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Paper Authors
Mamatkulova Ugilkhon

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MEDICAL USE OF AMINO ACIDS IN FRUITS AND GARLIC PLANTS.

Mamatkulova Ugilkhon
Andijan Institute of Agriculture and Agrotechnologies, Lecturer at the Department of Physics and Chemistry
Andijan, Uzbekistan
E-mail: ugilkhon@gmail.com

АННОТАЦИЯ. In the article, the amount of amino acids contained in the fruit and peel of garlic and its determination by the method of Steven A., Cohen D., comparing its composition with each other, the identification of amino acids of great importance for the human body, and other information are given in the article. Information about the amino acids present in the fruit and peel of the garlic myose is given.

Key words: assimilation, toxin, hormone, stress ,arthritis ,allergy ,peptide, centrifugation, extraction, glucose, food.

Nature is rich in medicinal plants that have been used in practice since ancient times. Some were discovered through observation, others by studying the experience of using animals and people.

In the 20th century, scientists studied the chemical properties of garlic and proved that the content of garlic is equivalent to penicillin, which kills microorganisms. This can be seen as the use of garlic prevents the growth of fungi and kills parasitic microbes, has a disinfectant effect and is widely used for poisoning. In terms of importance and quantity in the human body, amino acids are second only to water [1].

All currently known amino acids can be of two main types: non-essential and non-essential. Essential amino acids are substances that cannot be synthesized by the body itself and cannot be replaced by other substances, as they regularly enter the body with food.

As for non-essential amino acids, they can be obtained as a result of the synthesis of other nutrients during internal processes, they are not consumed in their pure form. However, these and other amino acids are equally important for the body.[2]

Non-essential amino acids. Non-essential amino acids are synthesized by the body in the process of metabolism, obtained in sufficient quantities from other organic substances. When the need arises, that is, when the amino acids are depleted, the body automatically switches to the mode of creating the necessary amino acids.

Non-essential amino acids include the amino acids arginine, alanine, glutamine, glycine, tyrosine, proline, asparagine, serine, and cysteine. The results of the study show that glutamine is also the most abundant amino acid in garlic.

Glutamine. Essential amino acids can be obtained from many foods, especially greens. This amino acid is involved in building muscles and maintaining their condition. It serves as a source of nutrition for the brain, as well as a source of energy for the nervous system, normalizing its condition and relieving stress [4,6]. In addition, glutamine is able to remove toxic substances from the liver, prevent unwanted breakdown of muscle tissue, strengthen the immune system, and help with arthritis and chronic fatigue.

Essential amino acids. Our body cannot synthesize essential amino acids, so almost the only source of them is the food we consume on a daily basis. These include leucine, isoleucine, lysine, methionine, histidine, valine, threonine, and tryptophan.

EXPERIMENTAL PART. The composition and amount of amino acids in the sample was determined in the form of PTC derivatives of amino acids according to the method of Steven A., Cohen D.

Isolation of free amino acids. 1 ml (exact volume) of 20% TCA was added to 1 ml of the test sample to

obtain precipitation of proteins and peptides from the aqueous extract in centrifuge beakers. After 10 min, the precipitate was separated by centrifugation at 8000 rpm for 15 min. After separating 0.1 ml of the sedimentary liquid, it is freeze-dried. USS analysis of PTK derivatives of amino acids. The synthesis of free amino acid derivatives of FTC (phenylthiocarbomayl) was carried out according to the method of Steven A., Cohen D..

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Identification of PTK amino acids is carried out on a Discovery HS C18 75x4.6 mm column on an Agilent Technologies 1200 chromatograph.

Solution A: 0.14 M CH3COONa + 0.05% TEA, pH 6.4, B: CH3CN.

Flow rate 1.2 ml/min, absorbance 269 nm. Gradient %V/min: 1-6%/0-2.5min; 6-30%/2.51-40min; 30-60%/40.1-45min; 60-60%/45.1-50min; 60-0% / 50.1-55min

RESULTS AND ITS DISCUSSION

Name of amino acids	**Garlic**	**Garlic peel**
	Concentration mg/g	
Aspartic acid	0,137844	0,079846
Glutamic acid	0,290147	0,088224
Serene	1,056336	0,275189
Glycine	0,854428	0,133044
Asparagine	0,849209	0,13037
Glutamine	7,259679	0,123217
Cysteine	3,197188	0,466185
Threonine	0,720584	0,355607
Argenin	1,397919	0,280609
Alanine	0,723471	0,141564

