



differences between the indices of the III and IV group allow us to state, that treatment with exogenous melatonin on the background of endogenous melatonin deficiency was less effective in comparison to the administration of melatonin in conditions of pineal hyperfunction.

Thus, melatonin ameliorates gentamicin-induced kidney injury by the limitation of histopathological changes in kidney tissue and preservation of kidney function. Pre-existing deficiency of endogenous melatonin decreases the resistance of kidneys to damaging action of the toxin and lessens the protective effect of the exogenous melatonin. Alternatively, in rats with increased pineal gland activity and melatonin production, co-treatment with exogenous melatonin more effectively protects the kidney from gentamicin-induced structural and functional changes and prevents the development of renal failure.

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STUDY OF SUGARS IN LEAVES OF *CRAMBE KOKTEBELICA* (JUNGE) N. BUSCH

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Genus *Crambe* L. belongs to family Brassicaceae and has several dozen species, eight of which grow in Ukraine. Representatives of the studied genus are perennial and annual herbaceous plants originating from the subtropics (the Mediterranean, North and East Africa, and Central Asia). *Crambe* is widely used for environmental, food and technical purposes as a source of biofuel. In folk medicine, they are used in case of disorders of the digestive processes, as an anti-scurvy agent, as well as a substitute for mustard plasters.

Crambe koktebelica is of a particular interest. It is included in the list of species of flora that need special protection according to the Berne Convention (Convention for the protection of wild flora and fauna and natural habitats in Europe).

Crambe koktebelica (Junge) N. Busch is a local endemic species that grows singly or in small groups on limestone-gravelly slopes, on dry eroded clay slopes with washed away soils, on sea cliffs and shale deposits. In Ukraine, it is widespread in eastern Crimea. Local populations of *Crambe koktebelica* on the coast of Koktebel Bay and Karadag Mountain are known.

Analysis of scientific literature sources showed the lack of information on the chemical composition of species of the genus *Crambe*, including *Crambe koktebelica* (Junge) N. Busch, so the objective of our research was to study the qualitative composition and quantitative content of sugars in the leaves.

The material for experimental studies were the leaves of *Crambe koktebelica*, which were harvested during the mass flowering of plants in 2018 at the experimental sites of the Department of cultural flora of the M. M. Gryshko National Botanical Garden National Academy of Sciences of Ukraine in Kyiv.

The identification of this group of compounds was carried out by precipitation reaction using 96% ethanol P and Fehling reagent after acid hydrolysis.

The qualitative composition and quantitative content of sugars in the studied object were studied by gas-liquid chromatography-mass spectrometry using chromatograph Agilent technologies 6890n/5973inert chromatograph (USA). The identification of monosaccharides of the studied mixture was carried out by comparing the retention times of standard monosaccharides and using the NIST 02 mass spectrum library. Quantitative analysis was carried out by adding an internal standard solution to the test samples. Sorbitol solution was used as an internal standard.

The presence and the quantitative content of glucose (19.02 mg/g), galactose (7.48 mg/g), arabinose (7.20 mg/g), rhamnose (3.81 mg/g), mannose (3.38 mg/g), sucrose (0.96 mg/g) and fucose (0.63 mg/g) were established and determined in the composition of the polysaccharide complex of the object under study. The data obtained indicate that the leaves of *Crambe koktebelica* are promising raw materials for the development of new drugs.