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STUDY OF DIFFERENT AMOUNT AND DISTRIBUTION OF FUZZ COVER SEED IN FAMILIES NUCLEOLUS OF GIZA 83 COTTON VARIETY AND THEIR RELATION TO DEPRESS IN YIELD AND QUALITY

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ABSTRACT

The pure selfed seeds of 12 type selected families (were growing in increase B plots in 1999 growing season) were chosen four grades for seed fuzz all 12 families before were massed to form the new nucleolus (Breeder's seed 2000) of Giza 83 cotton variety belonging to *Gossypium barbadense* L. were used in the present investigation were to study the depression in yield and quality.

The results indicated that the standard type of seed of Giza 83 (A) was the earliest for families number 6, 8, 11 and 12, but the both types of seed; (B) naked seed-coat complete nakedness and (D) the type complete Fuzziness exhibited the lowest estimates of earliness and lint percentage compared with both the other types of seed for the families number 1 and 5. The results showed significant differences between the families under study and the four types of seed for boll weight, seed index, lint index, seed cotton yield/feddan, lint yield/feddan, 2.5% S.L. and 50% S.L. fiber length. Type of seed; (D) complete fuzziness exhibited coarser fiber than the other types of seed for families 4 and 5, while, the standard type of seed (A) for families 2 and 9 produced stronger lint. It could be concluded that the existence of the off-type seeds among the true type varieties was dangerous. Therefore, the successive production of pure seeds by the maintenance program, removing the off-type plants out of the general farms and minimizing the period of production and handling the certified seeds by the farmers would be helpful to avoid the occurrence of varietal deterioration.

INTRODUCTION

There are two kinds of fiber on a cotton seed: the long filaments which gave cotton its value as a textile, and a short fuzz attached to the seed-coat of the fuzzy seeded varieties. The relation between these two kinds of fibers is of interest to the practical cotton breeder, and to the research worker, because of the correlation which exists between the quantity of the fuzz and the productivity of the variety. There are also important relations between the quantity and distribution of the fuzz and behavior of the lint in processing and manufacture. O'Kelly (1942) showed that the proportion of bare seed increased as the variety was reproduced year after year. These increase were showed at first and progressed more rapidly in later years. In a few cases it rose above 50%. As well as, a decrease in lint percentage was observed as reproduction progressed and this attributed largely to the increase in bare seed with their accompanying low lint percentage. Ware *et al.* (1944) studied the samples of seed cotton from individual plants of the five varieties of sea island cotton were analyzed for the purpose of determining the relation of naked seed and seed fuzz tufts to lint percentage, lint index, staple length, and seed index. In the Westberry, Bleak Hall, and Andrews varieties, location and size of the tufts-wether on one or both ends of the seed or large or small-did not materially affect the level of the same traits. Also, they found that the

fuzzless or naked seed individuals of the Seabrook variety produced lint percentage and lint index values that were definitely lower than those of the normal seed fuzz forms in this variety. Staple length and seed index were not affected much by the condition of the seed fuzz in Seabrook variety. The Gaddis variety has a much larger proportion of naked seeds and has shorter staple, lower the same traits than Seabrook, but there appeared to be no significant differences in the levels of these characteristics to the different fuzz grades. Also, found that the naked seed in sea island appeared to be a recessive character. Ramiah and Bhola Nath (1946), found that one genetic factor was control the range between naked seeds and seeds fuzz tufts on Upland cotton and also, found the partial dominance in the type of naked seeds. Moore and Dick (1950) studied the deterioration in quality of successive generations of two varieties of Upland cotton. They cleared that even with very careful growing, handling and ginning the spinning quality decreased. Simpson and Duncan (1953), the results indicated that there were no genetic change in any important property during the 5-year period of multiplication. They suggested that if rapid deterioration in a well-bred variety of cotton occurred, it is due, most probably, to faults in production and processing method . Abdel-Aal (1976) found that lint index, line percent and yarn strength of Egyptian cotton variety "Giza 66" started to deteriorate badly in the fifth year of general use. El-Okkia *et al.* (1990) showed that the off-type cotton plants were characterized with the tallest plants, the first sympodial branch located at higher nodes, exhibited late maturity, depression of yield and quality compared with the other two types. Hemaida (2000) indicated that the off-type plants of Giza 80 gave considerably lower values for boll weight, line percentage, seed index, lint index and fiber strength characters. While discoloration type of Giza 83 (G. 83 T_2) exhibited late maturity and coarse fiber traits compared to the standard type of g. 83.

