

INTRODUCTION

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Citrus fruits rank third after grapes and apples, as far as world production is concerned.

In Arab Republic of Egypt, citrus trees are the backbone of fruit culture. Mandarins rank second after oranges in Egyptian citrus industry.

Total area of mandarin groves amounted to 18410 feddans in 1984 producing around 123667 tons*.

The major mandarin production in Egypt is confined to the local variety. Balady which belongs to common Mediterranean Mandarin, citrus reticulata Blanco or citrus deliciosa.

The greatest draw back of Balady mandarin is its irregular cropping. A heavy crop in one year is followed by a very light crop in the second year. This phenomenon is popularly known as alternate bearing.

Biennial bearing is affected by several factors that include: species, varieties, growth vigor, nutritional status, environmental conditions and cultural practices.

Extensive research has been undertaken to control alternate bearing in several deciduous fruit trees mainly apple and evergreen fruit trees as in Mango.

* Periodical of Agric. Ministry, 1986

In addition, several studies were aimed at understanding the physiological and biochemical mechanisms in fruit trees that affect fruit bearing.

But generally alternate bearing in tropical and subtropical fruit trees has been given less attention than deciduous fruits.

The present investigation was carried out to evaluate some possible measures to reduce alternate bearing in Balady mandarin by affecting flower bud initiation in mature healthy trees entering the off year.

In addition, changes in the content of some nutrients such as, nitrogen, phosphorus and potassium as well as carbohydrates were investigated in different successive leaf and shoot samples under different treatments, with the hope, to obtain more information concerning this habit.