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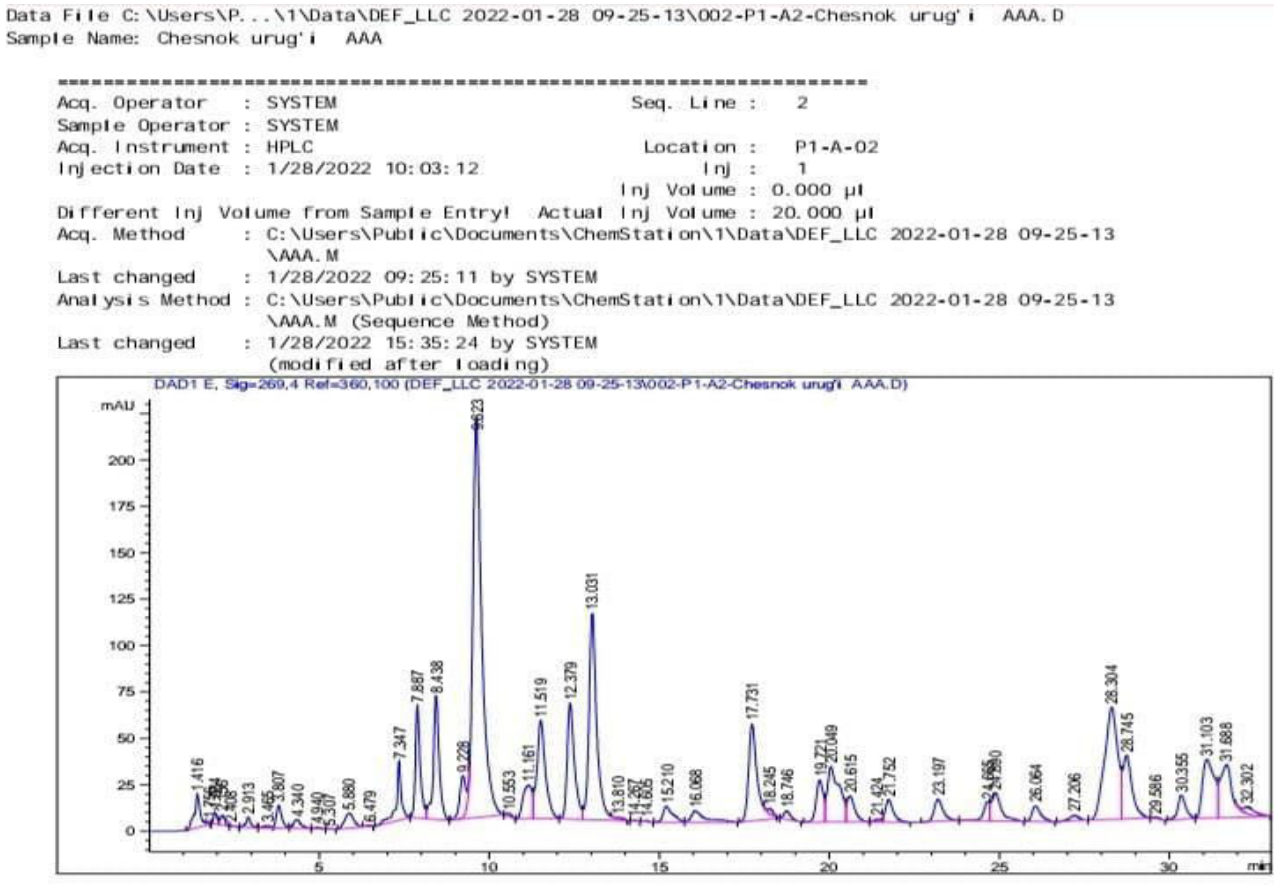
Proline	3,724422	0,457229
Tyrosine	0,920939	0,133046
Valine	0,953886	0,410492
Methionine	0,380856	0,016058
Isoleucine	0,293852	0,064873
Leucine	0,539118	0,045519
Histidine	0,324892	0,059806
tryptophan	1,444345	0,14991
Lysine	1,258778	0,01723
Total	**26,71584**	**3,436959**



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Sample Name: Chesnok pusti AAA