The main objectives of the present investigation were to study the depression in yield and quality as affected by the different amounts and distribution of fuzz cover seed in families nucleolus of Giza 83 cotton variety.

MATERIALS AND METHODS

This investigation was carried out during the three growing seasons of 1999, 2000 and 2001 at the Farm of Mallawy Agricultural Research Station.

The pure selfed seeds of 12 type selected families (were growing in increase ?B plots) were chosen four grades for seed fuzz, all 12 families before were massed to form the new nucleolus (Breeder's seed 2000) of Giza 83 cotton variety.

Description of seed fuzz grades:

For evaluating the amounts of fuzz cover or degree of nakedness, a set of seed cover standards or grade has been set up which ranges numerically from 1 to 12. These grades are shown in Fig. 1.

A. Naked seed-coat, 1/2 fuzz cover (the standard type of G. 83).
B. Naked seed-coat, no fuzz or complete nakedness.
C. Naked seed-coat, 3/4 fuzz cover.
D. Naked seed-coat, complete fuzziness.

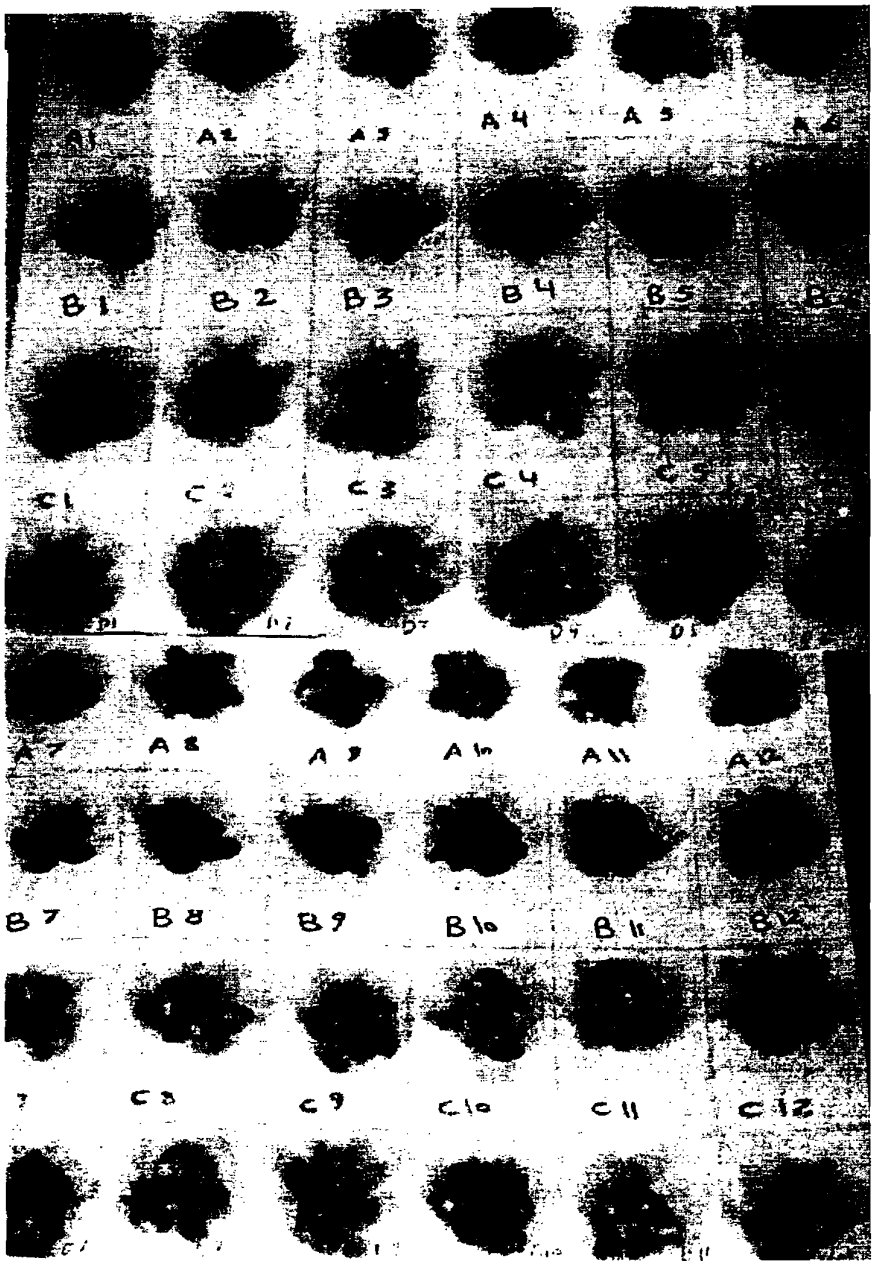

Fig. (1): Four grades for seed [(A), 1/2 fuzz cover, (B) complete nakedness, (C) 3/4 fuzz cover, (D) complete fuzziness] all 12 families were chosen in 1999 season before massed to form the new nucleolus (breeder's seed 2000) of Giza 83 cotton variety.

Both four grades for seed fuzz all 12 families had artificial self-pollination was made for generation 2000 these grades are shown in Fig. 2. In 2001 growing season. The four grades for seed fuzz all 12 families were sown in a randomized complete blocks design experiment with four replicates. Each replicate consisted of three rows for each families of 5 meters long. Hills, were spaced 20 cm apart comprise two plants for each. Cultural practices were carried out according to the common practices in Mallawy agricultural Research Station Farm.

Main fiber properties were measured according to the routine method used at the cotton Tech. Res. Div., Cotton Research Institute.

Analysis of variance was conducted for the agronomic characters and Duncan's multiple Range test was used to determine the significant differences among the means at 5% level (Snedecor and Cochran 1981).

RESULTS AND DISCUSSION

