THE IMPACT OF OPEN FIELD CLIMATE ON MICROCLIMATE UNDER PLASTICHOUSE

By

MOHAMED MAHMOUD EISSA

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By

MOHAMED MAHMOUD EISSA

B.SC. (MATHEMATICS) 1975 FACULTY OF SCIENCE,CAIRO UNIV.

DIPLOMA (METEOROLOGY) 1980 FACULTY OF SCIENCE,CAIRO UNIV.

DIPLOMA (AGROMETEOROLOGY) 1989 ITALY

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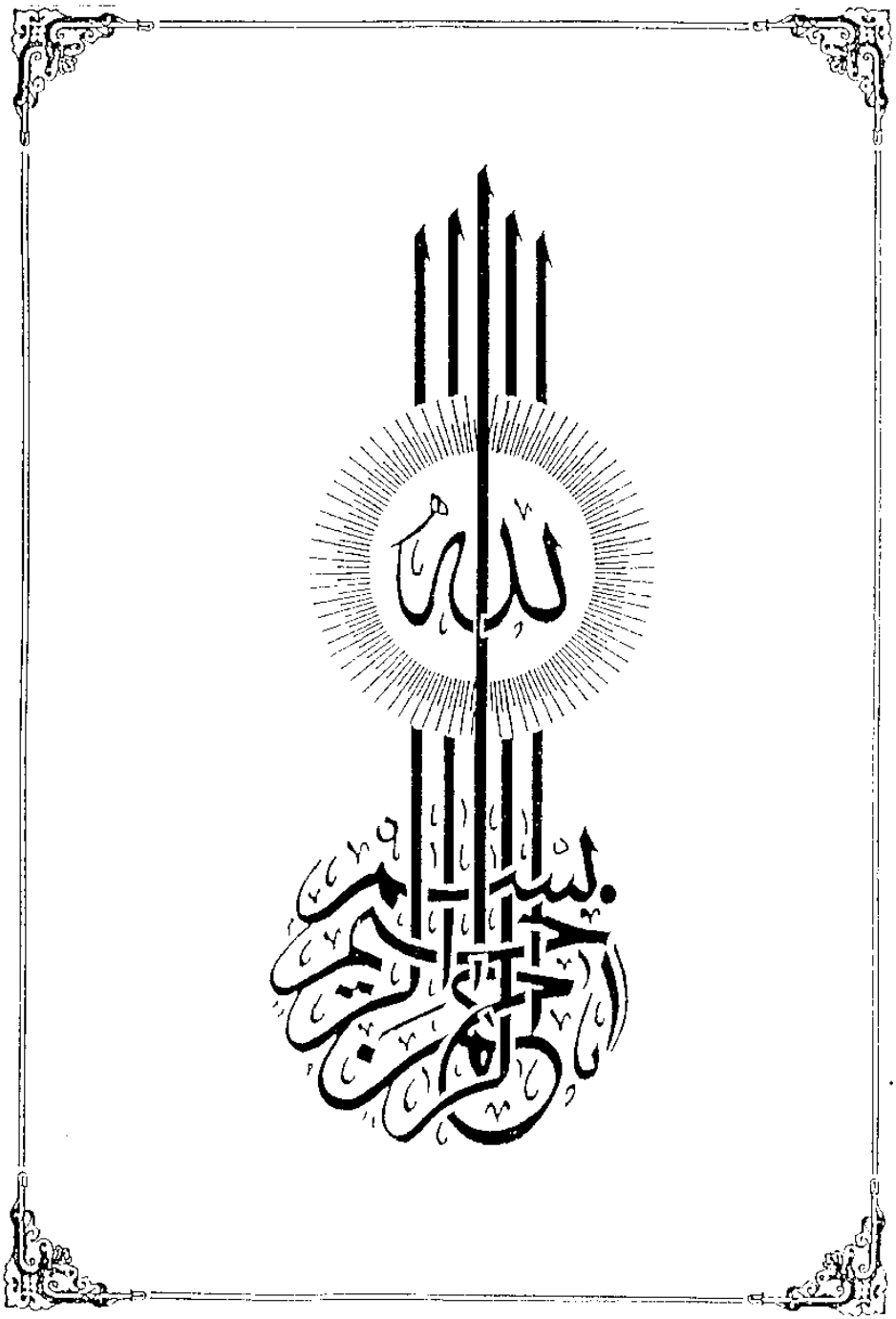
UNDER THE SUPERVISION OF

1- PROF. DR. WALLY EL DIN ASHOUR
PROF. OF PHYTOPATHOLOGY - AIN SHAMS UNIV.

2- DR. AYMAN FARID ABOU-HADID
ASSOCIAT PROF. OF VEGATABLE CROPS - AIN SHAMS UNIV

3- DR. HUSSAIN MOHAMED MOSTAFA ZOHDY
METEOROLOGICAL AUTHORITY



APPROVAL SHEET

THE IMPACT OF OPEN FIELD CLIMATE ON MICROCLIMATE UNDER PLASTICHOUSE.