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Acq. Operator   : SYSTEM                          Seq. Line :   3
Sample Operator : SYSTEM
Acq. Instrument : HPLC                             Location :   P1-A-03
Injection Date  : 1/28/2022 10:40:15                  Inj :   1
                                                  Inj Volume : 0.000 µl
Different Inj Volume from Sample Entry!  Actual Inj Volume : 20.000 µl
Acq. Method     : C:\Users\Public\Documents\ChemStation\1\Data\DEF_LLC 2022-01-28 09-25-13
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                  \AAA.M (Sequence Method)
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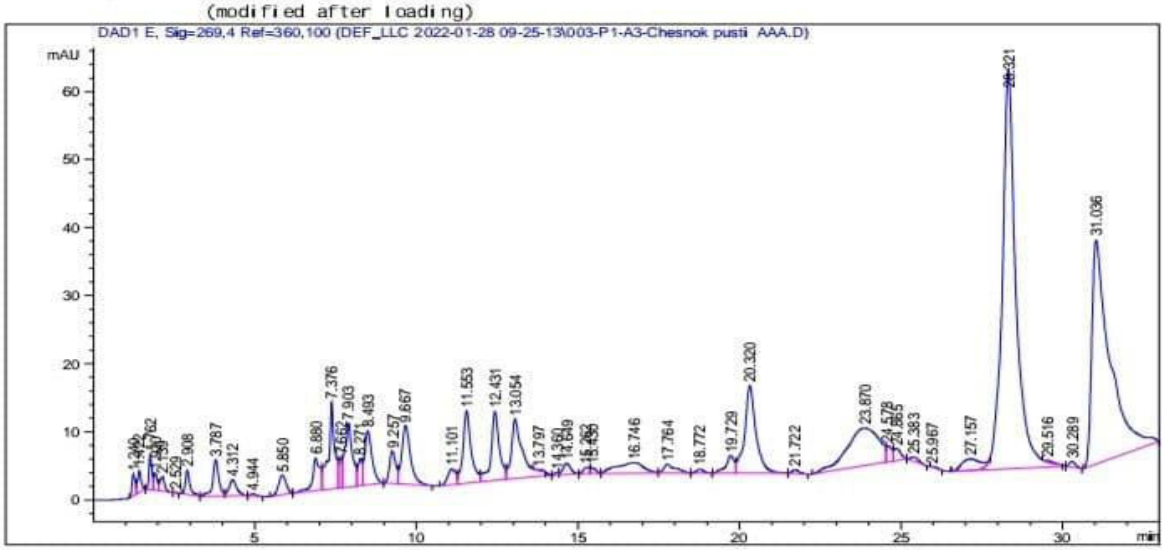

The total amount of amino acids in the studied samples is in the following order: 1 g of garlic in fruit powder (26.7%), 1 g of peel powder (3.44%).

Arrangement of amino acid content (mg) in garlic powder in descending order: Glu (7.26) > Pro (3.7) > Tsis (3.2) > Trip (1.45) > Arg (1.4) > Liz (1.3) > Ser (1.1) > Val (1) > Tyr (1) > Gly (0.9) > Asp (0.8) > Ala (0.7) > Tre (0.7) > Leu (0.5) > Met (0.4) > Fen (0.4) > His (0.3) Iso (0.3) > Gluk-ta (0.3) > Asp (0.2) and etc. [2,3]

The quantitative arrangement of amino acids (mg) in the skin powder is as follows: Cys (0.5) > Pro (0.5) > Val (0.4) > Tre (0.3) > Arg (0.3) > Ser (0. 3) > Trip (0.2) > Ala (0.2) > Tyr (0.1) > Asp (0.1) > Gly (0.1) > Gl (0.1) > Gl to-ta (0.1) > Asp (0.08) >

Iso (0.06) > His (0.05)) > Lei (0.04) > Liz (0.02) > Met (0.02) > Drying (0.01) and so on [2,3,5]

In the sample obtained from garlic powder, the highest amount of glutamine, proline, cysteine, tryptophan and argenin. While the most abundant amino acids in garlic peel powder are cysteine, proline, valine, threonine, and argenine.

Analysis of the results of the analysis of the fruits and peel of garlic makes it possible to choose the ways of using this medicinal plant in the prevention and treatment of diseases associated with the digestive system and the nervous system, for the purpose of general improvement.

CONCLUSION. Thus, the amount of amino acids eaten in garlic and peel, and it was observed that when these amino acids are dried at high temperatures, the powder retains its healing properties. It has also been studied that amino acids play an important role in the processes occurring in the human body by comparing their chemical composition.

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