The means of agronomic and earliness traits for 12 families growing selected of nucleolus cotton (Breeder's seed 2000) variety Giza 83 in 2001 growing season as given in Table (1). The results revealed that there were significantly differences among the 12 families of cotton regarding the flowering date. Also, the interaction between families and types of seed had significant effect on this trait, it is worthy to note that the performance of families in this trait differed according to the types of seed cotton. Types of naked seed-coat, 1/2 fuzz cover (the standard type of Giza 83) was the earliest for the families umber 6, 8, 11 and 12. This finding could be explained by being earlier in maturity than the other types of seed of the variety Giza 83.

The averages of earliness index indicated that the families number 1 and 5 were significantly later in maturity compared with the other families. concerning earliness index of crop maturity, the results indicated that the both types of seed; (B) naked seed-coat complete nakedness and (d) the type complete fuzziness exhibited significantly lower estimates of earliness compared with both the other types of seed for the families number 1 and 5. It is worth mentioning that the off-type cotton plants (two types of seed B and D) were relatively late in maturity and yield after 2 to 3 weeks from the date of the first pick for the type plant (A) of Giza 83 variety. In this respect, Al-Didi (1984) characterized the brown cotton variant in Giza 70 by having large leaves, naked seeds and late maturity. He suggested that the yield from the second pick could be eliminated for seed production to minimize the percent of off-type seeds. Boll weight revealed that there were significant differences among the families under studied and four types of seed, the results showed that the both types of seed; (D) type complete fuzziness and (B) type complete nakedness gave the heavier bolls compared with the other two types of seed for the families number 7 and 8. This may be attributed to the big size of boll, large number of seeds/boll and increasing number of locules, more than three/boll. The results also revealed that the means of seed index exhibited significant differences among the families and four types of seed, however, the highest mean type naked seed-coat complete nakedness (B) for the families number 1 and 5.

