AMINO ACIDS COMPOSITION OF ARTEMISIA NUTANS WILLD. HERB

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Artemisia nutans Willd. (A. cretacea Kotov, Seriphidium nutans (Willd.) Sojók) - perennial herb belong to the subgenus Seriphidium Rouy of the genus Artemisia L. of the family Asteraceae (Compositae). The stem is straight, 30-50 cm in height, lignified at the bottom. The plant is grayish by reason of the dense felt pubescence. Leaves are alternate, two or three times pinnatisected, terminal leaf lobes are ovate-lanceo-late, flowers are reddish, baskets are about 3-3.5 mm in length and 2 mm in width, on the pedicles up to 3 mm, drooping, collected in a spreading paniculate inflorescence. In Ukraine founds in the left-bank steppes and the Donbas, grows mainly on chalky slopes.

Data on the chemical composition of A. nutans Willd. herb in the literature are scarce. We have previously investigated the composition of the essential oils of this herb material, and the purpose of this work is to study its amino acid composition.

The object for study was A. nutans Willd. herb, harvested in the budding stage in the Bilovodsk region of the Lugansk oblast in summer 2011.

The amino acids composition determination was carried out by the chromatograph of the Agilent Technologies firm (model 1100). The chromatographic column size 4.6450 mm filled with oktadecilsilyl sorbent corning 1.8 micron ZORBAX-XDB-C18 has been used for the analysis. Preparation of samples for determination of free amino acids was carried out in the vials, adding 0.1 N hydrochloric acid containing 0.2% β -mercaptoethanol in the ultrasonic bath for 2 h. To determine the total content of amino acid hydrolysis was performed by 6 N hydrochloric acid containing 0.4% β -mercaptoethanol for 24 h. Identification was performed by the retention time of amino acids standards.

According to results of the research the quantitative content of 20 amino acids has been determined. The free amino acids content was 797.0 mg/100 g (0.8%), the total amino acids content – 6040.3 mg/100 g (6.0%). Dominant among free amino acids was proline, dominating the overall content – proline, glutamic acid (with glutamine), aspartic acid (with asparagine), arginine and alanine.