

## **STUDIES ON SOME STRAWBERRY HYBRIDS PRODUCTION AND THEIR FIELD PERFORMANCES**

**Abd Ellatif, Amany A.<sup>1</sup>; A. E. Omran<sup>1</sup>; M. K. Hatem<sup>2</sup> and M. E. Ragab<sup>3</sup>**

**1- Potato and Vegetatively Propagated Crops Dept., Hort. Res. Institute, ARC, Giza, Egypt**

**2- Plant breeding Dept., Hort. Res. Institute, ARC, Giza, Egypt**

**3- Hort. Dept., Fac. of Agric., Ain Shams Univ., Cairo, Egypt**

### **ABSTRACT**

This study was carried out at the Barrage Horticulture Research Station, Qaluobia Governorate, and the Strawberry Improvement Center, Faculty of Agric., Ain Shams Univ. during the period from 2005 to 2009. The aim of this study was to produce and selected some local promising strawberry hybrids from the commercial cultivars through the traditional crossing method. Four potential cultivars i.e., Sweet Charlie, Diamonte, Camarosa and Vantana were used in the crossing and six hybrids were chosen and evaluated in the nursery stage and also for yield and fruit quality in two seasons. The study aimed also to determine the average degree of heterosis (ADH) regarding some horticultural characters viz., yield component, and fruit physical and chemical characteristic for the obtained hybrids. This knowledge about this sort of genetics would be helpful to the plant breeder for planning a successful breeding program. Results revealed that hybrid K102 (Kanater 102) exhibited the highest values in total yield, average fruit weight, fruit firmness and total soluble solids content as compared with its parents suggesting hybrid vigor for these traits. Hybrid K101 showed the highest values of average fruit weight, total soluble solids, ascorbic acid content and the lowest total acidity as compared with the parents. Also, K105 gave the highest values of number of fresh and dormant transplants and the lowest values of total acidity. Results indicate also that K 106 showed the highest values of total plant yield and average fruit weight as compared with the parental cultivars. Hybrids, K103 and K107 showed the highest values in fruit firmness and average fruit weight respectively as compared with the parents. Also, Sweet Charlie and Camarosa parents were the highest in early yield per plant and average fruit weight respectively. In general, the results on heterosis showed that most produced hybrids exhibited higher values than the better parent concerning most studied traits. The observed hybrid vigor for these traits encourages the production of F<sub>1</sub> hybrids in strawberry for commercial production.

The study concludes that six new local strawberry hybrids have been produced with high productivity and desirable eating quality than their parents.

**Keywords:** Strawberry, Hybrid production, Yield, Fruit quality, Heterosis.

### **INTRODUCTION**

Strawberry is one of the most important cash crops for local consumption and export. From 1980 to 2008 a lot of strawberry cultivars were introduced and evaluated under the Egyptian conditions, some of them were promising and others did not perform. Strawberry cultivar breeding can be explained by the expansion of strawberry culture into the world areas characterized by diverse climatic condition and market demands. There is a strong demand for strawberries throughout the winter and spring season