

IMPACT OF PACKAGING MATERIALS ON THE PRESERVATION OF BEIJING CABBAGE

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ABSTRACT

The scientific article analyzes the most basic factors that affect the long-term preservation of cabbage heads in the process of storing Beijing cabbage. Basically, in the process of storing Beijing cabbage, research has been carried out on the relative humidity of the air in the storage room and the storage of the product by surrounding it with various packaging materials. In the experiment, the heads of cabbage were placed in storage without wrapping in what material The Hecht was and wrapped in paper, parchment paper, and poeathyline (Streich), and their effect on the qualitative and continuous preservation of CARM heads was studied.

Keywords: Beijing cabbage, cabbage head, warehouse, temperature, relative humidity of air, refrigeration compartment, cooling Ridge, paper, parchment paper, polyethylene (stretch), natural reduction, corrosion, commodity product.

INTRODUCTION

The relevance of the topic as a repeated crop in the conditions of the Bekabad district of the Tashkent region, Beijing cabbage is planted and grown on large areas. As we know in this area as a recurring crop, all vegetable crops, including Beijing karimi varieties, are planted and cared for on large areas. The geographical location of the territory of the district, as well as the fertility of the soil-climatic conditions, differs from other regions.

On the territory of the Tashkent region, Beijing cabbage for cultivation in the repeat term is mainly processed, that is, it is widely used in the preparation of pickles (kemchi). Alternatively, Beijing cabbage heads will be realized to the domestic and foreign market, and storage will be necessary for a certain period during this period. From scientific sources, we know that during the storage of Beijing karm, the process of respiration and the physiological processes that take place in them in different varieties occurs differently. During the storage of Beijing cabbage, the process of respiration also occurs differently in the individual tissues of the leaves of cabbage heads. Some tissues have different breathing coefficients.

Beijing cabbage has the effect of various factors during sailash bishlib mainly in sailash of quality ripe karm heads, there is the effect of different packaging materials. These materials (paper, parchment paper, and poeathyline (stretch)) have different effects on the preservation of CARM heads. During our experiments, we conducted research on the qualitative storage of cabbage heads using these materials.

RESEARCH METHODS

The amount of dry matter in Beijing cabbage according to ISO 2113-2013 GOST adopted by the International Board of metrology and certification, the amount of active acid according to GOST 26188-2016, determination of the amount of nitrate in the composition of pear fruit according to GOST 34570-2019, organic acids in the composition of Beijing cabbage before storage and after storage, pectin substances-by carbazole method; by titration with vitamin C - KIO₃; physical, chemical and organoleptic quality indicators before and after storage of Beijing cabbage eat.P was carried out according to the Shirokov style.

As an object of study, the varieties “Khibinskaya”, introduced in 1988 in the State Register of agricultural crops recommended for planting on the territory of the Republic of Uzbekistan, and “Crystal”, “Zangori”, “Mezon”, included in this register in 2022, were selected.

Research results. Beijing cabbage has its own peculiarities when we attribute it to other types of cabbage, and harvesting and harvesting also differs for a while. Harvesting of Beijing cabbage is carried out simultaneously.

In the course of research, it was studied to preserve the crop as long as possible and to educate these materials on the long-lasting and high-quality preservation of products in the storage of cabbage heads in various packaging materials in refrigerated warehouses, including in various ways to deliver cabbage products to the market that is, to the population. As a control, when the air temperature in the refrigerated warehouse is +2-3 °C, and the relative humidity of the air is 96%, cabbage heads were placed in wooden boxes in an open position of 25 kg, and in boxes wrapped in paper, parchment paper and poletilin (stretch), a total of 400 kg of products were placed in a refrigerated warehouse in

Studies have shown that cabbage heads were monitored for every 10 days to be placed in a refrigerated warehouse, and the data obtained on the changes were recorded in an experimental notebook. In our experiment, experiments were carried out on the storage of 4 navinin cabbage heads, which were mainly introduced into Beijing cabbage. During the storage of cabbage heads, the degree of natural reduction of products was studied in%, the output of non-demand products in%, the output of rotten products in % and the output of commodity products in%.

