

VARIABILITY OF CERTAIN MORPHO-FARM CHARACTERS IN NEW RIDGES

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Abstract

In this state, the results of the research, carried out in the conditions of medium-salt soil, where the vegetation period of the newly created line with the economic parameters of the plant is 112.2 to 115.2 days, and it is fast-growing compared to the standard variety S-6524. The largest mass of cotton in the box is 6.9 g in the T-1006 line, the smallest is 5.8 g in the T-1050 line, which corresponds to the standard type, the rest of the lines are in intermediate positions. Po masse 1000 zeren, standard type with long fiber and output fiber.

Keywords: COTTON plant, plant growth, crop branches, articulation of crop branches, precocity, yield, fiber yield, weight of 1000 seeds, yield, breeding, seed production, varieties.

Introduction

One of the urgent tasks of plant growing and agriculture in Uzbekistan and around the world is the use of simple, convenient and low-cost selection methods in breeding work, the creation of varieties that are resistant to salinization and saline soils, have high productivity, yield, early maturity and retain other valuable economic characteristics. As is known, high-yielding cotton plants develop only from healthy, fully matured, rich in grains, well-preserved and well-prepared seeds for sowing. Today, global changes in the ecological balance in the world also affect the cotton-growing industry, which is of great importance in the economy. The main attention in the world is paid to the creation of new varieties of cotton that have natural resistance to various stress factors, productivity and high fiber quality. This requires the widespread use of the potential of wild and semi-wild cotton species in breeding and genetic processes in our republic, and in this regard, special attention is paid to increasing the yield and quality of cotton without expanding the sown areas. Based on the program activities implemented in this direction, certain results have been achieved, including important results in the creation of new early-ripening, high-yielding, high-fiber, stress-resistant varieties of cotton. The creation of new varieties of cotton that meet modern requirements requires the development of theoretical foundations of selection, improvement of its methods, that is, the creation of unique new donors based on the use of new methods. It is known that quantitative

traits of cotton are polygenic in nature, arise under the additive and non-additive influence of genes and can change under the influence of the external environment [1-2-3].

In particular, the precocity of cotton, like all seed plants, is determined by a strict sequence of phases and stages of development - from the awakening of vital force in the seed to the formation of the seed coat and the opening of the first capsule (fruit) on the capsule. In this case, it is necessary to take into account the rate of successive opening of the capsules on the capsule, as well as the overall yield before the onset of frost. The trait of early maturity is a hereditary trait that is passed on from generation to generation and directly depends on the external environment and agricultural practices, whereas productivity depends mainly on agricultural practices and the heredity of the lines being studied [4].

METHODS OF THE INVESTIGATION

The experimental field is located on the Shurazak swamp in Mirzachul, developed from the old and close (1.5-3.0 m) to the groundwater level, the mechanical composition of the soil is medium arable layer, the lower layers are light loam, slightly saline irrigated meadow-gray soils located on loess-like sediments.

The Shurazak swamp occupies the southwestern part of the second terrace of the Syrdarya.

The research was carried out on the basis of a breeding system adopted at the Syrdarya scientific experimental station SRIASSCC in conditions of medium saline soils (irrigation scheme 0-1-0).

Some morphobiological and economically valuable traits were studied in the newly created lines. During the research, phenological observations and a study of economically valuable traits were carried out in a field experiment on morphobiological traits in comparison with the standard variety S-6524.

RESEARCH RESULTS

One of the requirements for a variety suitable for machine cotton harvesting is the height of the plant. And the height of the tested rows varies from 106.3 cm to 114.6 cm, the highest height is 114.6 cm for the T-1001 type, the smallest is 106.3 cm for the T-1045 type, and the rest of the rows are available. Ustanovleno, chto sort khlopchatnika S-6524, shareholding and testing and kachestve obraztza, height 110.3 cm. The coefficient of variation of data is 5.14% to 6.10%. Table 1 shows that the yield by the sign of branch distribution (hs) in the variety sample was 7.1, while the height of the branches varied from 5.9 to 6.9. The variation of the coefficient is the standard 3.11%, and the new line is 5.04% to 6.07%.

