شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

THE EFFECT OF SOME FERTILIZERS AND GROWTH REGULATORS ON BOTANICAL CHARACTERS AND YIELD OF *OCIMUM BASILICUM* L. AND *COTULA CINEREA* DEL.

By

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Abstract

The aim of this investigation was to study the effect of N, P, K and their combinations (N as urea 45.5% N at 120 kg N/feddan on sweet basil and at 80 kg/N feddan on *Cotula cinerea* Del., P as superphosphate 15.5% P_2O_5 at 80, 100 and 120 kg P_2O_5/ feddan on sweet basil and at 40, 60 and 80 kg P_2O_5/feddan on *C. cinerea* Del. and K as potassium sulphate 48% K_2O at 80 kg K_2O/feddan on sweet basil and at 60 kg K_2O/feddan on *C. cinerea* Del.) as well as IAA, BA and TIBA at different concentrations on certain morphological, anatomical characters, herb yield and its constituents for two medicinal plants sweet basil (*Ocimum basilicum* L.) and *Cotula cinerea* Del.

The results could be summarized as follows:-

Plant height, number of branches/plant, number of leaves/plant, total leaf area/plant, number of inflorescences/plant as well as fresh and dry weights of leaves, stems and inflorescences/plant of both plants were greatly increased by the addition of N1P2K1 and N1P3K1 treatments as well as the low concentrations (1 and 3 mg/l) of IAA, BA and TIBA.

The highest increase of stem section diameter, leaf blade thickness, leaf petiole section diameter and root section diameter was obtained by N1P2K1 treatment as well as IAA and BA application.

Chemical constituents represented in chlorophylls, carotenoids, total carbohydrates, N, P, K concentrations, essential oil yield/plant and oil constituents were increased due to the addition of NPK fertilizers and the three growth regulators. The best results of this study for both plants were attained at N1P2K1 and N1P3K1 treatments as well as the low concentrations (1 and 3 mg/l) of IAA, BA and TIBA.

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Contents

1. INTRODUCTION

The modern trend in most countries is to return back to the use of the herbs in medicine and therefore the production of the medicinal plants has been extensively focused in the recent years.

The family Lamiaceae includes a large number of plants containing essential oils, which are distributed allover the world. Most of these plants such as sweet basil, (*Ocimum basilicum* L.) can grow successfully in Egypt and produce a yield of economic value. Sweet basil is one of the most widely used members of the family Lamiaceae. The essential oil of its leaves and inflorescences is widely used in medicinal preparations, food production, cosmetics and perfumeries (Jacoub, 1995). The available quantities of sweet basil are not quite sufficient to fulfill their requirements.

About 371500 wild plant species on the planet were found, their number is continuously decreasing due to the destruction and degradation of wild plants. These habitats are negatively influenced by changes in the water balance of land areas and intensive agricultural utilization. A great number of these wild plants grows well in Egypt. Some of these plants are used in folklore medicine as medicinal plants such as *Cotula cinerea* Del. known locally as ribyaan, erbeyaan or sakaraan which is a small annual plant belongs to the family Asteraceae with yellow, discoid heads of hemispherical shape. It is a grey woolly erect or ascending herb. Involucral- scales are grey woolly, and is not margined. Leaves are more or less finely dissected with flat entire lobes, (Täckholm, 1974).

Shoots and flowers of *Cotula cinerea* Del. produce about 0.15% and 0.40%, of essential oil, respectively. Twenty three constituents were identified by GC- MS, of which the main components are camphor and beta-thujone. *Cotula cinerea* Del. is used in infusion and to flavour tea, in popular medicine for its stomachic and broncho- pulmonary properties