ANALYTICAL STUDY ON THE ECONOMIC CHARACTERS OF NEW AND COMMERCIAL EGYPTIAN COTTON VARIETIES

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Abstract

Data were based on the Regional Contton Variety Tests on yield and yield components for the three successive years; 1992-1994 available for the three regions; North Delta, Central and Southern Delta and Upper Egypt. The sets of varieties tested differed from region to region.

Results indicated that there were no obvious location effect on most studied traits in each of the three regions. Most of the local cultivars held their level of superiority for most studied traits at the restricted zone for their cultivation. The two newly released varieties Giza 87 (G.77 x G.45A) and Giza 88 (G.77 x G. 45B) succeeded to compete with extra long staple cultivars in North Delta region. The potential future cultivar, Giza 86 (G.75 x G.81) could be a good alternative of long staple cultivars grown in Central and Southern Delta region.

INTRODUCTION

In Egypt, cotton cultivars are allocated to areas best suited for their growth, with respect to yield and quality. It is important to determine varieties to be planted in a given locality because of the fact that certain varieties are best suited for given locality in terms of yield and quality of fiber.

Environmental conditions may vary from one location to another and / or from year to year. In spite of the apparently uniform conditions within each of the three regions (North Delta, Central and Southern Delta and Upper Egypt) where cotton is

grown in Egypt over an area that extends longitudinally about 700 Km, fluctuations in yield remain the largest problem facing cotton production in these regions. Thus, it is of great importance to study the behaviour of commercial as well as the promising strains in yield trials in different locations and different years.

Performance of cotton varieties under different environments was studied by several workers, i.e. Abdel-Dayim et al. (1982), El-Hanafi et al. (1982), El-Okkia et al. (1982), Abdel-Salam et al. (1985), Megahed et al. (1986), Nsrallah (1987), Sallam et al. (1990), Abo El-Zahab et al. (1992), El-Zik and Thaxton (1992), Abdel-Rahman et al. (1994) and El-Akhdar (1995).

The aim of present investigation was to compare newly released varieties developed by the Cotton Res. Inst., with the correspondant commercial varieties which could be replaced when degeneration occurs either in their yield or fiber characteristics in Delta and Upper Egypt.

MATERIALS AND METHODS

The materials consisted of eleven commercial varieties and four promising varieties of Egyptian cotton grown in the regionsl North Delta, Central and Southern Delta and Upper Egypt for the three successive years, 1992, 1993 and 1994 as follows :

1. Northern Delta (where the extra long staple varieties are planted) at El-Beheira, Kafr El-Sheikh and Damietta, where an adapted group of five cultivars, i.e. Giza 45, Giza 70, Giza 76, Giza 77 and Giza 84 as well as two potential future varieties, i.e. Giza 87 (G. 77 x G. 45 A) and Giza 88 (G. 77 x G. 45 B) were tested.

2. Central and Southern Delta (where long staple varieties are grown) at El-Gharbia, El-Dakahlia and El-Sharkia, where the three located cultivars, Giza 75, Giza 81 and Giza 85 and the two promising varieties, Giza 86 (G. 75 x G. 81) and Giza 89 (G. 75 x Rus. 6022) were evaluated.

3. Upper Egypt (where long staple varieties adapted for heat stress are grown) at El-Fayoum, Asyut and Souhag, where Giza 83, Giza 80, Dendera, Giza 75 and Giza 85 cultivars were tested.

A latin square design was followed in each test. The plots were 10 rows each of 4.0 m long and 60 cm apart. Distance between hills was 20 cm and each hill was thinned to two plants. Sowing date was as the optimum date of each location. Normal cultural practices were followed. Varieties were evaluated for lint cotton yield in Kentar per feddan (L.C.Y.), boll weight (B.W.), seed index (S.I.), lint percentage (L.P.), micronaire reading (Mic.), 2.5% span length in mm. (2.5 % S.L.) and yarn strength (Y.St.).

Combined analysis over three years at each location and over all the three years and three locations for each region were performed for each of the studied traits as outlined by Le Clerg et al. (1962). The significance between varietal means were tested using the Duncan's Multiple Range methods.