Phenological observations showed that the studied lines by the number of fruit branches varied from 14.2 (T-1017) to 15.8 (T-1003). It has a standard indicator of 12.4 fruit branches, which is in the middle of all the lines (Table 1). The number of panicles on plants in the standard was 14.4, and the best indicators in the line were 22.3; 22.8 panicles in the line T-1050; T-1051; T-1002. A slightly higher indicator was 18.0; 19.6 pcs. (T-1016 and T-1006) by significantly higher than in the variety (table 1).

Table 1 Variability of some morphobiological traits in new lines

№	Name of varie-ties	Plant height (cm)		The location of the horn of the harvest (hs)		Harvest of soya beans (pieces)		Number of pods per plant (pieces)	
		M±m	V%	M±m	V%	M±m	V%	M±m	V%
1	S-6524 (st)	110,3±1,07	3,38	7,1±0,97	4,25	12,4±2,08	4,22	14,4±1,10	3,15
2	T-1001	114,6±1,68	5,14	6,6±2,67	6,07	17,2±2,30	3,80	20,2±1,20	4,12
3	T-1002	110,1±0,34	5,24	6,9±0,85	5,04	14,8±2,14	3,87	22,8±1,22	3,98
4	T-1003	108,4±1,90	6,10	6,8±1,64	5,24	15,8±2,64	3,70	21,2±1,32	4,14
5	T-1006	110,5±1,01	5,87	6,2±1,00	5,61	15,0±2,17	4,12	19,6±1,24	5,01
6	T-1016	111,8±0,03	2,24	6,5±0,78	5,69	14,7±2,16	4,97	18,0±1,02	4,21
7	T-1017	115,8±1,41	6,03	5,9±0,62	5,20	14,2±1,98	3,54	21,2±1,64	4,30
8	T-1045	104,3±0,25	6,80	6,2±1,48	5,62	16,8±2,41	4,87	22,3±1,34	4,32
9	T-1050	113,2±1,08	5,80	5,9±0,02	5,91	15,4±1,12	4,12	21,6±1,41	3,95
10	T-1051	108,4±0,18	5,65	6,1±0,12	5,17	15,4±1,12	4,12	20,6±1,41	3,95

Today, in the field of cotton, valuable economic traits, namely fiber yield, cotton weight per boll, productivity and 1000-seed weight, are the main elements determining the productivity of a cotton variety.

Our scientists are conducting a number of studies to study the genetic nature of these traits. Having studied the genetic nature of these traits, it is the most important task to determine how they are inherited from generation to generation.

The created variety should not only be highly productive, but also have a high level of fiber quality. Taking these indicators into account, we compared the lines with the standard variety in our experiment.

According to the valuable economic traits presented in Table 2, namely, the vegetation period of the standard cotton variety S-6524, this indicator was 120.2 days, and the coefficient of variation was 3.80%. The intervals between 112.4 and 115.2 days were observed in the rows, with the earliest ripening occurring in rows T-1006, T-1045 and T-1050 at 112.4 days, and the slightly later ripening occurring in row T-1016 at 115.2 days. The coefficient of variation was observed in the range of 3.35-6.01 percent.

The weight of cotton per boll in the S-6524 variety, which participated as a standard variety, was 5.8 grams, while the highest indicators among the rows were in rows T-1006 (6.9 g), T-1001, T-1017 and T-1045, which were all 6.8 grams, and only the T-1050 row had the same appearance as the standard variety. The coefficient of variation in the standard variety was 2.90%, and in the lines it ranged from 4.21% to 6.60% (Table 2).

The weight of 1000 seeds in the standard variety was 110.0 grams, and the coefficient of variation was 1.50%. All lines were also distinguished by their higher weight compared to the standard. It was found that the T-1017 line had the highest indicator, amounting to 130.0 grams. A slightly lower value was observed in the T-1002 series and amounted to 117.5 grams. The remaining samples were located between these series. The variation coefficient within the series varied from 5.64 to 8.25%.

