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DESCRIPTION OF MORPHOJOICAL SYMPTOM INDICATORS OF SOME BAMIYA SAMPLES IN THE COLLECTION OF THE SCIENTIFIC RESEARCH INSTITUTE OF PLANT GENETIC RESOURCES

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ABSTRACT

The article describes the results of a study of 30 samples from the collection of okra of the Research Institute of Plant Genetic Resources. In the studied samples, within the ecological-geographical groups, sharp differences in morphological characteristics were observed; in all groups, the length of the interphase period from the emergence of seedlings to the beginning of flowering did not show significant differences, but the number of bolls formed on one plant, as well as the length of fruit branches, had significant differences. It has been substantiated that the samples with high rates of morphological traits can be recommended for genetic and breeding studies.

KEYWORDS: *Bamia, Gambo, Gene Pool, Sample, Selection, Parallel, Genetic And Selection Research.*

INTRODUCTION

The growing demand for food in the world from year to year requires further expansion of agricultural production and a constant supply of high quality food products. This imposes important tasks on the agricultural sector and related sectors, and requires the proper integration of science, education and production.

According to the Food and Agriculture Organization of the United Nations (FAO), plant products make up 80 percent of the food consumed by humans, and the annual international trade turnover of agricultural products in the world is about $ 1.1 trillion. the bulk, or 82 percent, is food.

Nowadays, at a time when food security is a problem all over the globe, the importance of vegetable crops as well as grain crops is growing. It is known that the value of vegetable crops and their invaluable role in human nutrition, they need to consume an average of 70 g of livestock and 1,200 g of plant products per day to meet the demand for protein, carbohydrates, fats, vitamins and mineral salts necessary for optimal development and survival of the human body. For plant products, this figure is more than 63% of total consumption. Almost half of the consumption of plant products is required to be vegetable products.

The sharp rise in climate around the world in recent years has created certain problems in agriculture. This situation also affects the situation in the country. Therefore, the creation and introduction of new varieties of grain and vegetable crops that are resistant to climate change, adapted to different soil climatic conditions, resistant to diseases and pests, productive, high grain quality is one of the current challenges..

According to many researchers, in the context of global climate change, new agricultural plants, especially non-traditional plants, require in-depth study and implementation of morphological, biological, economic characteristics and cultivation technologies [2, 3, 4, 5].

Bamia, gambo (Hibiscus esculentus L.) is an annual plant belonging to the family Malvaceae. It grows up to 2.5 m in height. It looks like cotton with its appearance and flowering. Homeland - East African countries. Varieties are divided into groups that give vegetables and fiber. Fiber-producing varieties are grown in India, Africa and the United States. Unripe fruits are used in liquid dishes and salads in the form of vegetable greens. The fruit contains 3% protein, 0.5% fat, 8% carbohydrates, and ripe seeds contain 18% fat. The fruit can be eaten raw, used as a vegetable in liquid dishes and salads, cooked, fried, canned. The stem gives a white coarse fiber; artificial coffee is made from roasted seeds.

Bamia (Okra) is grown mainly in tropical, subtropical countries, North America, Southern Europe, Transcaucasia, Kirm, southern Ukraine, partly in Central Asia, Afghanistan, mainly as a vegetable crop.

Due to the favorable economic situation in the country in recent years, the population growth rate is growing, which directly leads to the need to modernize and accelerate the food program in the country. Okra is widely used in the food industry, and the diet of the peoples of Asia, Africa, and Latin America is important in providing them with protein. With this in mind, it is advisable to expand the area under okra. Cultivation of this crop is also very promising in our country, as it

does not incur large costs in the care of agro-technical measures and is also profitable for farmers..

In many countries, local varieties of okra have been created, their growth, development and yield have been studied and introduced into agricultural production. Therefore, it is advisable to conduct practical research on the okra plant, which is considered a promising non-traditional vegetable crop..

Based on the above considerations, we present the results of our research on 30 samples of okra grown in the experimental farm fields of the Plant Genetic Resources Research Institute in the 2020 season. The studies included phenological observations and laboratory analyzes using generally accepted methods. The obtained data were statistically processed by the method of B.A.Dospekhov [1]. The existing gene pool collection at UGRITI currently contains more than 340 specimens of okra.

Our main goal is to study, develop, preserve and discuss the prospects for the effective use of the biodiversity of the gene pool of okra crops, to study the implementation of the results achieved in this area and to ensure food security, to fill our markets with cheap and quality agricultural products. identifying current scientific research that needs to be done in the context of global climate change.

When analyzing the results obtained on the height of the first crop horn in all samples studied in our experiments, it was found that there was a significant difference between most samples in terms of location of the first crop horn in the studied sample plants, and the average mark was between 3.0 and 5.0 joints.

TABLE 1 DESCRIPTION OF MORPHOLOGICAL CHARACTERISTICS OF SOME SPECIMENS IN THE COLLECTION OF BAMIA (OKRA)

№	Catalog number	Name of samples	Botanical name	Origin	The first crop is the location of the horn, the joint	Number of growing branches, pcs	Number of harvested branches, pcs	A fruit on a bush plantsoni, dona	Fruit length on a single plant, cm	Head stem height, cm
					$X \pm S_x$		$X \pm S_x$	$X \pm S_x$		$X \pm S_x$
1	23	Anonymous	*Hibiscus esculentus*	USA	3,2±0,14	1,5	17,1±1,00	16,5±1,37	18,7	106,4±5,12
2	35	Anonymous	***Hibiscus esculentus***	**India**	3,0±0,10	1,5	16,0±0,59	17,1±1,15	15,2	91,2±3,79
3	41	Red Wonder	***Hibiscus esculentus***	**India**	3,4±0,16	1,0	16,8±0,96	15,2±1,62	15,8	103,7±5,28
4	58	Ladies Finger Green	*Hibiscus esculentus*	**India**	3,2±0,14	1,9	13,7±1,00	13,9±1,30	15,3	90,0±5,91
5	59	Local	*Hibiscus esculentus*	**India**	3,4±0,11	1,3	15,8±0,70	13,7±0,83	16,1	111,4±2,89
6	79	White Velvet	*Hibiscus esculentus*	Canada	3,6±0,17	1,1	19,7±0,79	16,8±1,23	19,3	115,0±5,11

