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

EFFECT OF PLANTING DATES AND SOME CULTURAL PRACTICES ON SUDDEN WILT CONTROL IN MELON

By

AHMED ABDEL-WAHAB AHMED MOHAMED

B.Sc. Agric. Sci. (Horticulture), Fac. Agric., Cairo Univ., 2000
M.Sc. Agric. Sci. (Vegetable Crops), Fac. Agric., Cairo Univ., 2005

THESIS

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Title of Thesis: Effect of Planting Dates and Some Cultural Practices on Sudden Wilt Control in Melon
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Dr. Yasser Mohamed Ahmed
Department: Vegetable Crops **Branch:** - **Approval:** 21/4/2011

ABSTRACT

Two field experiments were conducted in sandy soil during the fall seasons of 2007 and 2008 to study the effect of some cultural treatments, *viz.*, grafting on bottle gourd (*Lagenaria sesiraria*), grafting on gourd (*Cucurbita ficifolia*), grafting on pumpkin (*Cucurbita maxima*), mycorrhiza inoculation, covering with agryl, fungicides drenching, water stress treatment and control, three planting dates, *viz.*, 1st of July, 1st of August and 1st of September and three melon cultivars, namely Galia F_1 (Galia type), Nader F_1 (Ananas type) and Magenta F_1 (Charantais type), on sudden wilt control, some fruit characters, yield and fruit chemical composition. A spilt-split plot design with 3 replicates was adopted, where, planting dates were distributed randomly in the main plots, while melon cultivars were arranged in sub plots and the cultural treatments in sub-sub plots. The results indicated that the lowest percentages of sudden wilt were recorded in July planting in 'Magenta' and in grafted plants on gourd or bottle gourd as well as covering with agryl and water stress treatment.

Grafting on bottle gourd or gourd rootstock in both seasons as well as water stress treatment in the second season led to a significant increment in melon yield, while grafting on pumpkin in both seasons as well as mycorrhiza treatment in the first season, significantly, decreased the total yield, as compared with the control. Also, grafting on pumpkin decreased fruit weight, fruit length, fruit diameter, fruit size, TSS percentage, total sugars concentration and the other chemical compositions (N, P and K), whereas water stress treatment significantly increased TSS percentage, as compared with the control.

There were significant effects for melon cultivars on yield, TSS% and fruit characters. Generally, the highest total yield was achieved with Galia F_1 in both seasons. Meanwhile, TSS percentage significantly increased in 'Magenta' and 'Nader' as compared to 'Galia'. Moreover, 'Magenta' gave the best fruit characters, *viz.*, fruit weight, fruit diameter, fruit size and fruit firmness.

With regard to the effect of planting dates on melon yield, planting in July significantly increased the early and total yield and enhanced all fruit characters as compared with August planting. On the contrary, planting in September did not achieve any yield, due to the high sudden wilt percentage which occurred two months after planting.

Key words: Melon, *Cucumis melo*, sudden wilt, planting dates, grafting, mycorrhiza, agryl covering, fungicides, water stress.

S. F El-Sayed

INTRODUCTION

Melon, *Cucumis melo* L., is considered one of the most important, delicious and popular vegetable crops for local market and exportation. Recently, many growers have begun to grow cantaloupe plants for exportation to increase their income and also to increase the national output.

In Egypt, in 2000 growing season, the average of cantaloupe fruit yield was 10 ton/feddan. A drop in the average of yield was recorded in 2001 where it reached 9.89 ton/feddan. These figures are believed to undergo further reduction eversince as the average of yield recorded 8.4 ton in 2003 and 8.15 ton in 2004 growing seasons*.

In most melon areas, including cantaloupe ones, the growers claimed that high numbers of their plants are frequently died as a result of infection with a root rot and the associated vine decline causing serious economic losses that have been a major problem for melons and cantaloupe production elsewhere.

Vine decline and root rot, known also as plant collapse or sudden wilt or death of melon plants at the stage of fruit premature (rapid death of plants within 5 to 10 days as the melons approached maturity) is a destructive disease in many parts of the world (Garcia-Jimenez *et al.*, 2000; Pavlou *et al.*, 2002; Mostafa and El-Toony, 2004; Merghany, 2006). This disease is caused by a group of soil-borne pathogens such as *Rhizoctonia solani* (Garcia-Jimenez *et al.*, 2000; Kuramae *et al.*, 2003; Mostafa and El-Toony, 2004), *Macrophomina phaseoli* (Bruton *et al.*,

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1998; Aegerter *et al.*, 2000; Mostafa and El-Toony, 2004). *Monosporascus cannonballus* (Waugh, 2000; Stanghellini *et al.*, 2001; Mostafa and El-Toony, 2004; Merghany, 2006), *Acremonium sp.* (Biernacki and Bruton, 2001) or *Phytophthora spp.* (Herrero, 2002; Mostafa and El-Toony, 2004). *Fusarium spp.*; *i.e.*, *F. solani* f.sp. *curcurbitae* race-1 (Garcia-Jimenez, 1997; Aegerter *et al.*, 2000), *F. semitectum* and *F. oxysporum* (Bruton *et al.*, 1998), *F. oxysporum* f.sp. *melonis* (Namik *et al.*, 2000) and *F. oxysporum* f.sp. *radicis-cucumerinum* (Reverchon and Javoy, 2002; Pavlou *et al.*, 2002) were also frequently recorded on cantaloupe as the causal of root rot and vine decline.

The sudden wilt problem in melons, including cantaloupe, has caused great concern and justified the present study to be conducted in an attempt to detect the cause of this phenomenon and also to develop control measures by agricultural practices, biological and/or chemical control. Therefore, the present investigation aimed to study the effect of some cultural treatments on sudden wilt control, as well as on yield, chemical composition and some fruit characters of three melon cultivars grown in three planting dates of Nili planting.