RESULTS AND DISCUSSION

1. North Delta :

Averages of the studied traits for three years at each location and combined over all the three years and three locations are given in Table 1. Results revealed that significant differences were observed among varieties for all studied traits at each of the three locations and in the combined data except for boll weight at Kafr El-Shaikh and Damietta and also in the combined data for 2.5% S.L. at Damietta. Most of the three interaction sources of variance were statistically non significant for the studied traits. The seven varieties under study are highly selected group that have survived testing throughout the region for long period of time. Such varieties are expected to be more widely adapted and show less variety x environment interactions. Most of these varieties are still in cultivation. The two new promising varieties, Giza 87 and Giza 88 originated from hybridization between the two original genotypes, Giza 45 and Giza 77.

Comparisons among varieties for the studied traits showed that most of these varieties ranked the same in their performance at each of the three locations. The extra long variety, Giza 88 (G.77 x G. 45 B) produced the highest lint yield that exceeded significantly all commercial cultivars except Giza 77. However, at Kafr El-

Table 1. Averages of studied traits over three years at each location and the combined over all the three years and three locations in North Delta region.

Cultivars	L.C.Y. (K/F)	B.W. (g)	S.I. (g)	L.P. (%)	Mic.	2.5% S.L. (mm)	Y. St.	L.C.Y. (K/F)	B.W. (g)	S.I. (g)	L.P. (%)	Mic.	2.5% S.L. (mm)	Y. St.
	El-Beheira							Kafr El-Sheikh						
G. 87	7.96 c	2.65 b	9.62 c	33.7 d	3.17 c	34.5 ab	2641.9 bc	8.01 cd	2.48	9.78 ab	34.5 d	2.81 e	34.2 a	2890.0 a
G. 88	10.90 a	3.00 a	10.35 a	38.7 a	3.68 a	34.2 bc	2690.0 bc	10.13 a	2.65	9.72 bc	38.5 a	3.62 a	33.5 b	2636.2 c
G. 84	9.54 b	2.72 b	10.41 a	35.2 bc	3.62 a	32.6 d	2739.2 ab	8.82 bc	2.48	10.01 a	35.5 bc	3.24 c	32.0 c	2805.0ab
G. 45	6.18 d	2.61 b	10.26 a	34.4 cd	3.11c	35.3 a	2620.9 c	6.61 e	2.56	9.89 ab	35.0 cd	3.14 cd	34.5 a	2680.9 c
G. 70	9.49 b	2.87 a	10.20 a	37.9 a	3.70 a	34.8 ab	2613.4 c	9.02 b	2.69	9.58 cd	37.9 a	3.47 b	34.4 a	2724.2 bc
G. 76	8.53 c	2.92 a	9.95 b	36.0 b	3.36 b	34.5 abc	2832.5 a	7.63 d	2.61	9.35 d	36.4 b	3.30 c	34.0 ab	2886.7 a
G. 77	10.01 ab	2.80 ab	10.39 a	38.7 a	3.68 a	33.8 c	2625.9 c	9.15 ab	2.52	9.65 c	38.4 a	3.42 b	33.5 b	2801.0 ab
F. test for :														
Cultivars	**	*	*	**	*	**	*	*	N.S.	**	*	**	**	*
Var. x Years	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	*	*	*	N.S.	N.S.	N.S.	N.S.	N.S.
	Damietta							Combined						
G. 87	6.93 d	2.48	9.66 a	34.0 d	3.03 c	33.8	2754.2 b	7.64 c	2.54	9.90 ab	34.0 e	3.00 d	34.2 ab	2762.1 ab
G. 88	8.95 a	2.62	9.60 ab	38.9 a	3.32 b	33.4	2702.7 b	10.00 a	2.76	9.89 ab	38.7 a	3.54 a	33.7 b	2676.3 b
G. 84	8.82 ab	2.52	9.79 a	35.2 c	3.34 b	32.6	2880.9 a	9.05 b	2.57	10.07 a	35.3 d	3.40 b	32.4 c	2808.4 a
G. 45	6.57 d	2.41	9.64 a	34.6 cd	3.01 c	34.0	2746.5 b	6.44 d	2.53	9.93 a	34.7 de	3.09 d	34.6 a	2682.8 b
G. 70	8.04 bc	2.61	9.43 bc	36.9 b	3.52 a	33.7	2788.5 ab	8.85 b	2.73	9.74 b	37.6 b	3.56 a	34.3 ab	2708.7 b
G. 76	7.29 cd	2.54	9.33 c	36.4 b	3.03 c	33.3	2708.2 b	7.81 c	2.69	9.54 c	36.3 c	3.23 c	34.0 ab	2809.2 a
G. 77	9.13 a	2.58	9.73 a	38.6 a	3.34 b	33.3	2778.4 b	9.42 ab	2.63	9.92 a	38.6 a	3.48 ab	33.6 b	2735.1 ab
F. test for :														
Cultivars	*	N.S.	*	**	*	N.S.	*	**	N.S.	*	**	*	*	*
Var. x Years	*	*	N.S.	N.S.	N.S.	N.S.	*	*	*	N.S.	N.S.	N.S.	N.S.	*
Var. x Location	-	-	-	-	-	-	-	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Var. x Y. Loc	-	-	-	-	-	-	-	*	N.S.	N.S.	*	N.S.	N.S.	*

