Introduction

Eggplant (*Solanum melongena*) is one of the most important and popular crop all over the world as well as in Egypt. The total area planted with eggplant during 2004 in Egypt was 102700 faddans produced approximately 1046742 tons with an average of 10.19 tons/faddan. It plays an important role in human nutrition as a cheap source of vitamins and minerals. It is known to be rich in carbohydrates and minerals such as calcium, phosphorus and iron. It is considered as a national popular diet in many tropical and sub-tropical countries **(Abd El-Rahim *et al.,* 1996)** .

Hybridization has been still the main important used method in improving yield and quality of many vegetable crops. In this connection, eggplant seems to have received little attention and consequently genetic information on all characteristics of eggplant is needed for wide intervarietal crosses in order to design accurate plan and efficient breeding programs. The relationship between characteristics is also important, since the improvement of one character may cause simultaneous change in other characters. More attention should be directed to eggplant breeding in Egypt in order to identify and/or improve our local eggplant cultivars.

Many important features of successful eggplant cultivars are with quantitative nature-yielding ability is a prime example of such traits. The objectives of this study were to evaluate some eggplant cultivars for some important economic characters and

to obtain the genetic parameters required to design successful breeding programs for improving the yield and its related characters of eggplant through genetic analysis of non-reciprocal set of diallel crosses among certain eggplant cultivars.