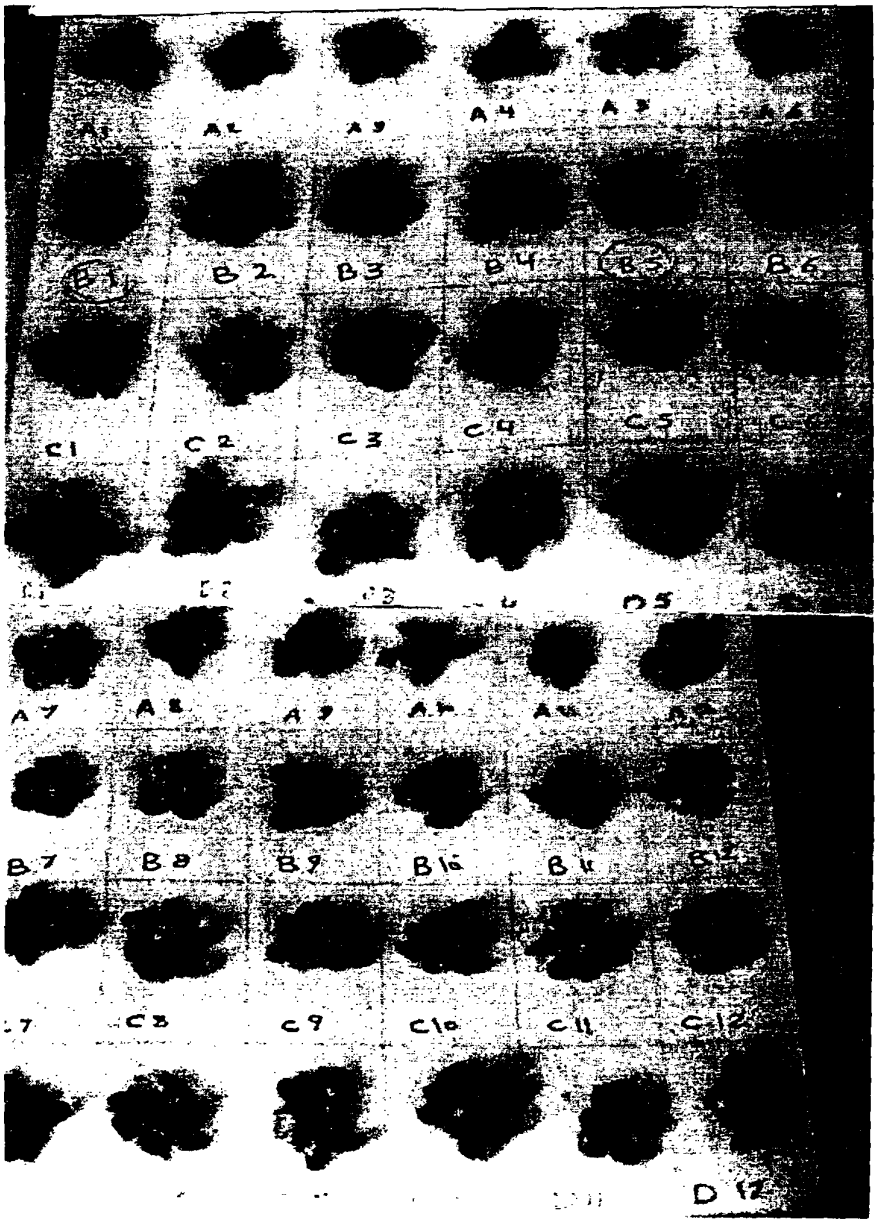

Fig. (2): Four grades for seed [(A), 1/2 fuzz cover, (B) complete nakedness, (C) 3/4 fuzz cover, (D) complete fuzziness] all the seem 12 families after artificial self-pollination was made for generation 2000.

Table (1): Means of earliness traits and yield components of number of nucleolus for Giza 83 cotton variety.

Type of seeds	Days to first flower					Earliness index (%)				
Nucleolus	A	B	C	D	Mean	A	B	C	D	Mean
5/97-23	80 ab	80 ab	79 bc	81 a	80 a	73 a-f	60 jk	71 b-h	57 k	65 c
13/97-2	80 ab	79 bc	79 bc	79 bc	79 b	66 f-j	64 h-k	75 a-d	69 c-i	69 b
16/97-11	80 ab	79 bc	80 ab	80 ab	80 a	74 a-e	71 b-h	72 b-g	71 c-h	72 ab
18/97-20	78 cd	79 bc	78 cd	77 d	78 c	69 c-i	74 a-e	69 c-i	62 i-k	69 b
19/97-2	80 ab	80 ab	79 bc	78 cd	79 b	62 i-k	62 i-k	65 g-j	64 h-k	63 c
19/97-11	77 d	80 ab	78 cd	79 bc	79 b	73a-f	67 e-j	66 f-j	71 b-h	69 b
27/97-13	78 cd	78 cd	79 bc	79 bc	79 b	71 b-h	69 c-i	80 a	73 a-f	73 a
28/97-21	77 d	79 bc	79 bc	78 cd	78 c	75 a-d	71 b-h	66 f-i	70 c-h	71 ab
32/97-4	79 bc	78 cd	79 bc	77 d	78 c	65 g-j	72 b-g	66 f-j	73 a-f	69 b
55/97-32	78 cd	79 bc	80 ab	80 ab	79 b	66 f-j	78 ab	69 c-i	70 c-h	71 ab
57/97-19	77 d	78 cd	79 bc	79 bc	78 c	70 c-h	72 b-g	68 d-i	76 a-c	72 ab
59/97-7	77 d	78 cd	80 ab	79 bc	79 b	70 c-h	72 b-g	64 h-k	70 c-h	69 b
Mean	78	79	79	79		70	69	69	69	

Table (1): Cont.

