

The aim of the study was a comparative analysis of the biological value of the main material for use in fresh form and as a component of fermented processing products.

Experiments were carried out at the NULES of Ukraine at the department of technology of storage, processing and standardization of plant products named after B.V. Lesyka. The objects of research were: leaves of parsley, tarragon, garlic, horseradish.

Research on the content of ascorbic acid (AA) revealed that the currant leaf has a fairly high concentration. At the same time, the highest content of it was in young and healthy leaves, and it was 5–7% lower in leaves affected by various diseases. Much less AA is contained in tarragon leaves, on average 32–38 mg/100 g of raw material, but the upper part of the stems contains 15% more than the lower part. The content of AA in garlic leaves is

almost 2 times lower than in tarragon leaves. Dill leaves are the most widely used crop. An average of 123 mg/100 g of raw weight was found in fresh leaves, almost the same amount was found in inflorescences at the beginning of flowering, it should be noted that during the formation of seeds, the concentration of ascorbic acid slightly decreases (by 9% less). Dill stem contains much less AA, there is a tendency to decrease its amount from the upper part of the plant to the lower part (75.0–15.0 mg/100 g). Horseradish leaves were the record holder for AC content among the studied crops, fully formed (old) leaves contain up to 627.0 and almost twice less in young ones (394 mg/100 g of raw material). Therefore, products for consumption in fresh form and as raw materials for the formulation of fermented products have a powerful potential of vitamin C. The obtained results should be used in the production of competitive and biologically valuable food products.

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SORTS FEATURES FORMING ASKORBIC ACID IN TOMATO

Solanaceous crops rank first in the world, both in terms of area and gross yield. In Ukraine, in 2020–21, tomatoes were grown on an area of more than 75 thousand hectares, more than 2.2 million tons of products were harvested, supplied to the domestic and foreign markets and for the processing industry. An analysis of the immediate forecast revealed the possibility of Ukraine in the coming years to take 5-6th place in the production of tomato paste.

The nutritional value of fruits of any culture is determined by the presence of biologically active substances, vitamins, mineral compounds, sugars, proteins, etc. in them. Due to its popularity and accessibility to the population, tomato fruits occupy an important place in human nutrition. With a high and balanced content of biologically active substances in tomato fruits, their daily use contributes to the mild regulation of metabolic processes. Vitamin C is one of the important components of the body's antioxidant system due to its ability to donate electrons. In addition, this vitamin is involved in the metabolism of iron in the body (provides the restoration of trivalent iron to bivalent iron). The undeniable participation of vitamin C in the synthesis of interferon immunoglobulins, promotes cellular phagocytosis, ensures the restoration of the system of nonspecific resistance of the body, suppressed during viral in-

fections. Mention should be made of the instability of ascorbic acid to external influences, in particular, culinary processing and the lability of formation in plant fruits under the influence of environmental factors.

Carrying out a comparative assessment of mid-early varieties and hybrids of tomato for the content of vitamin C and a recommendation for fresh consumption and for processing the most valuable samples.

The research was carried out at the Department of Technology of Storage, Processing and Standardization of Plant Products named after B.V. Lesik NULES of Ukraine, the department of vegetable growing UNUH and the Ukrainian Institute for Expertise of Plant Varieties. For this, we used long-term data obtained at the departments and stations of variety testing in Ukraine. Tomato fruits are grown according to standard technology. The components of the chemical composition were determined according to generally accepted methods.

The formation of vitamin C in tomato fruits depends on many factors, in particular varietal characteristics. The studied samples of tomatoes contain on average 18.97 mg/100 g of crude substance of ascorbic acid (AA). At the same time, in the context of varieties, AA fluctuations are observed from

12.83 to 28.47 mg/100 g. The highest content of AA was noted in the fruits of the samples Alhambra F₁, Classic F₁, Tolstoy F₁, varieties Rio Fuego, Atolls, Kmitsits and SH-3 (more than 20). Plants of the varieties Nasko 2000, Gospodar, Mikolka F₁ and Peto 86 formed AA in the fruits within the range of 15 mg/100 g. The remaining samples contain AA in the range of 16–20 mg/100 g.

Dispersion analysis of the influence of varietal characteristics and weather conditions of cultivation found that the formation of ascorbic acid to a greater extent depends on weather conditions (38%), varietal characteristics (33%), the interaction of factors (24%) and other factors.

The conducted studies made it possible for the first time to analyze 15 samples of mid-early ripening tomato grown in Ukraine for the average content of ascorbic acid. The most valuable specimens have been identified: Rio Fuego, Alhambra F₁, Atol, Classic F₁ and Tolstoy F₁. In further studies, it is necessary to deepen the processing of the obtained data and identify the influence of active temperatures, moisture availability, HTC and other factors. The data obtained should be taken into account when planning and selecting an assortment of mid-early tomato varieties and hybrids for growing products for fresh consumption and the production of processed products of increased biological value.

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PRODUCTIVITY AND ECONOMIC EFFICIENCY OF CULTIVATION CORN FOR GRAIN UNDER THE CONDITIONS OF A GROUP OF COMPANIES «LNZ GROUP»

The problem of providing humanity with the main high-quality products is increasingly becoming one of the most important challenges of modern times and requires careful state regulation and attention. The solution to the issue of food supply requires the solution of all modern problems of the agro-industrial complex and its basis – agriculture. To ensure food security, modern innovative technologies are used more and more, they are undoubtedly a modulator of innovative development, growth of productive forces. It depends on many factors: the level of development of the agricultural sector, including private farms; development of the food industry; the level of export-import operations; the level of purchasing power and culture of the population; possibilities of using innovative technologies; financial capabilities of enterprises; material and technical support and investment attractiveness of agribusiness enterprises; state support, benefits granted to agro-industrial complex enterprises, effective fiscal policy.

Obtaining high-tech and high-quality food and fodder corn solves important economic and social problems. Corn grain contains up to 87% dry matter, 70% of which is starch, 9–12% protein, 4–7% fat, suitable for the production of high-quality flour, groats, oil, corn flakes, starch, glucose, alcohol, molasses, etc. It is worth noting that the soil and climatic conditions of the Forest Steppe of Ukraine satisfy the bioecological requirements of corn.

It is known that in certain soil and climatic conditions it is possible to obtain a high yield of

corn when using hybrids of different maturity groups to create a harvesting conveyor for the purpose of efficient harvesting and the formation of homogeneous batches of high-quality grain.

The selection of an assortment of hybrids capable of providing high grain productivity of corn to increase the volume of cereal production is of primary importance in the efficiency of the functioning of agricultural enterprises. When choosing hybrids for growing corn for grain, it is advisable to give preference to those that, during the formation of the crop, make the most full use of the soil and climatic conditions of the growing season. The key indicators are the ripeness group, resistance to lodging and major pests and diseases, the ability to form a stable grain yield despite extreme factors.

Important aspects of innovative methods of managing the production of corn grain are the strengthening of concentration and intensification of production, which is a good basis for the introduction of the latest resource-saving technologies for the production of grain and other products, such as the development of precision agriculture; satellite monitoring of crops; field and yield mapping; management of equipment, etc.

The purpose of the research was to conduct a comparative assessment of the grain productivity of corn hybrids to substantiate the choice of the most efficient ones grown in the conditions of the Cherkasy region and to determine the factors that affect the economic indicators of the farm.