

**GINNING OUT-TURN AND ITS COMPONENTS IN RELATION TO LINT GRADE
 AND FIBER QUALITY IN EGYPTIAN COTTON
 BY**

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ABSTRACT

The present study was carried out to verify the importance of the factors affecting ginning out-turn (GOT) and its relation with lint grade and fiber quality. The materials used in this study included the two extra-long staple varieties Giza45 and Giza 88 as well as the two long staple varieties Giza 86 and Giza 90. The main five grades of seed cotton, i.e. FG, G, FGF, GF and FF pertaining to each variety were ginned to determine ginning out-turn and its components and fiber quality properties.

The results showed that ginning out-turn (GOT), seed index (SI) and lint index (LI) differed significantly among lint grades within the same cotton variety. In some instances, a low grade had SI value more than a high grade; the opposite occurred in other cases. The same trend was obtained for GOT. Lint index was highly correlated with lint grade followed by seed index and ginning out-turn. However, the later was in some cases insignificantly correlated with lint grade (Giza 90 at 2004 season).

Because of the significant relation of ginning out-turn and its components with lint grade, so the seed index, ginning out-turn and lint index were significantly correlated with each of lint grade characters, fiber quality properties and yarn quality, for exception, the correlations were insignificant in some aspects.

INTRODUCTION

Ginning out-turn (GOT) is one of the most important characters that have a direct effect on cotton yield per feddan. Thus, it is highly considered in the evaluation of cotton price. Ginning out-turn is a complex character that is governed in principle, by seed weight and lint weight. GOT is defined as the percentage of the seed cotton, which is lint.

Ginning out-turn (GOT) is predominately a varietal character, which is polygenic in inheritance. Kamal and Ragab (1991) pointed out that the extra-long staple varieties mostly yield ginning out-turn lower than the short staple types. Nevertheless, high heritability estimates were reported for (GOT) indicate that it is slightly affected by the environmental conditions (Ghoneim, 1978).

Fiber density on seed coat is the most important character associated with ginning

out-turn. Each component character should be assigned appropriate weight in order to bring about a rational improvement in ginning out-turn. However, Singh and Bains (1968) concluded that the importance of lint index and seed index which with their due weights could account for about 70% of the total variability in ginning out-turn. Thus, a compromise between lint index and seed index brought about by assigning their weights would lead to maximum improvement in ginning out-turn.

Concerning the factors affecting ginning out-turn, El-Ganayni *et al.* (1984) pointed out that the plants topped on 15 June resulted in the highest seed index, lint percentage and lint index. Eweida *et al.* (1984) found that the roller tension levels, the feeding rates and cleaning lint significantly affected lint percentage.