Type of seeds	Boll weight (g)					Seed index (g)				
Nucleolus	A	B	C	D	Mean	A	B	C	D	Mean
5/97-23	2.9 d-e	3.0 cd	2.9 de	2.6 g	2.9 c	11.2 d-j	12.7 a	11.2 d-j	10.7 g-l	11.5 a-c
13/97-2	2.7 fg	2.6 g	2.9 de	2.7 fg	2.7 d	10.7 g-k	10.9 e-k	11.0 e-j	10.3 jk	10.7 e
16/97-11	28 ef	2.7 fg	2.9 de	3.0 cd	2.9 c	1.8 f-k	10.0 k	11.2 d-k	11.0 e-j	10.8 e
18/97-20	3.0 cd	3.0 cd	2.9 de	3.0 cd	3. bc	11.6 b-g	11.0 e-j	11.3 d-i	11.4 c-i	11.3 b-d
19/97-2	3.0 cd	2.7 fg	2.8ef	3.1 bc	2.9 c	10.9 e-k	12.0 a-d	11.3 d-i	11.4 c-i	11. a-c
19/97-11	3.0 cd	3.1 bc	3.0 cd	2.9 de	3.0 bc	11.8 a-e	11.5 b-h	11.4 c-i	10.8 f-k	11.4 a-c
27/97-13	3.0 cd	3.0 cd	3.0 cd	3.3 a	3.1 ab	10.9 e-k	10.9 e-k	11.5 b-h	12.3 a-c	11.4 a-c
28/97-21	3.2 ab	3.2 ab	3.1 bc	3.1 bc	3.2 a	11.7 b-f	11.2 d-j	12.4 ab	11.7 b-f	11.8 a
32/97-4	2.9 de	3.0 cd	3.0 cd	2.8 ef	2.9 c	11.1 d-j	11.5 b-h	11.3 d-i	10.6 h-k	11.1 c-e
55/97-32	2.9 de	2.8 ef	3.1 bc	2.9 de	2.9 c	11.4 c-i	10.5 i-k	10.9 e-k	10.8 f-k	10.9 de
57/97-19	3.1 bc	2.9 de	2.9 de	2.8 ef	2.9 c	11.2 d-j	11.4 c-i	11.7 b-f	1.8 f-k	11.3 b-d
59/97-7	3.1 bc	3. 0cd	2. 8ef	3. 0cd	3.0 bc	11.4 c-i	11.3 d-i	12.3 a-c	11.3 d-i	11.6 ab
Mean	3.0	2.9	2.9	2.9		11.2 b	11.2 b	11.5 a	11.1 b	

Table (2): Means of yield and some of its components of number of nucleolus for Giza 83 variety.