- Means followed by the same letter or letters within the column can not be considered significantly different at the 0.05 level of probability.

* Significant at 0.05 level ** Highly significant at 0.01 level N.S. Not significant

Shaikh, where Giza 77 cultivar is usually planted, it possessed higher quality than the promising variety Giza 88. Its lint was rather finer and stronger. Comparing the promising variety Giza 88 with Giza 70 it can be seen from the data presented in Table 1, that the former produced higher yield at the three locations and in the combined data. It was also higher in lint percentage at Damietta and in the combined data. However, they were almost similar in lint properties except at Kafr El-Sheikh where Giza 70 was rather longer and finer and at Damietta where Giza 88 was rather finer.

Regarding the extra long Giza 45 cultivar and the promising variety Giza 87 (G. 77 x G. 45 A), the potential future variety, Giza 87 exceeded the commercial variety Giza 45 in lint cotton yield by 1.8 k/f (28.8%), 1.4 K/f (21.2%), 0.4 k/f (5.5%) and 1.2 k/f (18.6%) at El-Beherira, Kafr El-Sheikh, Damietta and in the combined data, respectively. They possessed the same characteristics of lint properties at all locations. Besides, the promising variety Giza 87 gave finer lint and stronger yarn than Giza 45 cultivar at Kafr El-Sheikh site.

Giza 84 cultivar exceeded significantly both of the two cultivars Giza 45 and Giza 76 in lint cotton yield. But it was relatively similar in yield to Giza 70 and Giza 77. Giza 84 variety had yarn strength comparable to that of extra long staple varieties. Perhaps the most important characteristic of that variety is its exceptional fiber strength. On the other hand, Giza 84 variety was of shorter length than all the other extra long staple cotton varieties.

2. Central and Southern Delta :

Averages of the studied traits for the three years at each location and the combined of the three years and three locations are given in Table 2. Results revealed that significant differences were observed among varieties for all studied traits at each of the three locations except for boll weight at El-Gharbia and micronaire reading at El-Dakahlia and El-Sharkia. The combined analysis also indicated significant differences for all characters except boll weight and micronaire values. Most of the three interaction terms were statistically nonsignificant for almost all the studied traits. This is due to the fact that varieties were grown in their best locations after many years of varietal tests.

Each of the promising long staple varieties, Giza 86 (G. 75 x G. 81), Giza 89 (G. 75 x Rus. 6022) and the newly released variety Giza 85, surpassed the commercial variety Giza 81 in lint yield at El-Gharbia and El-Dakahlia and also in the

Table 2. Averages of studied traits over three years at each location and the combined over all the three years and three locations in central and Sothern Delta region .

