شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

IMPROVEMENT POTATO MINITUBER CHARACTERISTICS FOR PRE-BASIC SEED POTATO PRODUCTION

By

MUHAMMAD MOTAWIE MUHAMMAD REFAIE

B.Sc. Agric. Sci. (Horticulture), Fac. Agric., Cairo Univ., 2004
M.Sc. Agric. Sci. (Vegetable Crops), Fac. Agric., Cairo Univ., 2013

THESIS

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APPROVAL SHEET

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Date: 5 / 7 / 2021

SUPERVISION SHEET

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Title of Thesis: Improvement Potato Minituber Characteristics for Pre-Basic Seed Potato Production.

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Department: Vegetable Crops **Date:** 5 / 7 / 2021

ABSTRACT

This study was carried out in the Tissue Culture Research Laboratory, Horticulture Research Institute, during the period from 2016 to 2020. The study included: (1) Production of microtubers (*in vitro* tubers), (2) Utilization of microtubers in greenhouse production of minitubers and (3) pre-basic seeds production from minitubers. Two commercial cultivars, 'Diamant' and 'Spunta', were used in the studies. Four tuberization media were used, include MS medium added to it different amount of sucrose, Benzyl adenine (BA), Chloro choline chloride (CCC) and the combination between them. In the three nutrition treatments (MS macro and micronutrients, Hoagland nutrient solution and commercial compound fertilizer) were used in the greenhouse phase. Effects of plant spacing and nitrogen fertilization on pre-basic seeds production were also tested. For microtuberization in vitro the best media was MS supplied with 8% g sucrose. In the greenhouse minitubers production
fertilized with Hoagland solution showed the best values regarding minituber weight per plant and average minituber weight. The interaction between 20 cm spacing and 120 kg N/feddan gave the highest values of minitubers number per plot (86.06). The results obtained also revealed that the highest values of minitubers weight per plot (2417.1 g) resulted by interaction between 10 cm spacing and 150 kg N/fed.

Key words: Solanum tuberosum L., *In vitro*, tip meristem, Microtuber, tuberization, Minitubers.

DEDICATION

First of all: Thanks to Allah for offering me the strength to fulfill this hard mission

I would like to thank ***all my family and my wife*** *for their love and support and the sacrifices they made for me over the years. I would not have made it this far without them. To* ***my baby son, AAsr And my baby girl, Marium****, thank you for being a constant joy of our family.*

I am indebted as gift to ***all my family*** *for their continuous encouragement and praying for me.*

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