7	86	Local	*Hibiscus esculentus*	Syria	4,0±0,26	2,5	16,0±1,52	14,5±1,27	21,7	98,7±5,75
8	100	Long Pod	*Hibiscus esculentus*	USA	3,6±0,18	0,4	19,6±0,91	17,2±1,33	18,5	121,0±3,54
9	105	**Early Dwarf**	*Hibiscus esculentus*	**India**	3,6±0,20	1,6	15,0±0,73	16,3±1,58	19,8	125,3±5,23
10	121	Anonymous	*Hibiscus esculentus*	USA	3,5±0,18	1,2	21,2±1,18	24,0±1,85	20,0	134,1±5,29
11	124	Anonymous	*Hibiscus esculentus*	Syria	4,5±0,24	1,7	19,0±0,58	12,6±0,92	15,0	123,3±2,71
12	144	Anonymous	*Hibiscus esculentus*	**India**	4,5±0,27	1,0	16,3±0,92	13,2±1,50	17,8	128,5±4,62
13	145	Anonymous	*Hibiscus esculentus*	Bulgaria	4,8±0,31	1,9	15,8±0,57	11,4±0,98	18,1	110,0±7,48
14	165	Pusa Sauani	*Hibiscus esculentus*	**India**	3,7±0,18	1,6	15,7±0,42	16,7±1,30	18,3	116,0±5,08
15	175	Anonymous	*Hibiscus esculentus*	Turkey	5,0±0,27	1,8	18,2±0,84	17,5±2,15	14,5	141,6±5,49
16	185	Local	*Hibiscus esculentus*	Sudan	5,0±0,22	2,7	16,4±0,85	13,8±1,16	11,7	123,7±4,68
17	194	Anonymous	*Hibiscus esculentus*	Tunisia	4,6±0,28	2,1	17,5±1,02	17,6±1,84	19,1	129,2±3,66
18	236	Anonymous	*Hibiscus esculentus*	Syria	4,6±0,29	1,9	18,6±1,34	15,7±2,07	17,6	125,8±6,52
19	254	Local	*Hibiscus esculentus*	Nepal	4,4±0,26	1,9	18,4±0,92	17,2±1,57	16,3	115,3±3,88
20	276	Anonymous	*Hibiscus esculentus*	Burkina Faso	4,6±0,44	2,5	13,2±0,65	15,0±1,77	15,8	100,0±8,02

From these data, it was found that the highest index for the height of placement of the first crop horn was in the catalog number 124, 144, 145, 175, 185, 194, 236 and 276 sample plants (4.5-5.0 joints) and according to this indicator the catalog number 23, 35, 41, 58, 59, 105, and 121 were observed to be higher in the 1.3–1.5 joint range compared to the sample plants. The lowest index catalog number 23, 35, 41, 58 and 59 (3.0–3.4 joints) in terms of the height of the location of the first crop horn was recorded in the sample plants (Table 1). This is a positive result on this character under study.

It should be noted that almost no significant differences were observed among all the sample plants studied in our study on the number of growth branches.

From the given data it can be seen that the number of yielding branches in all studied sample plants was on average in the range of 13.25-21.2. The highest values were observed in the catalog number 23, 41, 79, 100, 121, 124, 175, 185, 194, 236 and 254 sample plants from 16.4 to 21.2 units. It should also be noted that this situation was observed in terms of the number of pods in a single plant.

In all the sample plants studied during the study, the average number of pods per bush was 8.8-24.0. In the samples, the lowest average value for this feature was observed in the catalog number 46, 249 and 339 samples of 8.8-10.2 units. The number of pods in a single plant was high, the catalog number 23, 35, 41, 79, 100, 105, 121, 165, 175, 194, 236 and 254 specimens were distinguished.

Also, during the analysis, when analyzing the yield of branches in a single plant by length, it was observed that the average values of the mark in all sample plants ranged from 11.7 to 21.7 cm, and the lowest value for this mark (11.7-15.0 cm) catalog number In samples 124, 175 and 185, including the highest figure, the catalog number was in the range of 18.1-21.7 cm in samples 23, 79, 86, 100, 105, 121, 145, 165 and 194.

In all the sample plants studied during the study, special attention was paid to the height of the head stem. According to the results obtained during the study, there was a sharp change in the head stem height indicators in relation to the samples. The average values of this mark in all studied sample plants were 88.0–134.1 cm. and the catalog number averaged 121.0-141.6 cm in samples such as 100, 105, 121, 124, 144, 175, 185, 194, and 236, and the catalog numbers were 35, 41, 58, 86, and 276. can be seen from the data in the table that it is 31.0–37.9 cm higher than in such specimens.

Based on the analysis of the data obtained, it can be concluded that in the samples studied and isolated during the period from the emergence of seedlings on morphological features to the flowering period in all groups in relatively similar periods, the number of pods in one bush and the length of branches in one bush - sharp differences were observed within geographical groups. In particular, in parallel with the increase in the number of branches in each sample, the height of the head stem, the length of the branches in a bush, as well as the number of branches in a bush. It follows that specimens with high morphological characteristics can be recommended for genetic and selection research.

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