Cultivars	L.C.Y. (K/F)	B.W. (g)	S.I. (g)	L.P. (%)	Mic.	2.5% S.L. (mm)	Y. St.	L.C.Y. (K/F)	B.W. (g)	S.I. (g)	L.P. (%)	Mic.	2.5% S.L. (mm)	Y. St.
	El-Gharbia							El-Dakahlia						
G. 86	10.56 a	2.95	10.75 a	39.4 a	3.82 ab	32.5 a	2251.7 a	12.24 a	3.11 a	10.82 a	39.7 a	3.86	32.3 a	2348.5 a
G. 89	11.36 a	2.78	9.35 b	38.5 b	3.84 ab	30.5 b	2009.2 b	12.46 a	2.85 b	9.29 b	38.6 b	3.90	30.8 b	2248.4 b
G. 85	11.00 a	2.88	10.32 ab	39.1 ab	3.73 b	29.2 c	2163.4 a	12.65 a	3.09 a	10.31 a	39.8 a	3.82	29.6 c	2360.9 a
G. 75	10.97 a	2.95	10.52 a	38.7 b	3.91 a	30.9 b	2189.2 a	10.86 b	3.01 a	10.40 a	38.9 b	3.80	30.4 b	2345.0 a
G. 81	9.55 a	2.86	9.91 b	38.7 b	3.94 a	30.2 b	1962.5 b	10.47 b	3.05 a	10.25 a	38.8 b	3.94	30.3 b	2200.9 b
F. test for														
Cultivars	*	N.S.	*	*	*	**	*	*	*	*	*	N.S.	*	*
Var. x Years	**	N.S.	N.S.	N.S.	*	N.S.	N.S.	*	N.S.	N.S.	N.S.	**	N.S.	N.S.
	El-Sharkia							Combined						
G. 86	11.77 ab	2.75 ab	10.11 a	38.9 a	3.63	31.9 a	2365.9 a	11.51 ab	2.94	10.56 a	39.3 a	3.77	32.3 a	2321.7 a
G. 89	11.96 a	2.58 c	9.00 b	36.8 b	3.61	30.4 b	2093.4 c	11.93 a	2.76	9.21 d	38.0 b	3.78	30.6 b	2117.0 b
G. 85	11.90 a	2.75 ab	9.40 b	38.7 a	3.54	29.1 c	2304.2 ab	11.86 a	2.91	10.01 b	39.2 a	3.70	29.3 c	2276.2 a
G. 75	10.81 b	2.81 a	10.01 a	37.0 b	3.62	30.2 b	2302.5 ab	10.85 bc	2.92	10.31 ab	38.2 b	3.78	30.2 b	2278.9 a
G. 81	11.36 ab	2.69 b	9.36 b	38.2 a	3.65	30.0 b	2253.4 b	10.46 c	2.87	9.84 c	38.6 ab	3.84	30.0 b	2139.0 b
F. test for														
Cultivars	*	**	*	**	N.S.	*	**	*	N.S.	*	*	N.S.	*	**
Var. x Years	N.S.	N.S.	*	N.S.	*	N.S.	N.S.	*	N.S.	N.S.	N.S.	*	N.S.	N.S.
Var. x Location	-	-	-	-	-	-	-	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Var. x Y. Loc	-	-	-	-	-	-	-	*	*	N.S.	N.S.	**	N.S.	*

- Means followed by the same letter or letters within the column can not be considered significantly different at the 0.05 level of probability.

* Significant at 0.05 level ** Highly significant at 0.01 level N.S. Not significant

combined data. The promising variety Giza 86 was significantly higher in lint percentage than the other two cultivars, Giza 75 at each of the three locations and in the combined data and Giza 81 at El-Gharbia and El-Dakahlia. Also, Giza 85 cultivar exceeded significantly both of the two cultivars, Giza 75 at El-Dakahlia and El-Sharkia and also in the combined data and Giza 81 at El-Dakahlia in lint percentage, As for fiber length, the promising variety, Giza 86 surpassed all the other long stapl varieties studied at each of the three locations and also in the combined data (Table 2).

3. Upper Egypt :

Regarding the long staple varieties grown in Upper Egypt, the averages of the studied traits for three years at each location and combined over all data are given in Table 3. Results revealed that significant differences were observed among varieties for all studied traits at each of the three locations and also in the combined data except for boll weight at each of the three locations and also in combined data, seed index in the combined data and micronaire reading at El-Fayoum and in the combined data. The effects of both years and locations were almost equal for all varieties. Most of the studied traits were slightly affected by the environmental conditions. On the other hand, the interaction sources of variation revealed that cotton varieties showed differential responses to years, locations and years and locations for lint yield and to years and years and locations for micronaire reading (Table 3).

The results indicated that both of the new variety Giza 83 and the local variety Giza 80 are characterized by high yielding ability and high lint percentage. They surpassed the other three varieties; Giza 85, Giza 75 and Dendera in lint yield in the combined data and lint percentage at each of the three locations and also in the combined data. However, the local variety Giza 80 confirmed its high yielding potential at Souhag. Moreover, it succeeded to compete with Giza 75, the long staple variety in Delta region for fiber length at each of the three locations and in the combined data. Besides it tended to have superior yarn quality than Giza 83 at the two locations; Asyut and Souhag and also in the combined data. Both of the varieties Giza 85 and Giza 75 tended to be of higher quality, the lint being stronger than the other three long staple varieties adapted for heat stress; Giza 83, Giza 80 and Dendera. Morover, Giza 85 produced comparable yield of lint similar to that of Giza 80 at both El-Fayoum and Asyut sites. On the other hand, the variety Giza 85, succeeded to compete with Dendara in lint percentage at El-Fayoum and Souhag, though they were similar in lint were similar in lint yield. Comparing Dendera with Giza 80

Table 3. Averages of studied traits over three years at each location and the combined over all the three years and three locations in Upper Egypt region.

