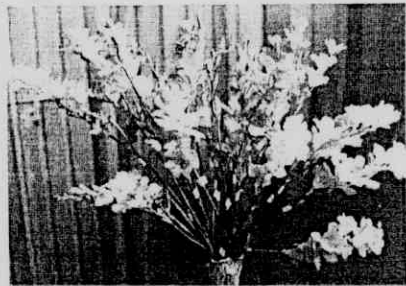




INTRODUCTION



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The fascinating early history of soybean {*Glycine max* (L.) Merr.} (2n= 40) have been investigated in several texts. An extensive review of the early history and origin for this crop was highlighted in many documents over about 4500 yrs, especially in the Chinese history.

Soybean is the major oil crop in the world, which share with about 30% of the total world production of edible oil. Also, soybean share with more than 60% of the world production of high protein meal. Twenty-five percent of the total world wide soybean production is commonly used in the international trade market in the form of whole beans. The major soybean exporters are the USA, Brazil and Argentina. About 90% soybean oil is processed for human consumption as cooking oil and margarine. Recently, it was realized that soybean is valuable to Egypt because of its high oil and protein content. The high protein meal of soybean is popular now in poultry industry and many human food products.

Soybean was introduced to Egypt in 1960 and has been produced commercially since 1972. The soybean area has increased gradually to reach more than 147000 feddan in 1983. The average seed yield has increased during the same period from 447 to 1099 kg/fed. Since 1984, soybean area started to decrease to reach about 15,000 feddan in 2002 with an average seed yield 1,200 kg/fed. Although the local soybean production has decreased through this period, the local demand for soybean has extremely increased, which was covered by the imported soybean. The reduction in local soybean production was attributed mainly to the low price of the imported soybean and the low competitive value of soybean

against the other summer crops. Soybean seeds contain about 18-24% oil, 30-50% of protein and considerable amounts of main amino acids, especially lysine as well as phosphorus, calcium and vitamin A, C, B₁, B₂, B₆, B₁₂ and B₁₉, which are important for human and animal feeding.

Genetic improvement of soybean cultivars has played a major role in considering

This investigation was designed and implemented to study the following parameters :

1. general and specific combining abilities and their interaction with planting dates as well as the genetic components.
2. The potentiality of heterosis expression for yield, yield components and some growth attributes.

The present study could be of great help in designing successful breeding programs for developing new promising cultivars in respect of yield and quality.