



FIRST INTERNATIONAL CONFERENCE
«INTEGRATION NETWORK OF THE PHARMACEUTICAL ECOLOGY
IN THE MODERN ENVIRONMENT - 2023»

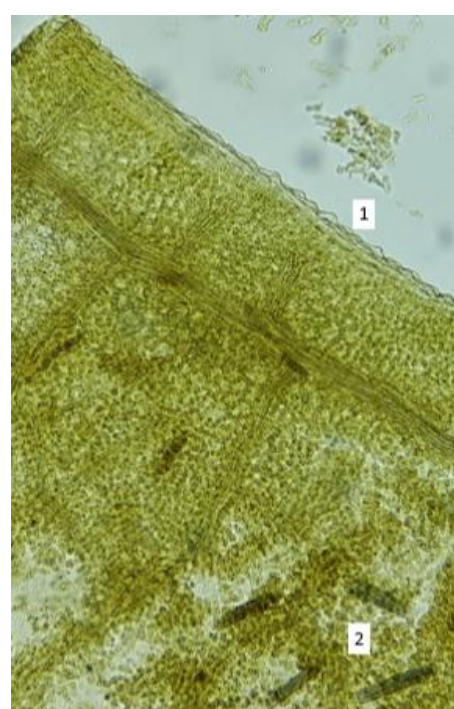
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Prospects for the use of herbal composition "Amaranth tea" as a biologically active supplement

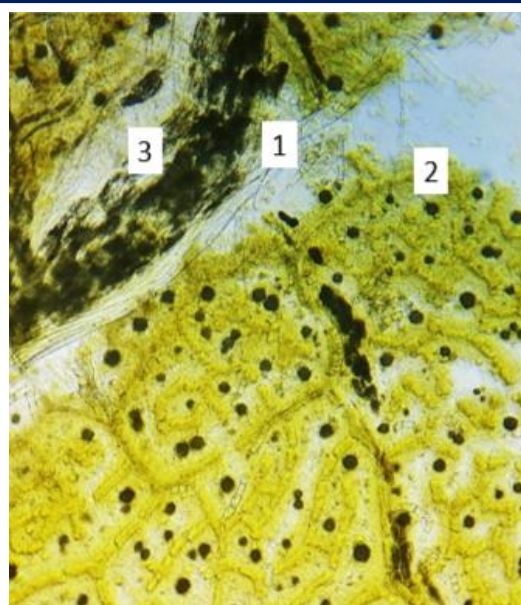
Herbal composition from: amaranth herb (*Amaranthus hypochondriacus* L.) fermented granulated, rosebay willowherb leaves (*Chamaenerion angustifolium* (L.) Scop.) fermented granulated, melissa herb (*Melissa officinalis* L.), black currant leaves (*Ribes nigrum* L.) fermented, black currant fruits, cranberry fruits (*Viburnum opulus* L.) developed and produced by LLC "SPA NIKOLSKAYA BIOFABRIKA", Republic of Belarus. Studies were carried out according to the methods of the State Pharmacopoeia of the Russian Federation XIV edition.



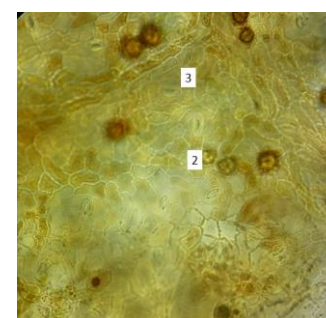
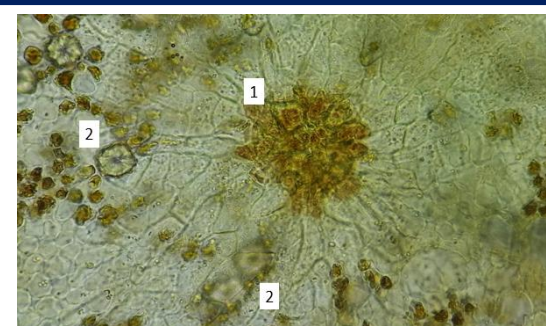
Study of external and microscopic features of herbal composition "Amaranth tea", determination of biologically active substances content in raw material and water extract (prepared according to package instructions).



Epidermis of *Chamaenerion angustifolium* (L.) Scop. leaf, (1 – leaf edge, papillary projections of the epidermis, 2 – calcium oxalate raphides) x100, biological microscope LeicaDM1000 LED.

