



## STUDY OF VARIOUS VARIETAL SAMPLES OF WHITE CABBAGE IN BREEDING NURSERIES

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**Abstract:** In the work on the selection and seed production of headed cabbage, there is a need to select plant samples with various morphological characteristics and evaluate these features of the selected samples. Therefore, when studying the characteristic traits identified during the conducted research, the dynamics of these traits were examined when describing the varieties. The studied varieties of white-headed cabbage were selected based on their economic characteristics in the respective nurseries and underwent an evaluation based on morphological traits.

**Keywords:** white-headed cabbage, selection, phenological observation, trial, seed plant, Anak, duration of vegetation

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### Introduction:

The primary aim of intensifying agricultural practices is to increase agricultural production and improve its quality to meet the growing demand of the population. In this regard, our current research is directly aimed at addressing the drought-resistant, high-yield, and high-quality vegetable crop gene pool, paving the way for the intensification of vegetable production in agriculture.

### Result and discussion:

This article discusses the research conducted on the selection of summer white head cabbage plant samples and the creation of new varieties that yield continuous and abundant harvests, differentiated by the duration of growth.

As we know, drought is one of the most significant negative factors that affect the growth dynamics of vegetable plant species, including cabbage plants, especially white head cabbage. This is because the primary

focus, especially the white head cabbage, is a long-lasting vegetative cycle, which primarily coincides with dry periods in the summer. Therefore, researchers have conducted extensive agricultural practices and prepared long-term plans for combating drought, creating continuous varieties of white head cabbage. (Figure 1)

During the research year 2019-2020, experiments were carried out at the Absheron experimental base of the Azerbaijan Scientific Research Institute of Vegetable Growing (hereinafter the Institute) in the summer cabbage field of the Selection Department, following the subject plan and methodology for conducting selection experiments on summer white head cabbage samples.

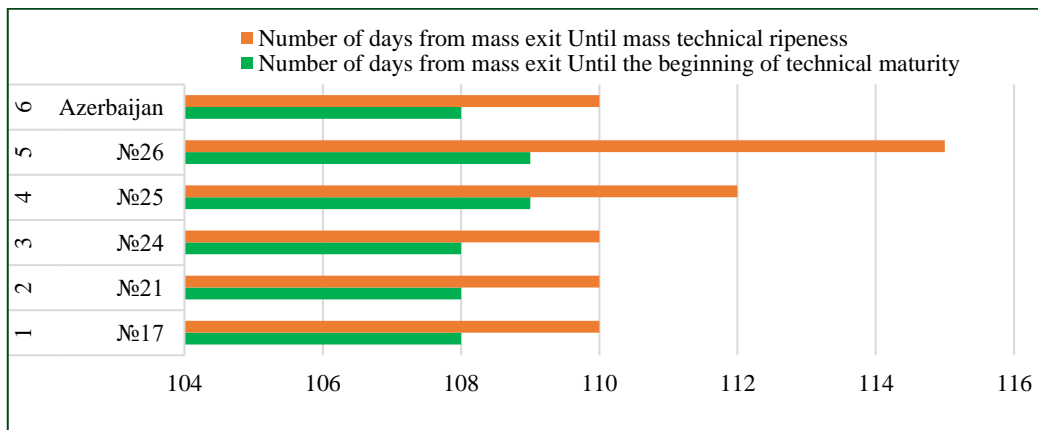
As we know, the cabbage plant, like other plants, has a wide range of species diversity. Moreover, a variety of research has been conducted on several main varieties of cabbage for various purposes.



**Figure 1. An example of the studied white cabbage**

Observations of phenology in summer white cabbage samples in the collection nursery  
 Results of the research: The technical maturity in the selection area began on October

20-23. The number of days from mass emergence to the start of technical maturity was 105-108 days, and from mass emergence to mass maturity was 112-115 days. (Figure 2)



**Figure 2. Phenological observations in the collection nursery of spring cabbage samples**

Dynamics of changes in the shapes of the heads of cabbages shown in the table 1. "Based on the experience of the selection research of summer white cabbage in the 2018, this year, the same samples have been planted in the control nursery, taking into account the superiority of the biological and productive indicators of the samples in the selection nursery, as shown in the figure 3. As can be seen from the figure, the yield in samples numbered 17 and 25 is 320.0-325.0 c/ha, in samples numbered 21 and 24, it

is 330.0-335.0 c/ha, while in sample number 26 and the control variety, it has been 290.0 c/ha in Azerbaijan. as shown in the figure. When compared for productivity, sample #8/1 showed a higher yield of 202 kg/ha. On the other hand Figure 8d, it was observed that the quantity of obtained seeds in the Azerbaijani variety was higher by 36 grams. (Figure 4).

