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## 1 - INTRODUCTION

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Pear can be considered the third in importance among deciduous fruits in the world and the fourth among all fruits together (Scheer and Juergenson 1976). In Egypt, pear orchards occupy about 18101\* feddans with total fruit production of about 73207 metric tons.

Botanically, pear belongs to the order Rosales (Roses) and family Rosaceae which includes 20 to 25 species and thousands of varieties, but only few are of commercial importance, derived from Pyrus communis, L. "Le Conte" (Pyrus lecontei, Rehd), the most important pear cultivar in Egypt is a hybrid between Chinese Sand\_pear(Pyrus serotina,L) and European pear (Pyrus communis,L). The "Le Conte" pear tree is medium in size, slow growing and requires short chilling.

The cost of producing pear has been risen sharply in the last few years. The greatest increase has been in orchard overheads which now appear to represent over 50% of the total costs. Returns also has increased, but not as much as total costs. Thus to meet rising costs, the production of premium-valued fruit must be increased, especially on an annual basis.

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\* According to the statistics of the Ministry of Agriculture, Egypt, 1989.

There are several approaches to increase productivity. One method has been to design orchards for greater potential productivity by maximizing the volume of bearing mantle and increasing fruit density in this volume. For annual cropping, there is a need for a balance between fruiting buds and vegetative buds.

It is well known that growth regulators i.e Alar and Cycocel as well as cultural technique i.e shoot topping has been used successfully to restrict pear tree growth and enhance tree flowering and fruiting (Greene and Lord, 1978 and Lord and Greene, 1982).

Therefore, this investigation was initiated to determine the most effective treatment to restrict growth of bearing trees, while, improving flowering, fruiting and fruit quality of "Le Conte" pear trees.