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INFECTION RATE DURING THE STORAGE OF ONION PRODUCTS

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Abstract. The article describes the importance of storage methods for onion crops, the symptoms and severity of the disease during storage. In the studies, the processes occurring in refrigerators and storage by the conventional method in the conditions of the region are presented.
Keywords. Onion, storage, temperature, humidity, disease, methods.

Introduction. Great attention is paid to meeting the population's demand for food and ensuring its safety in increasing the volume of products through the development of various sectors of agriculture. In the development of the vegetable sector in our country, various varieties of onions, which are considered one of the main crops, are grown in farms and dehkan farms. This is because onion products are of great importance in terms of the abundance of various nutrients in their biochemical composition and their healing properties.

Today, the main goal of growing vegetables is not only to consume them in pure form, but also to store them throughout the year and use them in processed form. Therefore, meeting the population's demand for this product through the development of effective technologies for growing and storing various varieties of onions in the main sown areas of vegetable crops is a solution to urgent issues.

Research methods. In our research, the methodological recommendations of M.Ibragimov et al. (2009), A.Rasulov (1995), I.V.Zuyev, A.Abdullayev (1977) on the agrotechnology of onion cultivation were used.

Methods of storing onion products were studied based on literary sources created by A.Rasulov (1995), Kh.Buriyev et al. (2002) and research was conducted.

Research results. The main requirement for onion storage is to prevent a decrease in product quality throughout the storage period. To ensure long-term storage, it is advisable to properly organize preliminary pre-storage measures, carry out storage procedures in special containers, and conduct storage work in a room where the air temperature in the storage area is reduced by 1-3°C. Based on the results of many years of research, it was found that onion products, that is, well-ripened ones, are better stored at +18+20°C.

In addition, one of the main aspects to be paid attention to is that the onion storage area should be dry and easily ventilated. In warehouses, it is advisable to maintain normal air temperature and relative humidity of 70-75 percent. One of the important aspects to pay attention to during storage is to prevent the product from freezing, otherwise the quality of the product will deteriorate.

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As was revealed during the research, a well-ripened onion product undergoes a period of deep physiological dormancy during storage. During this period, the dormancy period also depends on variety characteristics and growing conditions. Also, the importance of irrigation norms is high for the good preservation of onion products. Based on many years of research, it has been established that when the ripening period of onion products approaches, the dormancy period does not begin as a result of excessive irrigation. The earlier the dormancy period in onions ends, the faster the flow of physiological substances to the growth point. As a result, onions lose their nutritional value and their natural immunity decreases.

The duration of the dormancy period during storage depends on the degree of onion ripeness. Onions that have formed a fully mature protective layer, have dried leaves, and have entered a dormant period are usually well-preserved. This condition leads to the development of diseases in onions due to late ripening and delayed leaf drying. The long-term storage of onions depends not only on their morphological structure but also on their biochemical composition. Storing in conditions where the relative humidity does not exceed 75% during the storage period is highly effective. High relative humidity during storage leads to neck rotting. When storing underripe onions, strict adherence to relative humidity conditions is required. Therefore, attention is paid to the complete ripening and drying of onion products before storage. Otherwise, it will lead to complete spoilage of onion products during storage.

In our studies, the Kaba 132 and Samarkand red onion varieties were stored under two different conditions: in refrigerators and under normal conditions. During the storage period in ordinary warehouses, an average of 0.08% for two varieties in October, 0.15% in November, and 0.07% in December were found to be affected by various diseases.

In onions stored in refrigerators at an air temperature of -1-3°C, the incidence of disease was not high. In the Kaba 132 onion variety, 0.02% of the product was diseased during storage, and in the Samarkand red variety, 0.03% of the product was diseased.

In conclusion, based on the biological development of onion products in the conditions of the region, full ripening is required. In this case, the morphological structure and biochemical composition of onion products, depending on the varietal characteristics, must be fully developed. Proper organization of the ventilation system during the storage period, ensuring the recommended air temperature and relative humidity, leads to a long shelf life of the product.

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