Type of seeds	Lint percentage (%)					Lint index (g)				
Nucleolus	A	B	C	D	Mean	A	B	C	D	Mean
5/97-23	38.9 b-j	34.9 g	39.6 a-d	39.5 a-e	38.2 e	7.1 b-h	6.6 gh	7.4 a-d	7.0 c-h	7.0 bc
13/97-2	39.6 a-d	39.7 a-c	40.1 a	38.9 b-j	39.6 a	7.0 c-h	7.2 b-g	7.4 a-d	6.6 gh	7.1 b
16/97-11	38.4 e-l	39.3 a-g	39.6 a-d	39.4 a-f	39.2 ab	7.2 b-g	6.5 h	7.3 b-f	7.1 b-h	7.0 bc
18/97-20	38.7 c-k	39.4 a-f	38.9 b-j	38.5 d-l	38.9 bc	7.3 b-f	7.1 b-h	7.2 b-g	7.1 b-h	7.2 b
19/97-2	38.5 d-l	36.3 o	37.1 no	37.9 j-n	37.5 f	6.8 d-h	6.8 d-h	6.7 f-h	6.9 d-h	6.8 cd
19/97-11	38.1 h-n	38.7 c-k	38.1 h-n	38.7 c-k	38.4 de	7.2 b-g	7.3 b-f	7.0 c-h	6.8 d-h	7. 1b
27/97-13	38.5 d-l	37.4 l-n	38.4 e-l	38.4 e-l	38.2 e	6.8 d-h	6.5 h	7.2 b-g	7.7 ab	7.1 b
28/97-21	37.0 no	38.3 f-m	38.1 h-n	37.2 m-o	37.7 f	6.9 d-h	7.0 c-h	7. 6a-c	7.0 c-h	7.1 b
32/97-4	37.2 m-o	37.6 k-n	37.5 l-n	38.2 g-m	37.6 f	6.6 gh	7.0 c-h	6.8 d-h	6.5 h	6.7 d
55/97-32	37.9 j-n	38.8 b-j	38.8 b-j	3.9 j-n	38.4 de	6.9 d-h	6.7 f-h	6.9 d-h	6.0 gh	6.8 cd
57/97-19	39.3 a-g	39.2 a-h	38.0 i-n	38.4 e-l	38.7 cd	7.3 b-f	7.4 a-d	7.2 b-g	6.7 f-h	7.2 b
59/97-7	39.9 ab	39.6 a-d	39.1 a-i	39.2 a-h	39.5 a	7.6 a-c	7.4 a-d	7.9 a	7.3 b-f	7.6 a
Mean	38.5 a	38.3 b	38.6 a	38.5 a		7.1 ab	7.0 bc	7.2 a	6.9 c	

Table (2): Cont.

Type of seeds	Seed cotton yield (k/f)					Lint yield (k/f)				
Nucleolus	A	B	C	D	Mean	A	B	C	D	Mean
5/97-23	8.30	8.15	9.27	8.24	8.49 ab	8.94	8.32	10.97	9.04	9.32 d
13/97-2	9.30	7.51	8.64	8.53	8.50 ab	10.17	8.49	10.08	9.37	9.53 cd
16/97-11	8.73	9.01	7.28	9.24	8.57 ab	9.94	10.40	8.44	11.00	9.95 a-d
18/97-20	9.27	8.28	8.64	7.63	8.4 6b	10.57	9.86	10.26	8.96	9.91 a-d
19/97-2	9.88	8.37	8.59	10.34	9.30 ab	10.93	9.26	11.71	11.49	10.85 ab
19/97-11	9.42	9.04	9.67	9.89	9.51 a	11.11	10.34	11.51	11.42	11.10 a
27/97-13	10.72	8.91	7.98	9.94	9.39 ab	12.05	10.34	9.06	11.48	10.73 a-c
28/97-21	8.42	8.37	8.97	9.20	8.74 ab	9.57	9.64	8.97	10.63	9.70 b-d
32/97-4	7.88	8.04	9.39	8.14	8.36 b	8.77	9.03	10.37	9.28	9.36 d
55/97-32	10.45	9.85	7.71	9.46	9.37 ab	11.34	11.61	8.69	10.97	10.65 a-c
57/97-19	8.41	8.66	8.03	9.58	8.67 ab	9.62	10.16	9.22	10.89	9.97 a-d
59/97-7	9.09	8.81	8.64	9.71	9.06 ab	10.68	10.40	9.37	11.17	10.41 a-d
Mean	9.16 a	8.58 b	8.57 b	9.16 a		10.31	9.82	9.89	10.48	

The means of yield and some of its components are presented in Table (2) . Average of lint percentage indicated that there were significant differences among the studied families and between four types of seed. The lowest estimates of lint percentage was type naked seed-coat complete nakedness (B) for the families number 1 and 5. Lint index, shoed that there were significant differences between the families and four types of seed.

Data showed that there were no significant differences between the families and four types of seed regarding seed cotton yield/feddan and lint yield./feddan. However, data also revealed that means of the same two traits exhibited significant differences between the families only, also data showed that there were significant differences among the four types of seed regarding seed cotton yield/feddan only. These results were in harmony with those obtained by Abdel-Latif and El-Mazar (1970).

The means of fiber properties are given in Table (3). The results showed significant differences between the families under study and the four types of seed for micronaire value, the type of seed; (d) complete fuzziness exhibited coarser fiber than the other types of seed for the families 4 and 5. Concerning the pressly index trait, the results showed that the standard type of seed (A) for families 2 and 9 produced stronger lint than the other types of seed. Fiber length, 2.5% S.L. and 50% S.L., shoed that there were significant differences between the families and the four types of seed.

