Nargiza Kakhramonovna

Tursunova Munira Alisher kizi

Bukhara Engineering and Technology Institute, Republic

Uzbekistan, Bukhara, K.Murtazaev st. 15

Email: kafedra-03@mail.ru

ABSTRACT

Technological regimes for refining amaranth extracts were developed to ensure that its indicators meet the requirements set by the Institute of Nutrition of the Academy of Medical Sciences of the Russian Federation for food products. Amaranth extract is a dark-colored oil. Its color on the hearth scale reaches 67 J2. Therefore, it is necessary to carry out its adsorption refining. A mixture of activated carbon with activated bentonite in an amount of 2% by weight of the extract (coal 0.5%, bentonite 1.5%) was used as sorbents.

Temperature conditions for drying and bleaching oil should not exceed 100°C, because at large values of these parameters, losses of biologically active substances are possible, the residual pressure is 40 mmHg, refining was carried out using generally accepted technology, including hydration with water without the use of orthophosphoric acid, because in the composition of phospholipids, more than 80% contain hydratable forms, integral neutralization, washing, drying. slab purification (bleaching) and filtration.

The consumption and concentrations of reagents at the refining stages were selected depending on the initial quality of the extract. Waste and loss during refining did not exceed established standards, quality indicators of refined amaranth extract are presented in Table 8, absorption spectra in Fig. 1

Table 1

Indicator name	The value of the indicator
Acid number, mg KOH/∫, no more	0,5
Color number, mg pod, no more	30,0

Mass fraction of moisture and volatile substances,% I no more	0,10
Mass fraction of chlorophylls, mg%	Absence
Mass fraction of brown pigments, mg/kg, no more	6,0
Mass fraction of phosphatides,%	Footprints
Mass fraction of essential substances, incl. squalene, % not less	8,0

oel swallowing

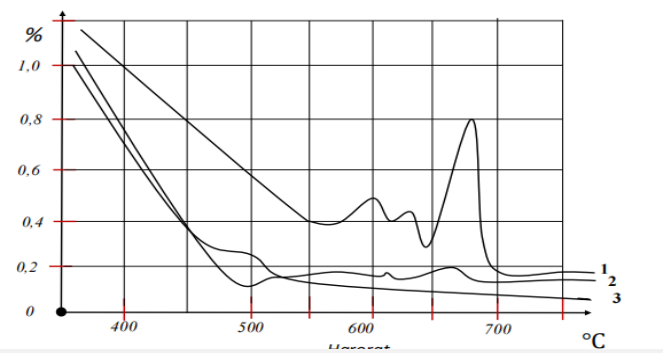


Fig. 1

Absorption spectra of amaranth seed extracts.

1. raw extract

2. extract after refining

3. extract after refining bleaching

From the data obtained it follows that during the adsorption purification process, chlorophylls and a number of other coloring substances are completely removed.

Study of the biological properties of amaranth extracts.

A study of the toxicity of amaranth extracts showed that they are non-toxic substances.

The antitumor activity of the CO_2 extract was studied on Plisse lymph sarcoma when applied cutaneous in the form of applications (six applications every day). The tumor was transplanted subcutaneously into rats. Therapeutic effects began 24 hours after tumor transplantation. The antitumor effect was recorded after the end of the therapeutic effects and 7 days after the end of the course of treatment. Studies have shown that amaranth CO_2 extract has antitumor activity on this tumor strain (%

inhibition by volume after the end of the course was 56.7%, a significant result of 50% or more).

The study of the medical and biological properties of amaranth oil extract and CO2 extract was carried out on dogs in the treatment of skin diseases (wounds, burns, ulcers, dermatitis and other inflammatory processes). It was determined that both extracts have a softening and anti-inflammatory effect, have the ability to stimulate the growth of granulation tissue, the therapeutic effect of the CO2 extract is higher, and healing of the affected areas is faster.

Preliminary studies have shown that the extracts are of interest for the specific study of their pharmacological properties and for many other indications in veterinary medicine and animal husbandry.

During storage of samples of refined sunflower oil and amaranth seed oil for 3 months, it was found that in amaranth seed oil the change in acid, peroxide and benzidine numbers occurs much less intensely than in sunflower oil (Table 2).