That being said, when storing Beijing karami varieties in a refrigerated warehouse, it was found that for 60 days the air temperature was +2-3 0S, while the relative humidity of the air was 96%, different varieties were in different indicators in aro and different packaging materials. In this case, it was found that when the heads of cabbage are not wrapped in any material, the degree of natural reduction of all varieties of aro products is up to 9-12%. The non-demand product output, on the other hand, was found to be 3-4%, Rotten products were found to be 7-9%, and commodity products were found to be 73-80%.

In the course of our experiments, it was observed that the karm heads were in the following state when they were stored wrapped in paper material.

In this variant, it was found that the natural reduction rate was 7-9%, the non-demand product output was 4-6%, Rotten products were 6-7%, and the output of commodity products was 78-82%.

When cabbage heads were stored wrapped in parchment paper, it was observed that the degree of tabial decrease was 5-6%, the output of a non-demand product was up to 4-6%, Rotten products-up to 4-5%, and the output of a commodity product-up to 84-85% (Table 1).

Table 1. When storing Beijing cabbage varieties in a refrigerated warehouse, the effect of various packaging materials on the quality storage of the product when the air temperature for 60 days is +2-3 °C, while the relative humidity of the air is 96 % (2022-2023.y).

T/r	Packaging materials variants	Beijing cabbage varieties	Degree of natural decrease %	Non-demand product output %	Rotten products %	Commodity products %
1	When not wrapped in Material (Control)	Xibinskaya	12	3	9	73
		Crystal	10	4	8	77
		Zangori	10	3	8	79
		Criterion	9	4	7	80
2	Paper wrap	Xibinskaya	9	6	7	78
		Crystal	8	4	6	82
		Zangori	8	4	6	82
		Criterion	7	5	5	83
3	When wrapping parchment paper	Xibinskaya	7	7	5	80
		Crystal	6	6	4	84
		Zangori	6	6	4	84
		Criterion	5	6	4	85
4	When wrapping a tile (stretch)	Xibinskaya	4	8	3	85
		Crystal	3	7	2	88
		Zangori	3	8	2	87
		Criterion	3	5	2	90

When the heads of Cabbage of Beijing cabbage are wrapped in a film (stretch), the following results were obtained. In this case, it was found during our experiments that the degree of natural reduction of the product was up to 3-4%, the output of a non-demand product was up to 5-7%, Rotten products-up to 2-3%, and the output of commodity products-up to 85-90%. From experimental observations it was found that cabbage products that are worth noting tested positive when placed on parchment paper and film (stretch) wrapping in storage compared to control and other options. This indicator is evident in the varieties aro, and in the varieties of rust and Meson.

When conducting experiments and statistical analysis of them, it is important to know the description of qualitative indicators and their main characteristics. Therefore, in our experiments, we analyzed products with certain quality indicators. The quality indicators of the product include such signs that the quality indicators, which do not subject them to a measure of quantity, represent - various agricultural crops, The Shape of various vegetables, the presence or absence of signs, or the attitude to influence, and hakazos are analyzed. In the study of qualitative signs, it is often observed that the set under study is mainly given two gradations, in which there is a sign or there is no sign, that is, there are two possibilities, in two alternatives. Such a comparison is called an alternative comparison in science.

When calculating the generalized description of selections in qualitative variability, the initial observations by groups (classes) are arranged in the order of distribution, determining the average importance of shares, the variability of signs and the reliable interval, that is, the share significance of the genial set at its limit, are located.

When calculating the coefficient of variation, it will be necessary to take into account that the maximum chance of variability will be equal to - 0.500 (50.0%) in two gradations of Smaks characters, 0.333 (33.3%) in three gradations, - 0.250 (25.0%) in four gradations, - 0.200 (20.0%) in five gradations and - 0.167 (16.7 %) in six gradations.

Conclusion: in production, the placement of cabbage products in storage, mainly wrapped in parchment paper and film (stretch), shows a positive result. Therefore, it is worth mentioning that various factors serve as an important tool in maintaining the quality and continuation of cabbage heads, including the material for their packaging.

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