EFFECT OF LASER AND SOME HUMIC SUBSTANCES ON THE PROPAGATION OF APPLE AND PEAR

Thesis

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(Photochemistry and Photobiology)

BY

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DEDICATION

I dedicate this work to whom my heart felt thanks; to the soul of my mother and my wife ***Samar*** *and my daughter* ***Salma*** *for their patience and help, as well as to my* ***Father*** *and sisters* ***Ghada*** *and* ***Heba*** *for all the support they lovely offered along the period of my post graduation.*

ABSTRACT

This study was conducted to study the Effect of laser and some humic substances on the propagation of apple and pear.For such purpose, two field trials were conducted at the Horticulture Institute,Agriculture Research Center, Giza, Egypt in 2005/2006 and 2006/2007 growing seasons.

The first experiment was carried out to study the effect of three types of lasers with three doses for each type and three doses of K-Hunates on rooting of semi-hard cuttings of Communis and Malus rootstocks.

The second experiment was carried out to study the effect of three types of lasers with three doses for each type and three doses of K-Hunates on seed germination with or without stratification of Communis and Malus rootstocks.

Heleim neon laser with different doses was the most effective on the rooting of semi-hardwood cuttings of the two rootstocks. No significant differeces showed by any types of lasers or K-Hunates on seeds germination of the two rootstocks with or without stratification. K-Humates significantly affected fresh and dry weight of roots. Chemical analysis of total soluble indoles, phenols,amino acids and sugars were proceeded. Total soluble Indoles, Phenoles and sugars decreased as the total root percentages and germination percentages increased. Total soluble amino acids increased in both rooted cuttings and germinated seeds.

Key words : Malus , Communis , Lasers , K-humates

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