
شبكة المعلومات الجامعية

# بسم الله الرحمن الرحيم


# شبكة المعلومات الجامعية

# التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

## قسم

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

## يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار
في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

**To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%**

# بعض الوثائق الاصلية تالفة


# بالرسالة صفحات لم ترد بالاصل

# TISSUE CULTURE STUDIES ON LENTIL (*LENS CULINARIS* MEDIK.)

BY

**KHALED ABD EL-FATTAH MAHMOUD EL MANGOURY**

B.Sc. Agric. Sci., (Agronomy), Ain Shams Univ., 1990

**Thesis submitted in partial fulfillment**
**of**
**the requirements for the degree of**
**MASTER OF SCIENCE**
**in**
**AGRICULTURE**
**(AGRONOMY)**

Department of Agronomy
Faculty of Agriculture
Ain Shams University

1998

# APPROVAL SHEET

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# ABSTRACT

*Khaled Abd El-Fattah Mahmoud El Mangoury,* **Tissue Culture Studies on Lentil *(Lens culinaris* Medik.*).*** Unpublished Master of Science dissertation, Ain Shams University, Faculty of Agriculture, Agronomy Department, 1998.

This study was carried out in the laboratory of Plant Cellular and Molecular Genetics (PCMG), Agricultural Genetic Engineering Research Institute (AGERI), Agricultural Research Center (ARC), Ministry of Agriculture and Land Reclamation (MOALR), Giza, during the period from 1994 till 1998.

The aim of the present investigation was to study the initiation of plant tissue culture in lentil (*Lens culinaris* Medik.) cv. Precoz and Giza 370. This work included two parts; the first part deals with callus initiation and growth, while the second part deals with plant regeneration.

Two types of explants (leaflet and internode) were dissected from two lentil cultivars (Precoz and Giza 370) and were cultured on modified Murashige and Skoog medium (MSB) and containing concentration (5, 15 and 25 μM) of 2,4-Dichlorophenoxyacetic acid (2,4-D), whereas, the highest callus induction percentage was scored when 5 μM were added to medium. Giza 370 cultivar responds higher than Precoz. Leaflet scored the highest value when was used as explant source. Also, they were cultured on (MSB) mentioned earlier but containing different combinations Benzyle Adenine (BA) at concentrations of (5 and 10 μM) and Naphthaleneacetic acid (NAA) at concentration of (5, 15 and 25 μM) to study their response on callus initiation and growth. The highest callus induction percentage was scored when 5 μM BA and were added to medium. The proper NAA concentration was 15 μM. Precoz cultivar respond

higher than Giza 370. Leaflet scored the highest value when was used as explant source.

For plant regeneration, two different explants sources (leaflet and node) were dissected from pervious mentioned cultivars (Precoz and Giza 370). Explants were cultured on MSS medium supplemented with five BA concentrations (zero, 2, 4, 6 and 8 mg/l) to study their response on regeneration. The highest shooted explant percentage was scored when 8 mg/l BA and were added to medium. Giza 370 cultivar responds higher than Precoz. Node scored high values when was used as explant source. Also, explants were cultured on two different media formulations (MSBK1 and MSBK1) to study their response on regeneration. The highest shooted percentage was scored when MSBK1 was used as a regeneration medium. Giza 370 cultivar responds higher than Precoz. Node scored high values when was used as explant source.

**Key Words:** Callus – Regeneration - 2,4-D – BA - NAA.

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