If the Egyptian cotton varieties included the both off-types of seed; naked seed-coat complete nakedness and the type complete fuzziness, this would create problems such as:

a) Depressed yield and quality response.
b) Increased waste in spinning and textil's processes.
c) Rejection of Egyptian cottons in both world and local markets.

The occurrence of the off-type cotton plants in Giza 83 variety throughout the long period of their, may be due to: a) cumulative numbers of plus modifiers, b) segregation of modifiers as well as the main gene, c) spontaneous reverse-mutant plants (Al-Didi, 1984).

Finally, it could be the suggested is that, the seed cotton of the second pick in the fields of certification seed must be eliminated because it includes a high percent of the off-types of seed. Similar findings were reported by Al-Didi (1984) and El-Okkia *et al.* (1990).

Table (3): Means of fiber properties of number of nucleolus for Giza 83 cotton variety.

Type of seeds	Fiber fineness (Mic.)					Fiber strength (P.I)				
Nucleolus	A	B	C	D	Mean	A	B	C	D	Mean
5/97-23	4.4 cd	4.6 a-d	4.5 b-d	4.5 b-d	4.5 c	8.7 c-f	9.2 a-f	9.1 a-f	8.9 a-f	9.0
13/97-2	4.7 a-c	4.7 a-c	4.4 cd	4.8 ab	4.7 ab	8.6 ab	8.8 b-f	9.4 a-d	9.3 a-e	9.3
16/97-11	4.7 a-c	4.5 b-d	4.7 a-c	4.6 a-d	4.9 bc	8.5 ef	9.1 a-f	9.4 a-d	9.5 a-c	9.1
18/97-20	4.5 b-d	4.7 a-c	4.6 a-d	4.3 d	4.5 c	8.9 a-f	8.6 d-f	9.2 a-f	8.8 b-f	8.9
19/97-2	4.5 b-d	4.6 a-d	4.8 ab	4.4 cd	4. 6bc	8.9 a-f	8. 8b-f	9.0 a-f	9.4 a-d	9.0
19/97-11	4.7 a-c	4.8 ab	4.5 b-d	4.6 a-d	4.7 ab	8.4 f	9.1 a-f	9.4 a-d	9. 3a-e	9.1
27/97-13	4.6 a-d	4.7 a--c	4.7 a-c	4.5 b-d	4.6 bc	9.5 a-c	8.9 a-f	8.9 a-f	9.3 a-e	9.2
28/97-21	4.6 a-d	4.8 ab	4.9 a	4.9 a	4.8 a	9.5 a-c	8.9 a-f	8.9 a-f	8. 8b-f	9.0
32/97-4	4.4 cd	4.7 a-c	4.6 a-d	4.5 b-d	4.6 bc	9.6 ab	9.1 a-f	9.1 a-f	8. 9a-f	9.2
55/97-32	4.6 a-d	4.8 ab	4.6 a-d	4.6 a-d	4.7 ab	9.0 a-f	9.0 a-f	8.6 d-f	9.4 a-d	9.0
57/97-19	4.8 ab	4.8 ab	4.7 a-c	4.5 b-d	4.7 ab	8.7 c-f	9.2 a-f	9.7 a	8. 4f	9.0
59/97-7	4.6 a-d	4.5 b-d	4.7 a-c	4.9 a	4.7 ab	9.4 a-d	9.3 a-e	9.0 a-f	9. 1a-f	9.2
Mean	4.6	4.7	4.6	4.6		9.1	9.0	9.1	9.1	

Table (3): Cont.