Cultivars	L.C.Y. (K/F)	B.W. (g)	S.I. (g)	L.P. (%)	Mic.	2.5% S.L. (mm)	Y. St.	L.C.Y. (K/F)	B.W. (g)	S.I. (g)	L.P. (%)	Mic.	2.5% S.L. (mm)	Y. St.
	El-Fayoum							Asyut						
G. 85	14.24 b	3.11	11.03 b	38.0 b	4.01	29.2 b	2405.9 a	9.09 bc	2.77	10.15 ab	36.5 b	3.50 c	29.7 c	2241.5 a
G. 83	15.23 a	3.05	10.28 c	41.4 a	4.04	29.4 b	1764.2 c	11.50 a	2.71	9.48 c	40.2 a	3.82 ab	30.0 bc	1784.2 c
G. 80	14.53 ab	3.11	10.98 b	40.5 a	4.23	30.4 a	1869.2 bc	9.46 bc	2.64	9.72 bc	39.4 a	3.93 a	30.7 ab	2028.5 b
Dendera	13.78 b	2.91	11.39 ab	36.9 c	4.03	29.1 b	1922.5 b	9.91 b	2.61	10.32 a	35.8 b	3.91 a	29.3 c	2013.4 b
G. 75	11.30 c	3.15	11.79 a	37.2 bc	4.14	31.2 a	2313.5 a	8.68 c	2.69	10.52 a	35.9	3.74 b	31.6 a	2289.0 a
F. test for														
Cultivars	**	N.S.	*	**	N.S.	*	**	**	N.S.	*	*	*	*	**
Var. x Years	*	N.S.	N.S.	N.S.	*	N.S.	N.S.	N.S.	*	N.S.	N.S.	*	N.S.	N.S.
	Souhag							Combined						
G. 85	10.12 c	2.75	10.15 ab	36.4 b	3.61 d	29.7 c	2434.2 a	11.51 b	2.88	10.71	37.0 b	3.71	29.6 c	2360.6 a
G. 83	11.58 b	2.81	9.48 c	39.6 a	3.82 c	30.9 b	1906.9 c	12.77 a	2.86	10.00	40.4 a	3.89	30.1 bc	1818.5 c
G. 80	13.55 a	2.91	9.72 bc	39.3 a	4.11 ab	31.5 ab	2034.9 b	12.51 a	2.89	10.51	39.7 a	4.09	30.9 ab	1977.6 b
Dendera	9.61 c	2.72	10.32 a	35.4 c	4.03 b	29.5 c	1969.9 bc	11.10 b	2.75	11.00	36.1 b	4.00	29.3 c	1968.6 b
G. 75	11.22 b	2.90	10.52 a	35.9 bc	4.24 a	32.2 a	2455.9 a	10.40 b	2.91	11.31	36.4 b	4.00	31.7 a	2352.8 a
F. test for														
Cultivars	**	N.S.	*	**	**	**	**	*	N.S.	N.S.	*	N.S.	*	**
Var. x Years	*	N.S.	N.S.	N.S.	*	N.S.	N.S.	*	N.S.	N.S.	N.S.	*	N.S.	N.S.
Var. x Location	-	-	-	-	-	-	-	*	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Var. x Y. Loc	-	-	-	-	-	-	-	**	N.S.	N.S.	N.S.	*	N.S.	N.S.

- Means followed by the same letter or letters within the column can not be considered significantly different at the 0.05 level of probability.

* Significant at 0.05 level ** Highly significant at 0.01 level N.S. Not significant

both are similar in yarn strength, but Giza 80 was better in lint yield at Souhag and in combined data and lint percentage at each location and combined overall data. (Table 3) .