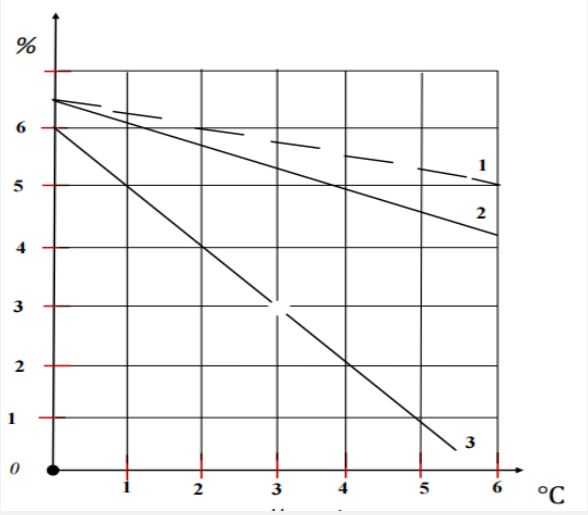


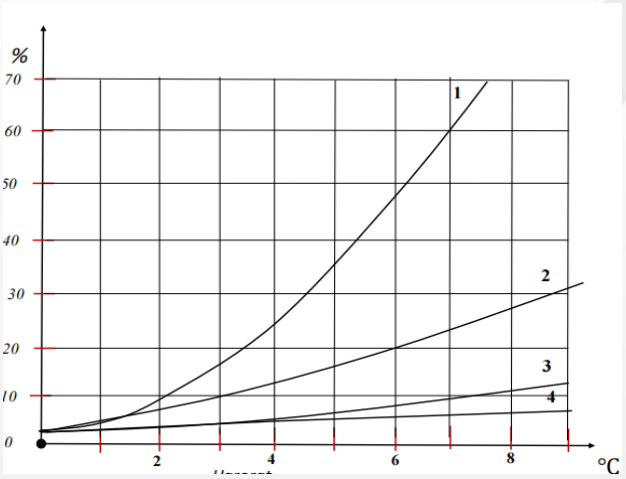
Fig.2.

Change in the concentration (K) of dissolved oxygen due to the reaction during the oxidation process at 80°C

1-Oziya and amaranth oil

2-sea buckthorn seed oil

Z-sunflower oil



Rice. 3.

Changes in peroxide numbers during the oxidation of oils and extracts at VO C

1-sunflower oil

2-oil extract of amaranth

3-model amaranth and sunflower oils in a ratio of 1:5 (for margarines)

4-CO-extract of amaranth

Table 2

Indicators	Refined oil			
	Sunflower		from amaranth seeds	
	Time	storage	day	
	0	90	0	90
Acid number, mg KOH/g	0,66	1,17	0,70	0,92
Peroxide value, 1/2 0 mmol/kg	7,03	17,94	6,12	7,60
Benzidine number, mg cinnamaldehyde per 100 g of oila	4,00	6,30	3,80	4,90

From the data in Table 2 it follows that the stability of amaranth seed oil is significantly higher than that of sunflower oil due to the higher content of

tocopherols in amaranth oil. The introduction of this oil into sunflower oil or into margarine and mayonnaise formulations will stabilize fats, give them antioxidant properties and increase their physiological value.

The stability of amaranth seed oil to oxidation and comparison with sunflower oil was determined by changes in the peroxide value and the concentration of dissolved oxygen due to the reaction at 80°C. (2.3.fig.) Obtaining the dependence shows that even at elevated temperatures (corresponding to the maximum temperature of the process of extracting this oil), the stability and oxidation of amaranth oil is higher than that of sunflower and is close to sea buckthorn. With an increase in the content of amaranth oil in its mixture with sunflower oil, the intensity of accumulation of peroxide compounds decreases.

REFERENCES:

1. Shcherbakov V.G. Technology for obtaining vegetable oils. - M. Kolos-1992.207 s

2. Study of physicochemical parameters of oil from wheat germ flakes. R.A. Makhmudov, Yu.I.Makienko, K.H.Mazhidov. // Storage and processing of agricultural raw materials. Moscow, 1996 No. 2, p. 17.

3. Zobkova Z.S., Shcherbakova S.A. non-traditional sources of food raw materials for obtaining functional additives in dairy products. // Dairy business. 2006.No. 6. P.58-59.