

# PENNISETUM GLAUKUM (L.) R. Br. IN KHOREZM SOIL-CLIMATE CONDITIONS

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## Abstract

This article gives information on the periods of development and growth processes of different cultivars Pennisetum Glaucum (L.) R.Br. in Khorezm soil and climate conditions.

**Keywords.** lawn, budding, flowering, ripening, genotype, early ripening, mid-ripening.

## Introduction

The productivity of plants depends on their biological properties, sufficient nutrient and water supply during the growing season, soil fertility and agrotechnical measures. Since plant species and varieties differ in terms of their genetic properties, vegetation duration, morphophysiological properties and shelf life, optimal agricultural techniques are used to effectively utilize their biological potential [1].

It is important to study the growth and development of the African paperthin plant during its ontogeny by growing it under specific soil and climatic conditions. Growth and development are the product of complex physiological and biochemical processes. These processes are continuously interconnected. Just as there is no development without growth, there is also no growth without development [2].

The growth of the organism, in turn, leads to its development. For example, an increase in plant height in turn leads to their development. As a result, stem, leaf and hereditary organs are formed in the plant. It is a product of development. In the growth and development process, plants go through different phases depending on their biological properties. This can be seen from the data in the table below (Table 1).

The development and growth processes in the varieties and lines of African safflower have been divided into the following periods: weeding, budding, flowering and maturing. The weeding phase is related to the growth of the plant seeds. Seed germination depends on many factors: quality, soil fertility, the amount of water it contains and especially the salinity [3,4].

Table 1 Afrika qo'nog'i genotiplarining rivojlanish fazalari

№	Variety and line	Phases, in days			
		Lawn	Fertilization	Flowering	Ripe
1	Khashaki-1	5	52	57	98
2	L-3	6	57	65	107



For most Khashaki 1 varieties of African gooseberries, the weeding phase began relatively early. The weeding phase for the Khashaki-1 variety began after 5 days. This means that the Khashaki-1 seed germination is achieved relatively quickly. It was found that the grass phase began on the sixth day of vegetation at the L-3 line of African gooseberry. The fertilization phase was recorded for the variety Khashaki-1 o'clock 52nd day of vegetation and for the variety L-3 o'clock 57th day. The flowering phase was recorded on the 57th day of the growing season for the variety Khashaki-1 and on the 65th day for the variety L-3. The ripening period was 98 days for the Khashaki-1 variety of the African guest and 107 days for the L-3 variety. Based on these data, the African host variety Khashaki-1 was identified as an early L-3 line and an intermediate line. These data were also given by O. Kh. Confirmed by Yunusov in his scientific research [4].

African broom is one of the new plant species that have been surveyed in our country. The results of the study of the growth and development processes of African gooseberries are presented below (Table 2).

Table 2 Growth dynamics of the African guest

Variety and line	In one plant (average)			
	Plant weight,g	Plant height, sm	number of leaves, piece	Leaf length, sm
After the germination phase (1-2 leaves are producedhida)				
Khashaki-1	0,56	7,85	2,00	6,48
Minimum	0,47	4,40	1,00	3,30
Maximum	0,63	10,10	3,00	7,80
L-3	0,53	6,95	2,5	5,38
Minimum	0,46	4,42	1,00	3,4
Maximum	0,60	11,5	4,00	7,70
Bushing stage				
Khashaki-1	0,67	19,53	3,7	10,12
Minimum	0,22	13,50	2,00	5,00
Maximum	1,68	30,20	5,00	20,00
L-3	0,91	19,35	3,0	13,10
Minimum	0,42	12,40	2,00	4,5
Maximum	1,40	28,3	6,00	22,2
Tubing stage				
Khashaki-1	4,79	48,15	7,63	20,33
Minimum	1,50	35,90	6,00	6,40
Maximum	10,80	64,50	11,00	30,10
L-3	5,60	46,10	7,50	17,30
Minimum	1,40	34,90	5,00	5,40
Maximum	9,80	62,50	10,00	29,20
Flowering phase				
Khashaki -1	168,3	144,60	8,04	57,11
Minimum	91,5	115,3	6,0	27,0
Maximum	259,0	137,0	12,0	75,1
L-3	198,1	142,10	8,0	49,1
Minimum	95,5	95,6	7,0	30,0
Maximum	245,2	207,0	11,0	68,1

Analysis of this data shows that African broom develops slowly in the early stages of the growing season. This is one of the mechanisms for adapting plants to the external environment. The height of African corn after germination (when 1-2 leaves were formed) was 7.85 cm in the Khashaki-1 variety and 6.95 cm in the L-3 line. When comparing these data, the difference between genotypes in the initial period of vegetation was not real. This is also shown by the statistical data in the table. The same result was recorded for leaf indicators. The leaf length was 6.48 cm for the Khashaki-1 variety and 5.38 cm for the L-3 variety. From these data it can be seen that there is no difference between genotypes in the early growing season. No difference was found between African gooseberry genotypes in the formation of 3-5 leaves. During this period, the height of the Khashaki-1 variety was 19.53 cm, while the height of the L-3 line was 19.35 cm. If you compare these data, you can see that there is no difference between them. During this period, leaf length was 10.12 cm in Khashaki-1 and 13.10 cm in L-3. Leaf growth in L-3 increased faster than in Khashaki-1. No significant difference between genotypes was observed during the tuber formation and flowering phases. At the beginning of the tubulation phase, the height of the Khashaki-1 variety was 48.15 cm, while for the L-3 variety it was 46.1 cm. No difference between genotypes was detected at this stage.

At the beginning of the flowering phase, the African gooseberry varieties grew rapidly. This can be seen from the data in the table. The height of the Khashaki-1 variety was 144.6 cm, while in the L-3 line this indicator was 142.1 cm. During this phase, the vegetative mass of the plant increased. The weight of a plant of the Khashaki-1 variety was 168.3 g, while for the L-3 variety it was 198.1 g. In the flowering phase, the number of leaves formed by the plant was 8 in the Khashaki-1 variety and in the L-3 line. The leaf length was 57.11 cm in Khashaki-1 and 49.1 cm in L-3 (Table 2).

In general, African broom genotypes evolved slowly early in the growing season. At the beginning of the tuber formation phase and the flowering phase, the plant developed rapidly and recorded its maximum performance. At this point, the plants had formed an average of 8 leaves and the mass of the plant was 168–198 g. According to the length of the growing season, the Khashaki-1 variety of the African bush was found to be early ripening, and the L-3 line is a medium-ripening variety. It was found that the African variety Khashaki-1 can be used as a repeated crop in the soil and climatic conditions of Khorezm.

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