Conclusion. As a result of the work carried out, an inventory of some species of the collection of woody plants of the Botanical Garden of VSU named after P.M. Masherov for the period from 1999 to 2022. The quantitative dynamics of these species is shown. New species have also been noted.

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NON-ENZYMATIC ANTIOXIDATIC SYSTEM B EARLY-FLOWERING PLANTS GROWING IN THE CONDITIONS OF THE BOTANICAL GARDEN OF VSU OF P.M. MASHEROV

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Keywords: non-enzymatic antioxidatic system, early-flowering plants, Állium ursínum, Prímula véris, Állium schoenoprásum.

Application of curative herbs and pharmaceutical collecting on their basis in traditional and traditional medicine is especially relevant now that is caused by essential advantage of plants in comparison with chemical medicamentous medicines. The main thing from them – lack of the ghost effects and complex impact on an organism [1].

Early-flowering plants well grow and develop under the poor weather conditions that is bound to their antioxidatic system. Therefore it is important to investigate at these plants the maintenance of indexes of enzymatic and non-enzymatic antioxidatic system for further application on biological objects [2].

The work purpose – to define the maintenance of indexes of non-enzymatic antioxidatic system in water extracts (1:10) leaves of early-flowering plants.

Material and methods. Objects of a research are water extracts of leaves (1:10) early-flowering plants Állium ursínum, Prímula véris, Állium schoenoprásum. Exemplars of plants were selected in groups, growing in the conditions of the Botanical garden of VSU of P.M. Masherov and forest area of Vitebsk.

The antioxidatic activity and activity of enzymes were determined by standard biochemical methods [3].

Mathematical processing of the received results was carried out by methods of parametrical and nonparametric statistics with use of a package of the statistical Microsoft Excel 2003, STATISTICA 6.0 programs.

Findings and their discussion. As appears from table 1, the largest content of the sum of phenolic connections, Acidum ascorbinicum is noted in extract of leaves of Prímula véris (ELPV). The activity of peroxide oxidation of lipids is reduced in ELPV in comparison with water extract of leaves of Állium ursínum (ELAU) twice.

In comparison with ELAU in ELPV the maintenance of the following indexes is increased: the sum of phenolic connections – by 2,16 time, Acidum ascorbinicum – by 3,32 times. In comparison with extract of leaves of Állium schoenoprásum (ELAS) in ELPV the maintenance of the following indexes is increased: the sum of phenolic connections – by 2,07 time, Acidum ascorbinicum – by 6,92 times.

The largest content of pigments of the photosynthetic device of plants is observed in ELPV: in comparison with ELAU the maintenance of a chlorophyll by 1,5 times, carotenoids – by 3 times is increased, in comparison with ELAS the maintenance of a chlorophyll is 4,36 times more, carotenoids – by 7,29 times.

Table 1 – The maintenance of indexes of non-enzymatic antioxidatic system in water extracts (1:10) leaves of early-flowering plants (M±m)

Index	Water extract (1:10)		
	ELAU	ELPV	ELAS
Diene conjugates, μmol/g	0,29±0,011[2]	0,46±0,013[1]	0,28±0,003[2]
TBA, nmol/g	7,92±0,35[2]	3,82±0,18[1]	1,73±0,32[11,2]
Sum of phenolic connections, mg/g	8,98 ± 1,52[2]	19,36 ± 1,82 [1]	9,36 ± 0,74[1,2]
Sum of flavonoids, mg/g	0,32±0,02	0,28 ± 0,03[1]	0,47 ± 0,04[2]
Acidum ascorbinicum, mg/g	18,77±0,18[2]	62,45±0,69[1]	9,02±0,13[1,2]
Chlorophyll, mg/g	0,32±0,010	0,48±0,002[1]	0,11±0,002[1,2]
Carotenoids, mg/g	0,17±0,012[2]	0,51±0,010[1]	0,07±0,001[1,2]

The Note – [1]P < 0,05 in comparison with ELAU; [2]P < 0,05 05 in comparison with ELPV.

The largest content of pigments of the photosynthetic device of plants is observed in ELPV: in comparison with ELAU the maintenance of a chlorophyll by 1,5 times, carotenoids – by 3 times is increased, in comparison with ELAS the maintenance of a chlorophyll is 4,36 times more, carotenoids – by 7,29 times.

Thus, on the content of endogenic antioxidants and a condition of the assimilatory device, the greatest antioxidatic the activity also has potential to counteract consequences of an oxidizing stress ELPV.

Conclusion. Thus, water extracts of early-flowering plants (1:10) have good antioxidatic system and can be used for increase resistance to stress of biological objects to adverse environmental factors.

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PHYSICO-CHEMICAL INDICATORS COSMETIC CREAMS FOR THE SKIN

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Keywords: cosmetic creams, physico-chemical parameters, pH values, stability.

The relevance of the physicochemical parameters of cosmetics, including skin creams, is determined by their widespread use. It is important to know the chemical composition, biological activity and toxicity of all ingredients of cosmetic creams.

Not all cosmetic creams sold in the trade system meet the requirements of quality standards. Studies conducted in recent years show that many ingredients of perfumery and cosmetic products, previously considered inert to the skin, can significantly affect the biochemical processes in the epidermis, lipids and skin proteins [1]. Detailed research is especially important now, when there are many environmental factors in the world that adversely affect health. New data obtained as a result of the study of creams can be used in human ecology. These data can also form the basis for taking measures to improve the production of an environmentally friendly cream.

The purpose of the work is to check samples of cosmetic face or hand creams for compliance with the requirements of technical documents declared by manufacturers.

Material and methods. The object of the experimental study was eight samples of cosmetic creams for the face and/or hands, nails, which contain certain forms of vitamins E, A and "vitamin F". The creams were previously purchased from a commercial network for personal use and were usually already opened prior to analysis. All creams were analyzed within their expiration date.

1. "Regenerating Moisturizer". Manufacturer: "Evelinecosmetics" (Poland). 2. "Nourishing cream with aloe vera and whitanium". Manufacturer: "HimalayaHerbals" (India). 3. "Face cream protection from cold and frost". Manufacturer: "Belita – Vitex" (Minsk). 4. "Intensely moisturizing cream with natural vitamin E". Manufacturer: Himalaya Herbals (India). 5. "Night face cream". Manufacturer: "Black Pearl" (Russia). 6. "Cream for hands". Manufacturer: "MaryKay" (USA). 7. "Fatty cream with" vitamin F". Manufacturer: "CAVIALE" (Russia). 8. "Super Moisturizing Serum Hand Cream". Manufacturer: "Belita – Vitex" (Minsk).

Research method – physical and chemical testing of cosmetic creams for compliance with the requirements of GOST.

Determination of the pH value of cosmetic creams having an emulsion consistency is carried out in an aqueous extract. 1g of the test product is placed in a glass, adding 99