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CHEMICAL COMPOSITION OF DAMASK ROSE (*ROSA DAMASCENA* MILL.) CONCRETE OF MOLDAVIAN ORIGIN

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The Damask rose (*Rosa damascena* Mill.) is an important aromatic plant and one of the most important rose species used for commercial production of rose essential oil, rose water, concrete and absolute. These products are widely used in perfumery and cosmetics, foodstuffs, as well as in pharmaceutical industry. It was reported, that individual rose products or some rose preparations possess antimicrobial, antioxidant, relaxant, anti-inflammatory, insecticidal, anti-HIV and hypnotic properties, and are frequently used for treatment various diseases [1-3].

The main World producers are Bulgaria and Turkey, followed by France, Italy, Ukraine, Russia, Morocco, Egypt, Libya, Iran, China and India. In the former USSR, Moldova was the major producer among the Soviet republics. Currently, here are only a few small growers and rose processing plants [1-3].

The chemical composition of rose essential oil and rose water has been well studied. In opposite, the rose concrete composition is less studied. For this reason, herein the chemical composition of rose concrete of Moldavian origin is reported.

The concrete was obtained industrially in 2020 by extracting freshly collected rose petals (Pervomaisc village, Causeni district) with petroleum ether followed by complete distillation of the solvent under reduced pressure. Its overall yield was of about 0,2% recalculated for starting material. Next, the concrete was subjected to GC-MS analysis on an Agilent 7890B system, equipped with VF-WAXms 30m x 250µm x 0.25µm column during 30 minutes.

About 44 constituents of rose concrete, which belong to several groups of compounds were identified. The major constituents are as follows: monoterpene alcohols - citronellol (2.06%), nerol (2.99%) and geraniol (5.62%); monoterpene pyrans - rose oxides (0.44%); higher hydrocarbons: nonadecane (1.26%), heneicosane (1.78%), tricosane (3.09%) and aromatic alcohol 2-phenylethyl alcohol (60.42%).

The rose concrete is a valuable substance, and the quality of the product that can be obtained from Moldovan plantations should be maintained and controlled.

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