The standard fiber length in the series was 33.1 mm with a variation coefficient of 3.52%, and in the series - from 36.7 mm to 37.5 mm with a variation coefficient of 3.42 to 5.01%.

Table 2 Variability of some economic indicators of the new series

№	Lists	Growing season (days)		Cotton weight per bag (g)		Mass 1000 seeds (g)		Dlina fiber (%)		Fiber germination (%)	
		M±m	V%	M±m	V%	M±m	V%	M±m	V%	M±m	V%
1	S-6524 (st)	120,2±1,00	3,80	5,8±0,36	2,90	110,2±1,40	2,50	33,1±1,30	3,52	35,0±1,23	2,1
2	T-1001	114,1±1,28	5,20	6,8±0,96	4,21	122,5±0,85	7,02	36,7±0,98	4,62	37,4±2,30	5,8
3	T-1002	113,2±1,15	5,84	6,5±0,52	5,21	117,5±0,85	7,20	37,0±1,31	4,97	37,0±3,41	5,8
4	T-1003	114,4±1,21	6,21	6,4±0,43	5,40	123,7±1,30	6,35	37,2±0,67	4,21	36,4±1,24	4,9
5	T-1006	112,4±1,81	7,86	6,9±1,01	6,29	125,0±1,25	5,64	36,9±1,64	3,42	38,2±1,64	4,11
6	T-1016	115,2±1,22	7,62	6,6±0,97	6,64	122,5±1,57	7,08	37,3±1,85	4,38	37,7±2,01	5,14
7	T-1017	113,2±1,42	5,01	6,8±0,93	6,21	130,0±1,32	8,25	37,0±1,45	4,25	37,0±1,54	6,08
8	T-1045	112,4±1,51	6,35	6,8±0,54	5,94	122,5±1,40	7,35	37,5±1,38	5,01	37,0±1,69	4,41
9	T-1050	112,4±1,40	7,10	5,8±0,34	5,65	123,5±1,61	6,05	37,1±1,25	4,55	37,0±2,34	4,32
10	T-1051	112,8±1,12	6,07	6,2±0,47	5,07	124,5±1,22	7,69	36,8±1,39	3,87	37,0±1,85	5,12

The main goal of cotton cultivation is to obtain high-quality fiber, and in this case it is important that cotton varieties have a high yield. Among the lines participating in the study, the highest fiber yield was 38.2% in the T-1006 line, the lowest - 36.4% in the T-1003 line, the remaining lines occupied an intermediate position, while this figure was 35.0% for the standard variety. From this it can be seen that all lines have a higher fiber yield than the standard grade (Table 2).

CONCLUSION

As a result, the height of plants in rows ranged from 106.3 cm to 114.6 cm, with the greatest height being 114.6 cm in row T-1001, and the smallest being 106.3 cm in row T-1045. The score of the arrangement of productive branches (hs) was 7.1 for the Tsikh variety, while the score in rows was 5.9–6.9. Phenological observations showed that the number of productive branches was from 14.2 (T-1017) to 15.8 (T-1003). This score was 12.4 productive branches for the Tsikh variety, which was the lowest of all the rows. The number of corms per plant was 14.4 for the Tsikh variety, and the best scores in rows were received by varieties T-1050; in lines T-1051; T-1002 — 22.3; 22.8 bolls were found, respectively. Of the valuable economic traits, the vegetation period of the newly created lines was from 112.2 to 115.2 days, and they were distinguished by earlier ripening compared to the standard variety S-6524. The largest cotton weight per boll was 6.9 g for the T-1006 line, the smallest - 5.8 g for the T-1050 line, which corresponds to the standard variety, the remaining lines occupied intermediate positions. The indicators of 1000-kernel weight, fiber length and fiber yield also showed their superiority over the standard variety.

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