Type of seeds	Fiber length (2.5% S.L.)					Fiber length (50% S.L.)				
Nucleolus	A	B	C	D	Mean	A	B	C	D	Mean
5/97-23	32.3 a-d	31.0 f-m	31.7 a-i	31.5 b-l	31.6 a-d	16.3 a-c	15.5 de	15. 6c-e	15.5 de	15.7 cd
13/97-2	31.9 a-h	32.6 ab	30.8 h-m	31.3 c-m	31.7 a-c	16.1 a-e	16.4 ab	15.4 e	15.7 b-e	15.9 a-d
16/97-11	32.4 a-c	30.7 i-m	32.0 a-g	32.1 a-f	31.8 ab	16.3 a-c	15.7 b-e	15.6 c-e	16.1 a-e	15.9 a-d
18/97-20	30.4 lm	32.7 a	31.6 a-j	30.9 g-m	31.4 b-e	15.4 e	16.8 a	15.9 b-e	15.8 b-e	16.0 a-c
19/97-2	32. 1a-f	31.6 a-k	31.7 a-i	31.6 a-j	31.8 ab	16.4 ab	15.7 b-e	16.3 a-c	16.4 ab	16.2 a
19/97-11	31.6 a-j	32.2 a-e	31.5 b-l	31.7 a-i	31.8 ab	15.9 b-e	16.3 a-c	16.2 a-d	15.8 b-e	16.1 ab
27/97-13	30.9 i-m	31.3 c-m	32.0 a-g	30.3 m	31.1 de	15.5 de	16.2 a-d	16.1 a-e	15. 5de	15.8 b-d
28/97-21	31.1 e-m	30.3 m	31.2 d-m	30.8 h-m	30.9 e	15.6 c-e	15.7 b-e	15.7 b-e	15.5 de	15.6 d
32/97-4	31.9 a-h	32.3 a-d	31.5 b-l	32.2 a-e	32.0 a	15.9 b-e	16.3 a-c	15.9 b-e	16.4 ab	16.1 ab
55/97-32	31.1 e-m	32.1 a-f	30.9 g-m	31.3 c-m	31.4 b-e	16.2 a-d	16.3 a-c	16.0 b-e	15. 7b-e	16.1 ab
57/97-19	31.7 a-i	31.3 c-m	32.0 a-g	31.1 e-m	31.5 a-d	15.8 be	16.1 a-e	15.8 b-e	15.8 b-e	15.9 a-d
59/97-7	31.1 e-m	30.5 j-m	32.1 a-f	31.0 f-m	31.2 c-e	15.8 b-e	15. 6c-e	16.4 ab	15.9 b-e	15.9 a-d
Mean	31.5	31.6	31.6	31.3		15.9	16.1	15.9	15.8	

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دراسة اختلاف كمية وتوزيع الزغب المغطأ لبذرة عائلات النوية للصنف جيزه ٨٣ وعلاقته بانخفاض المحصول والجودة

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أشتملت هذه الدراسة على ١٢ عائلة منتخبة من اكثارات ــ ب (موسم ١٩٩٩) والتي سوف تكون نوية الصنف جيزه ٨٣ موسم ٢٠٠٠ مع أربعة طرز مختلفة من البذره من حيث كمية توزيع الزغب لكل من الـ ١٢ عائلة السالفة الذكر بهدف دراسة النقص في صفات المحصول والجودة.

وقد أشارت النتائج أن الطراز القياسى من البذرة للصنف جيزه ٨٣ كان مبكرا في النضج للعـــائلات ٦ ، ٨ ، ١١ ، ١٢ بينما الطرازين المغايرين وهما البذره العارية الزغب تماما وكذلك طراز البذره كاملة الزغب أكثر الطرز تأخيرا في النضج وأقل فـــى تصافى الحليج لكل من العائلتين ١ ، ٥ بالمقارنة بالطرازين الأخرين من طرز البذره.

كما أشارت النتائج وجود فروق معنوية بين العائلات تحت الدراسة وكذلك بين طرز البذره المختلفة لصفات وزن اللـــوزة ، معامل الشعر ، معامل البذره ، محصول القطن الزهر ومحصول الشعر بالنسبة للفدان وطول التيلة عند ٢,٥% وكذلك ٥٠%.

كما أظهر طراز البذره الكاملة الزغب تيلة أكثر خشونة بالمقارنة بالطرز الأخرى لكل من العائلتين ٤ ، ٥ بينما أعطـــى الطراز القياسى من البذره للصنف تيلة أكثر متانة لكل من العائلتين ٢ ، ٩. من هذه الدراسة يتضح مدى خطورة تواجد الطرز المغـايرة من البذره بين الأصناف المنزرعة ولذلك فإن إنتاج التقاوى النقية عن طريق برنامج المحافظة على النقاوة الوراثية لأصنـــاف القطـن المنزرعة وتجديد وإنتاج التقاوى النقية سنويا ، وإزالة النباتات المخالفة في صفاتها لطراز الصنف القياسى من مساحات إكثـار تقـاوى القطن النقية ، وتقليل مدة تداول السلالات عند المزارعين سوف يساعد على المحافظة على نقاوة التقاوى وتدهور الأصناف.