ثبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

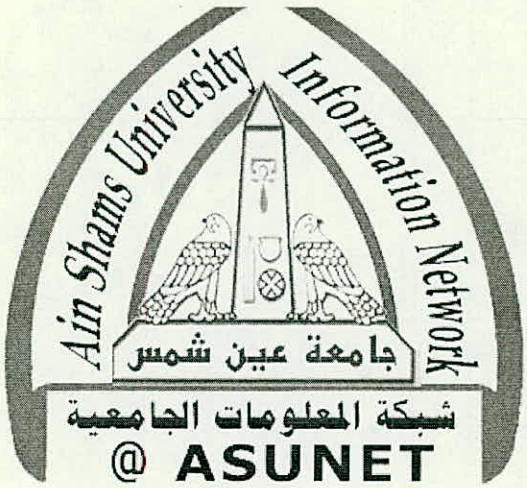
شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد 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

CANOPY CHARACTERISTICS AND YIELD OF CERTAIN YELLOW MAIZE HYBRIDS AS INFLUENCED BY PLANT DENSITY

BY

MAHMOUD BAYOUMY ABDEL-GAWAD EL-KOOMY
B.Sc. Agriculture (Agronomy)
Ain Shams University, (1996)

A Thesis submitted in partial fulfillment of
the requirements for the degree of

MASTER OF SCIENCE
(AGRONOMY)

Agronomy Department
Faculty of Agriculture
Ain Shams University

2000

APPROVAL SHEET

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THESIS

This thesis for Master of Science degree has been approved by:

Prof. Dr. A. Awad
Professor and Head of Agronomy Department,
Faculty of Agricultural, Suez Canal Univ.

Prof. Dr. A.S.A. Adris
Professor of Agronomy,
Faculty of Agricultural, Ain Shams Univ.

Prof. Dr. A.A. AbdEl-Gawad
Professor of Agronomy,
Faculty of Agricultural, Ain Shams Univ.

Date of examination / /2000

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Under the Supervision of :

Prof. Dr. A.A. ABDEL-GAWAD
Prof. of Agronomy, Fac. of Agric.,
Ain Shams University.

Prof. Dr. A.M. ABO-SHATIA
Prof. of Agronomy, Fac. of Agric.,
Ain Shams University.

Dr. G.M.A. MAHGOUB
Chief Researcher,
Sec. of Maize, Field Crops Res. Inst.,
ARC, Giza, Egypt.

ABSTRACT

Mahmoud Bayoumy Abdel Gawad El-Koomy, Canopy characteristics and yield of certain yellow maize hybrids as influenced by plant density. **Unpublished Master of Science, Dept. of Agronomy, Faculty of Agriculture, University of Ain Shams. 2000.**

The response of canopy structure and yield of four yellow maize hybrids to six plant density treatments ranging from 19048 to 33333 plants/fed was studied.

1. Leaves area attained their maximum values at a level of more than 155 cm from soil surface in SC hybrids (SC 155 and SC 156) and less than 150 cm in TWC hybrids (TWC 351 and TWC 352). Number of leaves was concentrated at lower strata from soil surface in SC hybrids than those of TWC hybrids, LAI and SLA, followed similar trend.
2. Ear leaf angle for plants grown at 25 cm between hills was greater than those planted at 20 or 30 cm apart. Flag leaf angle followed opposite trend where that of 25 cm apart was smaller than those at 20 or 30 cm apart, SC hybrids showed erectophilic shape compared to TWC hybrids.
3. Dry weight of the different yellow maize hybrids at different stalk strata increased as ridge width increased from 60 to 70 cm or intra-ridge spacing increased from 20 to 30 cm.
4. Yellow maize hybrids differed significantly in their dry weight of leaves, stems, tassel and ears. Dry weight of whole plant and its organs increased remarkably by increasing plant age from 60 to 80 days after planting.
5. TWC 352 showed highest values of RGR (0.25 and 0.20 g/g/week), CGR (34.7 and 39.4 g/m²/week) and NAR (50.3 and 57.67 mg/cm²/day) in 1st and 2nd growing seasons, respectively followed by TWC 351, SC 155 and SC 156 cultivars. Dry weight of maize organs increased significantly at thin planting as compared with dense one at 60 and 80 days age.
6. Ears of SC 155 hybrid were located at upper heights from soil surface followed by TWC 351, TWC 352 and SC 156 hybrids. SC 156 hybrid gave longer ears than other hybrids. Number of rows/ear and number of grain/ear

were higher under thin plant density of 19048 plants/fed as compared with the dense treatments.

7. Grain yield/fed of SC 155 and TWC 351 and TWC 352 exhibited the highest grain yield with no significant difference among them. Yellow maize hybrids under investigation differed significantly in their stover yield/fed and biological yield/fed. Where SC 155 and TWC 352 hybrids were higher than those of SC 156 and TWC 351. Harvest index and crop index suffered no considerable change due to plant density treatments ranging from 19048 to 33333 plant/fed.

Key words: Maize - yellow hybrids - plant density - canopy structure - growth parameters - ear characteristics - grain and stover yield.

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