**Table 1. Dynamics of changes in the shapes of the heads of samples in the collection nursery**

Order number	Number of breeding samples' heads	Shapes of cabbage heads				
		Circular	circular-flat	Flat	oval	cone-shaped
1	№17	98,0	2,0	-	-	-
2	№21	94,0	6,0	-	-	-
3	№24	90,0	10,0	-	-	-



4	№25	87,0	13,0	-	-	-
5	№26	-	3,0	97,0	-	-
6	Azerbaijan			97.0		

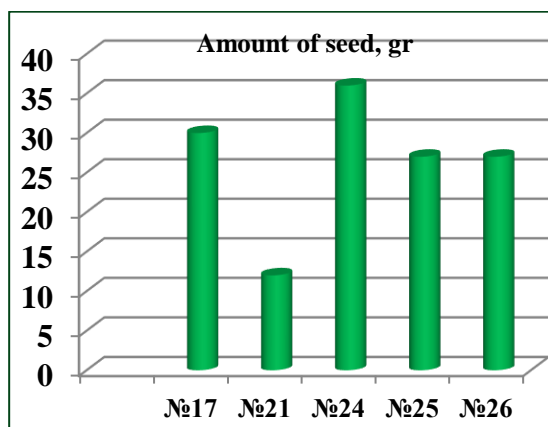
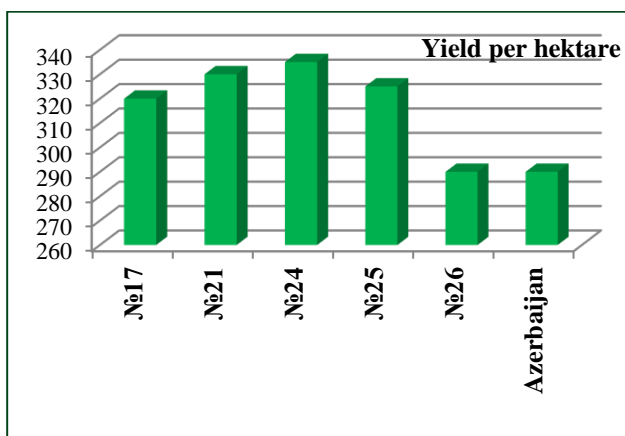


Figure 3. The yield of varietal samples in the collection pitomnik

Figure 4. Using the seed from the maternal selection sample that was planted one seed at a time in the collection nursery

The phenological variability of the competitive variety-trial nursery's variety samples is evident from the consecutive development phases among the variety samples in this nursery (Table 2). The analysis of

phenological observations is provided in during the research, a comparative analysis was carried out on the weight and productivity of the seedlings of white cabbage samples in a competitive sorting trial nursery.

Table 2. Phenological observations in the competitive variety trial nursery

Number of rows	Sample numbers	Mass output	Date		Number of days from mass exit	
			technical maturity		Until the beginning of technical maturity	Until mass technical maturity
			initial stage	massi		
1	№8/1	11.07	20.10	27.10	107	110
2	№13-4b	10.07	20.10	28.10	109	115
3	Azərbaycan	10.07	20.10	26.10	106	110

The quantity and productivity of seed obtained from the perennial summer white cabbage varieties subjected to a competitive sorting trial nursery:

Cabbage is primarily a biennial plant. In the first year of vegetation, the cabbage plant forms the main head. In the second year of vegetation, seed-bearing plants develop from these heads, which also flower and produce seeds. The seed of the cabbage plant consists of very segmented pods. Its seeds are small, large, thin, and come in various colors such as red, black, and brown.

The seeds can remain viable for 4-6 years without losing their germination percentage when stored under suitable conditions.

**Conclusion:**

Therefore, during research, in addition to other parameters in the selection of parental forms or their evaluation in breeding work, special attention should be paid to these indicators.

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