It is worth mentioning that there was no obvious effect for location regarding most studied traits in the three regions; North Delta, central and Southern Delta and Upper Egypt. This indicates that varieties are grown in their adapted locations. It also point out that trials conducted by Cotton Research Institute and Regional Cotton regional Evaluation Section were successful in establishing each variety at its best suited location. Superior varieties for various cotton zones were identified and were almost in agreement with general policy of the Ministry of Agriculture. It is worth mentioning here that the two promising varieties Giza 87 and Giza 88 succeeded to compete with the extra long staple varieties in North Delta region for most studied traits. The long saple cultivars possessed vacuable lint yield and lint percentage. Moreover, the promising variety Giza 86 possessed better levels of lint yield, lint percentage and fiber length for the long staple category of Egyptian cotton. It was released for cultivation since 1995. It could be a substitute of the other long staple varieties .

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دراسة تحليلية على الصفات الإقتصادية لأصناف القطن المصرى الجديدة والتجارية

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معهد بحوث القطن – مركز البحوث الزراعية – الجيزة .

تم مقارنة كل من أصناف القطن الجديدة المبشرة والأصناف التجارية المتداولة فى تجارب شطرنجية مكبرة أجريت فى الثلاثة مواسم المتتالية ٩٢ – ١٩٩٤ فى مناطق القطن الثلاثة : منطقة شمال الدلتا حيث تم تقييم الأصناف فائقة الطول جيزة ٨٧ (جـ ٧٧ x جـ ٤٥ أ) وجيزة ٨٨ (جـ ٧٧ x جـ ٤٥ ب) ، جيزة ٨٤ ، جيزة ٤٥ ، جيزة ٧٠ ، جيزة ٧٦ ، جيزة ٧٧ فى ثلاثة مواقع بمحافظات البحيرة – كفر الشيخ – دمياط . ومنطقة جنوب ووسط الدلتا حيث تم تقييم الأصناف طويلة التيلة جيزة ٨٦ ((جـ ٧٥ x جـ ٨١) وجيزة ٨٩ (جـ ٧٥ x روسى ٦٠٢٢)، جيزة ٨٥ ، جيزة ٧٥، جيزة ٨١ فى ثلاثة مواقع بمحافظات الغربية والدقهلية والشرقية . ومنطقة الوجه القبلى حيث تم تقييم الأصناف جيزة ٨٣ ، جيزة ٨٠، دندرة ، جيزة ٨٥، جيزة ٧٥ فى المواقع الثلاثة بمحافظة الفيوم وأسيوط وسوهاج . وقد أختبرت صفات متوسط محصول الفدان من القطن الشعر ، متوسط وزن اللوزة ، معامل البذرة ، تصافى الحليج،قراءة الميكرونير، طول التيلة ومتانة الشلة . وتضمنت الدراسة تأثير تفاعل كل من السنوات والمواقع مع الأصناف .

أوضحت نتائج تحليل التباين المركب أن معظم الإختلاف فى الصفات المدروسة فى كل منطقة من المناطق الثلاث يرجع إلى تأثير الأصناف حيث غالبا لم تختلف هذه الأصناف فى درجة إستجابتها للمواقع بالنسبة لبعض الصفات وإن كان هناك إختلاف إلي حد ما فى درجة إستجابة الأصناف للظروف البيئية الراجعة لتأثير مواسم الزراعة بالنسبة لبعض الصفات.

ولقد أثبتت الأصناف التجارية المخصصة لكل منطقة كفاءتها المحصولية وجودة صفاتها التكنولوجية ، وإن كانت الأصناف المبشرة المزروعة معها للمقارنة أظهرت تفوقا عليها فى بعض الصفات . حيث لوحظ تفوق الصنف المبشر جيزة ٨٧ (جـ ٧٧ x جـ ٤٥ أ) المأمول فيه بديلا للصنف جيزة ٤٥ فى المحصول. وعليه يمكن التبؤ بأن يحل هذا الصنف المبشر محل جيزة ٤٥ لأنه يماثله فى مستويات صفاته الغزلية. وكذلك تفوق الصنف المبشر جيزة ٨٨ (جـ ٧٧ x جـ ٤٥ ب) المأمول فيه بديلا لكل من الصنفين جيزة ٧٠، جيزة ٧٧ في المحصول وتماثل معهما فى الصفات التكنولوجية المدروسة. كذلك قد يكون الصنف الجديد جيزة ٨٦ (جـ ٧٥ x جـ ٨١) بديلا جيدا لبعض الأصناف التجارية المتداولة طويلة التيلة بمنطقة جنوب ووسط الدلتا.