

## ECOLOGICALLY SAFE TECHNOLOGY FOR VEGETABLE RAW MATERIALS PROCESSING

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In the Institute of Chemistry the technology of complex plant materials processing without the use of organic solvents has been developed. The new technology is based on the emulsion extraction method, which provides an increase of the natural compounds utilization rate, high resource-saving efficiency and environmental safety<sup>1</sup>.

Original approaches to the complex green fir and spruce greens processing have been developed, allowing to isolate terpenoids, polyphenols, carotenoids, acids and to obtain on their basis biologically active preparations. Experimental studies of the wood green pine and larch emulsion extraction are performed. Ultrasonic radiation is used to increase the biologically active substances extraction degree.

In addition to coniferous raw materials, the objects of our research activities are medical raw materials. Among the medically active plants which are widely used in traditional medicine is astragalus, recommended for general body strengthening, toxins elimination and damaged tissues healing. The most medicinal value has the root of astragalus<sup>2</sup>. Extraction of extractive *Astragalus membranaceus* roots compounds by the method of emulsion extraction was performed. Optimal extraction conditions have been developed, the analysis of the selected components has been carried out.

Flax seeds are a rich source of lignans, with a particularly high content of diglucoside secoisolaricoresinol, having the antioxidant, antitumor properties. Isolation of flax lignans using the developed environmentally friendly emulsion extraction technology is of a certain perspective.

### References

1. Khurshkaynen T.V., Kutchin A.V. Proceedings Komi Science Centre UB RAS. 2011, 1, 17-23.
2. Lian-Wen Qi et al. J. Sep. Sci. 2008, 31, 97-106.

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