STUDY OF AMINO ACID COMPOSITION OF CULTIVATED PEANUT GRASS Romanova S.V.¹, Gontova T.M.¹, Duchenko M.A.², Mashtaler V.V.¹ ¹ National University of Pharmacy, Kharkiv, Ukraine ² Vinnytsia National Medical University named after M.I. Pirogov, Vinnytsia, Ukraine

Introduction. Oilseeds are important because they are used in many industries. Peanuts are grown in almost all tropical and subtropical countries. The largest producers of peanut seeds are India, China, the United States, and West Africa. *Arachis hypogaea L.* (cultivated peanut) is an annual herbaceous plant of the *Fabaceae* family. It blooms in late June – early July, and the fruits ripen in September – October. Peanuts are grown primarily to produce vegetable edible oil from their seeds [2]. Peanut oil is also used to make emulsions, ointments, and to dissolve medicinal substances (camphor, hormones) [3]. There is insufficient information in the available scientific literature about the biologically active substances of this type of grass, so the purpose of our research was to study the substances of primary synthesis – amino acids in the cultivated peanut grass.

Materials and methods. The material for the research was cultivated peanut grass, harvested in the summer of 2021 in the Pervomaisky district of the Kharkov region. Using an identification reaction (red-blue color was observed using 0.1% freshly prepared ninhydrin solution), amino acids were detected in aqueous extracts of peanut grass. The total content and bound amino acids were determined by high-performance liquid chromatography (HPLC) using an Agilent 1200 chromatograph (Agilent technologies, USA). Amino acids were identified by comparing retention times with a mixture of amino acid standards (Agilent 5061–3334). The content of bound amino acids was determined by subtracting the content of free amino acids from their total content [1].

Results and discussion. As a result of the research, the presence of 16 bound and 16 free amino acids was found in peanut grass. Among the free amino acids, aspartic (0,35 µg/mg), glutamic (0,31 µg/mg) acids and alanine (0,27 µg/mg) quantitatively prevailed. The analysis of bound amino acids showed that aspartic (2,63 µg/mg) and glutamic (3,73 µg/mg) acids and leucine (1,94 µg/mg) also dominated in the herb.

References:

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