

centralized financial monitoring system, the improvement of the legal framework for financial control, and the strengthening of the capacity of financial control institutions through training and technical assistance.

Another key initiative is the strengthening of accountability and transparency in the use of public funds. This includes the development of a comprehensive public financial management system, the establishment of a system for monitoring public procurement, and the introduction of measures to prevent conflicts of interest in public procurement [3].

Ukraine is also working to improve its international cooperation in financial control. The country is a member of the Financial Action Task Force (FATF), an international organization that sets standards for combating money laundering and the financing of terrorism. Ukraine has implemented a number of measures to strengthen its anti-money laundering and counter-terrorist financing regimes in line with FATF recommendations.

In conclusion, the development of financial control in Ukraine has been an ongoing process, with significant progress made in recent years. However, further reforms are needed to strengthen the capacity and effectiveness of financial control institutions, improve coordination between different levels of government, and prevent and detect corruption in the financial sector. Ukraine's efforts to achieve these reforms through its National Anti-Corruption Strategy and Action Plan, as well as its international cooperation initiatives, are crucial to improving the country's financial control mechanisms and promoting a transparent and accountable financial system.

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## HISTORY AND CHOCOLATE PRODUCTION TECHNOLOGY (ІСТОРІЯ ТА ТЕХНОЛОГІЯ ВИРОБНИЦТВА ШОКОЛАДУ)

*У статті розглянуто історія походження шоколаду з часів існування племені Мая і донині. Відмічено, з якої сировини виготовляється шоколад, користь темного шоколаду для організму людини. Визначено технологію виробництва шоколаду, термін зберігання.*

**Ключові слова:** какао боби, шоколад, молочний шоколад, чорний шоколад, процеси виробництва шоколаду.

*The article examines the history of the origin of chocolate from the times of the existence of the Maya tribe to the present day. It is noted from which raw materials chocolate is made, the benefits of dark chocolate for the human body. Chocolate production technology, shelf life are defined.*

**Keywords:** cocoa beans, chocolate, milk chocolate, dark chocolate, chocolate production processes.

Millions of tonnes of cocoa beans are consumed annually to feed our global appetite for chocolates, pastries and other desserts [2].

The history of chocolate, and its creation from the beans of the cacao tree, can be traced to the ancient Maya, and even earlier to the ancient Olmecs of southern Mexico. Throughout much of

its history, chocolate was a bitter beverage, not a sweet, rich-tasting treat. But after it became popular in the courts of Europe and the streets of colonial America, chocolate soon evolved into the universally loved commodity it is today.

Chocolate is made from the fruit of cacao trees, which are native to Central and South America. According to Hayes Lavis, cultural arts curator for the Smithsonian's National Museum of the American Indian, ancient Olmec pots and vessels from around 1500 B.C. were discovered with traces of theobromine, the stimulant compound found in chocolate and tea.

The Olmecs undoubtedly passed their cacao knowledge on to the Central American Maya who not only consumed chocolate, they revered it. Despite chocolate's importance in Mayan culture, it wasn't reserved for the wealthy and powerful, but was readily available to almost everyone. In many Mayan households, chocolate was enjoyed with every meal.

Chocolate arrived in Florida on a Spanish ship in 1641, and it's thought the first American chocolate house opened in Boston in 1682. By 1773, cocoa beans were a major American colony import and chocolate was enjoyed by people of all classes.

In 1847, British chocolatier J.S. Fry and Sons created the first chocolate bar molded from a paste made of sugar, chocolate liquor and cocoa butter. In 1876 Swiss chocolatier Daniel Peter invented milk chocolate, and a few years later he worked with his friend Henri Nestle - together they created the Nestle company, brought milk chocolate to the mass market [1].

To date most modern chocolate is highly-refined and mass-produced, although some chocolatiers still make their chocolate creations by hand and keep the ingredients as pure as possible. Dark chocolate has earned its place as a heart-healthy, antioxidant-rich treat.

Chocolate is made from products derived from cocoa (Scientific name: *Theobroma cacao*). In the production of chocolate, the first step is this post-harvest handling of cocoa beans. Exists the high-grade (Criollo cocoa) are and Common grade (Forastero cocoa), they account for 90% of all the cocoa beans harvested in the world.

Chocolate production consists of the following stages: fermentation of cocoa beans (the action of micro-organisms, death of cocoa beans, modern fermentation, drying), winnowing, roasting, grinding, blending, conching, tempering and molding, as well as storage and packaging and transportation.

To enhance the taste of cocoa and soften its astringency, the beans are fermented. These days, the fermentation is also done with the help of boxes with holes at the bottom so that the unwanted juice runs off through bottom holes. This process ensures uniform fermentation along with proper aeration and is repeated for 8 to 10 days, after which the fermentation is completed. After that, the cocoa beans are dried, it takes from 5 to 10 days, moisture content of 7% is preferred.

The next step is winnowing: the cocoa beans are crushed into small pieces into cocoa nibs. Roasting happens after it: nibs are roasted in between 105-120 Deg. C in ovens depending upon the end product for which it shall be used. Thanks to the grinding process receive chocolate liquid, also known as mass, by grinding fried nibs. The blending process uses chocolate liquor, cocoa butter, sugar, and a minor quantity of vanilla beans, all combined together and then subjected to refining by passing through close-clearance revolving rollers. According to the end product desired, different blends are taken as follows. To develop increased smoothness, viscosity, and flavor, a process called Conching is done which basically involves kneading the chocolate scraped from the rollers, in heated mixture tanks at 60 degrees Celsius.

Tempering provides uniform sheen and a crisp bite to the end chocolate. After the tempering of chocolate followed by cooling, the thickened chocolate mass is poured into molds for subsequent hardening. This is the principal process for manufacturing a luscious chocolate bar. Store chocolate from 2-3 months for Milk chocolate to about 2 years for Dark chocolate [3].

Based on the theory, we can conclude that chocolate is the most popular delicacy in the world, its history begins with the May tribes and continues to this day. Chocolate production is a labor-intensive process that takes a lot of time and effort.

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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: O<sub>2</sub> - 2-3% and CO<sub>2</sub> - up to 1%. Alternatively, subnormal mixtures can be used when the sum of oxygen and carbon dioxide does not exceed 10% (O<sub>2</sub> - 3-5%, CO<sub>2</sub> - 3-5%, N<sub>2</sub> - 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