# EFFECT OF SOME RARE EARTH ELEMENTS ON YIELD AND QUALITY OF SUPERIOR GRAPES

By

**NAGLAA ABD EL KADER ALI**

B.Sc. Agric. Sc. (General Division), Banha Univ., 1997

M.Sc. Agric. Sc. (Environmental Agricultural Science), Institute of Agricultural Studies and Research, Ain Shams University, 2012

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**This thesis for Ph.D. degree has been approved by:**

**Dr. Gamal Abdrabboh Elsayed Abdrabboh ……**
Prof. of Pomology, Faculty of Agriculture, Al-Azhar University

**Dr. Alaa El-Din Zaki Bondok …….……**
Prof. Emeritus of Pomology, Faculty of Agriculture, Ain Shams University.

**Dr. Nasr Abd El Aziz Abd-El Fatah ……...…….**
Associate Professor of Chemistry, Production Sector, Nuclear Materials Authority.

**Dr. Nazmy Abde Elhamid Abde Elghany ……..……...**
Prof. of Pomology, Faculty of Agriculture, Ain Shams University.

**Date of Examination**: 9 /8/2017

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**Under the Supervision of:**

**Dr. Nazmy Abde Elhamid Abde Elghany**
Prof. of Pomology, Dept.of Horticulture., Faculty of Agriculture, Ain Shams University (Principal supervisor).

**Dr. Mahmoud Fathi Mekled**
Lecturer of Pomolgy, Dept.of Horticulture., Faculty of Agriculture, Ain Shams University

**Dr. Nasr Abd El Aziz Abd-El Fatah**
Associate Professor of Chemistry, Production Sector, Nuclear Materials Authority.

## ABSTRACT

**Naglaa Abd El Kader Ali: Effect of Some Rare Earth Elements on Yield and Qualtiy of Suerior Grapes. Unpublished Ph.D. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University, 2017.**

This study was carried out during 2014 and 2015 seasons in a private farm, located at Km 64 Cairo-Alexandria desert road, on mature Superior grapevines (*Vitis vinifera* L) .The vines were 5 years old grown in sandy loam soil, spaced at 2×3 meters trained as Y shape system irrigated through drip irrigation system. The study aimed to investigate the effect of some rare earth elements (REEs) and their mixture on the yield and quality of Superior grapes. The study included 13 treatments which were: lanthanum (La), cerium (Ce), neodymium (Nd) , and their mixture at 5, 10, 20 ppm in addition to control. Treatments were arranged in a complete randomized block design. The clusters of each treatment were dipped twice in the treatments, the first was at fruit set and the second during veraison stage. The obtained results indicated that 10 ppm of (Nd) recorded significant increments in yield/vine and berry length, While 10 ppm of (La) gave the highest values of weight and volume of 100 berries and Ca content. Moreover, 5 ppm of (Ce) recorded the highest values of cluster length, firmness, Ca and P contents, On the other side, the application of 10 ppm (Ce) and 20 ppm Mixture gave the lowest values of berry shuttering percentage and the highest fruit potassium content. The study recommended that its important to apply Superior grapevine twice, first at fruit set and second at vraison stage with low concentrations of REEs i.e., (Ce), (La) and (Nd) or their mixture to increase yield and quality and decrease berry shuttering .



**Key words**: Grapes, Cerium, Lanthanum, Neodymium, Yield, Quality and Mineral contents**.**

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