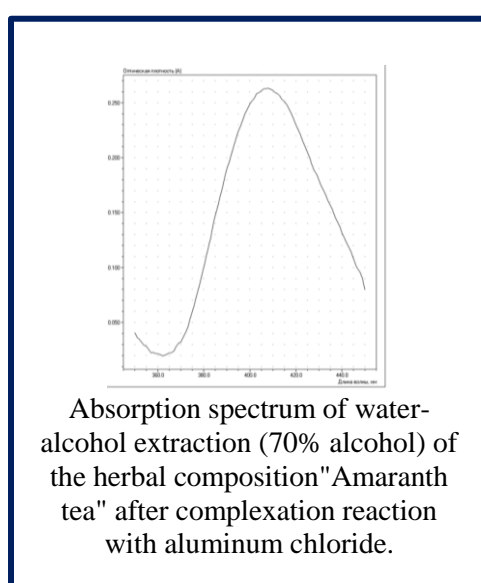


Epidermis of *Amaranthus hypochondriacus* L. leaf (1 – a simple multicellular hair, 2- calcium oxalate druses, 3 – cells with a crystal squire along the veins) x100, Leica DM1000 LED bio-optical microscope.

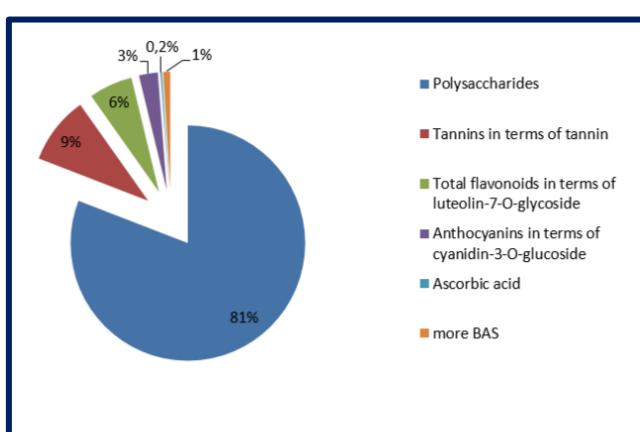
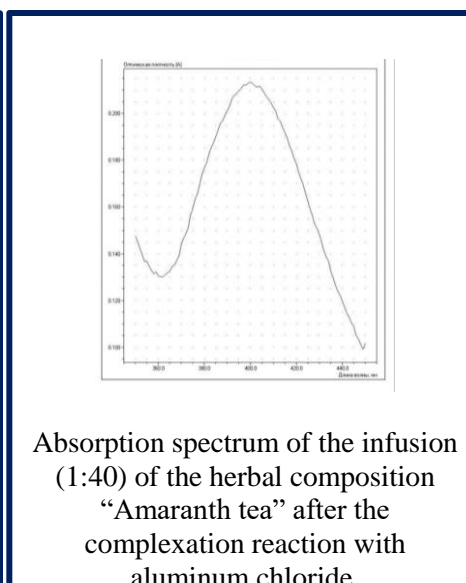


Epidermis of *Ribes nigrum* L.leaf, A and B. (1 – iron, 2- calcium oxalate druses, 3 – stomatal complex) x400, biological microscope LeicaDM1000 LED.

| Moisture and content of BAS in herbal composition (P=0,95, t(0,95;4)=2,78, n=5) | |
|---|--------------|
| Quality indicator (methods GF RF XIV) | Content |
| Moisture | 5,39±0,10% |
| Extractives extracted by water and dry residue | 34,64±1,64% |
| Polysaccharides | 16,50±0,20% |
| Tannins in terms of tannin | 3,63±0,12% |
| total flavonoids in terms of luteolin-7-O-glycoside (spectrophotometer PE-5400UF (Ecros)) | 0,489±0,013% |
| Anthocyanins in terms of cyanidin-3-O-glucoside | 0,82±0,02% |
| Ascorbic acid | 22,2±0,3mg% |



| Content of BAS in water extract (1:40) (P=0,95, [0,95;4]=2,78, n=5) (methods GF RF XIV) | |
|---|----------------|
| Quality indicator | Content |
| dry residue | 0,192±0,003% |
| polysaccharides | 0,156±0,002% |
| tannins in terms of tannin | 0,0190±0,0003% |
| total flavonoids in terms of luteolin-7-O-glycoside (spectrophotometer PE-5400UF (Ecros)) | 0,0116±0,0005% |
| anthocyanins in terms of cyanidin-3-O-glucoside | 0,0050±0,0002% |
| ascorbic acid | 0,415±0,001mg% |



The results of the study of the quantitative composition of BAS demonstrate the promising use of the herbal composition "Amaranth tea" as a dietary supplement - a source of antioxidants, trace elements, polyphenols and polysaccharides.

