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CUCUMBER STORAGE

У статті було розглянуто таку культуру як огірок, а саме технологію збирання. Матеріал, наведений у цій статті описує вплив вмісту вуглекислого газу в повітрі на огірки. Також наведені дані про умови зберігання продукції відносно температури повітря.

Ключові слова: *огірок, плід огірка, сорти та гібриди, вуглекислий газ, температура, зберігання.*

This article considered such a culture as cucumber, namely the harvesting technology. The material presented in this article describes the effect of carbon dioxide content in the air on cucumbers. Data on the storage conditions of products relative to air temperature is also given.

Keywords: *Cucumber, fruit of a cucumber, varieties and hybrids, carbon dioxide, temperature, storage.*

Cucumber (*Cucumis sativus* L.) belongs to the gourd family. The fruit of a cucumber is a berry (pumpkin) with three to five seed chambers, eaten unripe [1].

When growing cucumber plants, 6-10-day greens are obtained, similar to zucchini and squash. For food, young cucumber ovaries are consumed, in which the seed shells consist of non-woody fiber [4].

The quality of cucumbers depends on the cultivation methods used. Cucumbers can be grown in open ground, in closed structures, in greenhouses (winter, hydroponic, film), on straw. However, growing cucumbers in open ground, film shelters, and glass greenhouses is the most common method. Generally, fruits grown in open ground are better in quality than those grown in shelters. Some varieties, when grown under a film, do not change their chemical composition or accumulate more vitamin C [4].

The Commonwealth of Independent States (CIS) has a diverse assortment of cucumbers. Over 70 varieties and hybrids are zoned for open soil, and 45 varieties are zoned for protected soil. These varieties differ in terms of ripening and product use. Early-ripening open ground varieties take 32-54 days from germination to the first harvest, medium-ripening takes 55-60 days, and medium-late takes 65 or more days. Fruits of early-ripening varieties are mainly used for salads, while most mid-ripening and mid-late varieties are used for pickling and as a universal product [2].

Cucumbers are very sensitive to high levels of carbon dioxide, so a subnormal mixture with low oxygen content is used for them: O₂ - 2-3% and CO₂ - up to 1%. Alternatively, subnormal mixtures can be used when the sum of oxygen and carbon dioxide does not exceed 10% (O₂ - 3-5%, CO₂ - 3-5%, N₂ - 90-94%). Other authors claim [17-26] that using RGS, which contains 5-6% carbon dioxide, 3-5% oxygen, and 90-91% nitrogen, cucumbers can be stored for 30-35 days [4].

The amount of mass loss due to water evaporation and consumption of dry substances for respiration depends on several factors, and reducing losses is possible only through a comprehensive approach that takes all the listed factors into account. Important measures that

reduce losses include establishing storage of healthy fruit and vegetable products, establishing and maintaining optimal storage conditions, observing approximate storage times, taking into account the quality of the products, and considering the material and technological base [3].

To inhibit unwanted ripening processes, the fruits must be cooled to a temperature at which these processes will not occur or will occur slowly. Numerical studies have established that such a temperature can be within 4-6°C. When the temperature drops below +4°C, especially to 0-20°C, metabolism is disturbed, physiological diseases appear, tissues are covered with watery spots, which then darken. At a temperature of 0°C, in cucumbers, the plasmalemma of sieve-like tubes is disrupted, exudation from tissue cells into membrane cells occurs, and elastic membranes become fragile. This causes damage to the tissue, and dark spots appear on the surface of individual fruits on the fourth or fifth day of storage.

At a temperature above 6°C, the intensity of respiration increases, and the processes of hydrolysis (one of the types of solvolysis) actively take place. The fruits become flabby and overripe, and the skin becomes rough. The taste qualities also deteriorate. Fruits cannot be stored for a long time at both low and high temperatures.

Cucumbers cannot be stored in the same storage with fruits and vegetables that emit ethylene. This is because this gas causes accelerated respiration and overripening, resulting in yellowing, spoilage, and a shortened storage period.

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ENSURING FINANCIAL AND ECONOMIC SECURITY OF COUNTRIES

Досліджено сутність фінансової та економічної безпеки. Виявлено вплив фінансової та економічної безпеки на забезпечення конкурентоспроможності країни та її ефективності діяльності всіх сфер.

Ключові слова: економічна безпека, фінансова безпека, ринок, економіка.

The essence of financial and economic security has been studied. The impact of financial and economic security on ensuring the country's competitiveness and its efficiency in all spheres has been revealed.

Keywords: economic security, financial security, market, economy.

The rapid changes and innovations in the financial market raise concerns about ensuring the security of Ukraine's economy. Risks in these areas hinder economic growth, impede economic reforms, negatively impact trade and foreign activity, and create obstacles for improving the budget, tax, insurance, and other financial areas of Ukraine's system. Without a scientific understanding of its economic essence, research and development of evaluation methods, and revision of theoretical approaches, the development of an effective mechanism to ensure the financial security of the state is impossible.

The scientific works of scholars such as O. Yu. Kovalova, V. V. Semeniuk, O. V. Ivashchenko, V. M. Gelman, V. G. Gonchar, and others have actively addressed the issues of studying Ukraine's financial security.

The creation of a state's financial security system requires the implementation of several important documents, such as the Decree of the President of Ukraine 'On the National Security