شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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قسم

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HANAA ALY

Vegetative Propagation of some peach Rootstocks

By

SARAH SAMER SAED AHMED

B.Sc. Agric. Sci. (Plant Production), Fac. Agric., Cairo Univ., Egypt, 2010

THESIS

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Abstract

This investigation conducted through two years 2017-2018 respectively at modern Agriculture Co. PICO, mansourya farm. This investigation aimed to evaluate the vegetative propagation of two new rootstocks (Cadamen, Garnem) using IBA hormone. The first experiment depending on using wood cutting and semi wood cutting at March in both seasons with 4 concentration of IBA(0, 1500, 3000, 5000 ppm). The results shown that semi wood cutting in both rootstocks with IBA at 1500 ppm and 3000 ppm recorded the highest values in all measurements compering to 5000 ppm, more over all types of cutting in both rootstocks with IBA at 1500 ppm recorded the highest total carbohydrate with significant difference. Control cutting did not achieved anything in this experiment. In the second experiment green cutting of both rootstocks with IBA at 2000 ppm achieved the highest result in all rooting measurements, vegetative measurements and total carbohydrate with significant difference in both seasons.

Keywords: Peach, rootstock, Garnem, Cadamen, Egypt, indole-3-butyric acid

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CONTENTS **page**

INTRODUCTION

Peach, *Prunus Persica L.*, belongs to family Rosaceae. It's consider one of the most important deciduous fruits in all over the world peach belong to china and Iran zoon. It's one of the most fruit tree which grow in north and south moderate temperature areas in the world.

The world production of peach and nectarine are more than 25 million tons (FAO2019). Asia is the world's largest producer of peach, producing 58.8% of the world's production, followed by Europe 23.3%, USA 13.8%, Africa 4.5% and Oceania 0.7%. (FAO2019).

Peach production in Egypt occupies one of the advanced centers between the deciduous fruit whence the area and the economic importance.

Egypt is in 9th place between producing counters (FAO 2019), the total area reached 63866 acres with total production about 358012 tons. Peach cultivation is concentrated in western Nubaria, Dakahlia, Gharbia and some other governorates.

Egypt is export the peach to European counters during April and May related to early varieties such as Florida Prince, Many rootstocks are used to graft a lot of cultivars, the most important rootstock in Egypt is Nemaguard, which has a high resistance to Nematode, More over Nemaguard is a identify with the grafted varieties and has strong taproot .but it sensitive to calcareous soil, so the new rootstocks are imported such as Cadman, Garnem and Flordaguard.

Therefore it is very important that a lot of academic and practice studies be carried out to enhance the vegetative production of such modern assets Propagation by hardwood cuttings is potentially the cheapest and simplest vegetative method for peach stocks. It requires no special equipment, the plant material is not delicate, and can easily be stored and transported. On top of that, it producing good quality of seedlings.

GXN (Garnem): Obtained by CITA (Aragón, Spain). Cross of Garfi almond (*Prunus amigdalus*) x Nemared peach (*Prunus persica)*. Rootstock with less tolerance to root asphyxia and limestone soils than GF 677, it confers enhanced resistance to nematodes and a greater vigor. It is compatible with a lot of peach's cultivars, nectarine, almond and some plums trees.

Cadman: rootstock which is compatible with all varieties of peaches, nectarines and plums and some almonds. It anticipates the harvest time, especially of early varieties, providing a more intense color to the fruit. It gives less vigour than GF-677 or GXN. It is the most resistant rootstock to nematodes of the rootstocks usually used. Its main disadvantages are its sensitivity to Phytopthora and its necessity of cold periods.

The aim of study was to attempt the best rooting rate of the different peach rootstocks (Cadamen and Garnem) cutting by using.