BY

MOHAMED MAHMOUD EISSA

APPROVED BY

PROF.DR:MOHAMED MAHMOUD EL ZAYAT

M. M. El Zayat

DR :AYMAN FARIED ABOU-HADID

DR :AHMED ADEL ABD-EL HALIM

DATE 2/3/1992

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A THESIS

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MOHAMED MAHMOUD EISSA AHMED

ABSTRACT

The relation between plastic house microclimate and the environment can comprises the following parameters.

I-Crop water requirements.

The determination of crop water requirements under plastic house is dependant entirely on the microclimate inside the plastic house .Irrigation requirement is a function of crop water requirement and some other environment parameters;Irrigation is usually practiced together with fertilization,in an operation referred to as fertigation; Therefore,rationalization of irrigation water will in turn reduce the quantities of fertilizers added to the soil.This will reduce the Nitrogen accumulation in the plant tissue and eliminate one of the major Cancer causes, in the environment.

The pollution with heavy metals can be controlled by the same way and also contamination with radio active materials which was found to be frequent elements that occur in commercial phosphate fertilizers.

II-Control of Pests and Diseases.

The incidence of pests and diseases attacks can be also predicted by knowing the environment parameters and hence,plants can be protected in suitable time and manner.This plant protection will reduce the use of pesticides which will also help to improve the local environment.

The aim of this work is to find out a significant correlation between the plastic house climate and the open field climate using the most convenient meteorological data available.

This view is quite environmently sound and practically possible if we can correlate between climate inside and outside plastic house by a simple method and with no need to further expensive measurement tools in the plastic house.

SYMBOLS

TT(max)	: Daily maximum temperature inside plastichouse	(C)
FT(max)	: ,, ,, ,, outside ,,	,,
TT(min)	: ,, minimum ,, inside ,,	,,
FT(min)	: ,, ,, ,, outside ,,	,,
TT(800)	: Temperature at 800 hour inside ,,	,,
FT(800)	: ,, ,, ,, ,, outside ,,	,,
TT(1300)	: ,, ,, 1300 ,, inside ,,	,,
Ft(1300)	: ,, ,, ,, ,, outside ,,	,,
Trh(800)	:Relative humidity at 800 hour inside ,,	(%)
Frh(800)	: ,, ,, ,, ,, ,, outside ,,	,,
Trh(1300)	: ,, ,, ,, 1300 ,, inside ,,	,,
Frh(1300)	: ,, ,, ,, ,, ,, outside ,,	,,
Frh(max)	:Daily max relative humidity ,, ,,	,,
Frh(min)	: ,, min ,, ,, ,, ,,	,,
Trs	:Total daily solar radiation inside ,,	(mj/m*day)
Frs	: ,, ,, ,, ,, outside ,,	,,
Tpan	: Daily Pan evaporation inside ,,	(mm/day)
Fpan	: ,, ,, ,, outside ,,	,,
VPD	: Water vapour pressure deficit inside ,,	(mb)
VPD2	: Moving average of VPD for 2 days ,, ,,	,,
VPD3	: ,, ,, ,, ,, ,, 3 ,, ,, ,,	,,
VPD10	: ,, ,, ,, ,, ,, 10 ,, ,, ,,	,,
Ts(800)	:Soil temp. at 800 h. at depth 5 cm ,, ,,	(c)
Ts(1300)	: ,, ,, ,, 1300 h. at ,, ,, ,, ,,	,,
Fs(800)	: ,, ,, ,, 800 h. at ,, ,, outside ,,	,,
Fs(1300)	: ,, ,, ,, 1300 h. at ,, ,, ,, ,,	,,

LIST OF FIGURES

25-Linear regression between solar radiation outside plastichouse and solar radiation inside plastichouse in Autumn.

26-Linear regression between solar radiation outside plastichouse and Pan evaporation inside plastichouse in Autumn.

27-Linear regression between Class "A" Pan evaporation outside plastichouse and Pan evaporation inside plastichouse in Autumn .

28-Linear regression between mean. temp. outside plastichouse and Pan evaporation inside plastichouse in Autumn.

29-Linear regression between max. temp. outside plastichouse and max. temp. inside plastichouse in Winter.

30-Linear regression between solar radiation outside plastichouse and max. temp. inside plastichouse in Winter.

31-Linear regression between min. temp. outside plastichouse and min. temp. inside plastichouse in Winter.

32-Linear regression between Class "A" Pan evaporation outside plastichouse and Pan evaporation inside plastichouse in Winter.

33-Linear regression between solar radiation outside plastichouse and Pan evaporation inside plastichouse in Winter.

34-Linear regression between max. temp. outside plastichouse and Pan evaporation inside plastichouse in Winter.

35-Linear regression between relative humidity outside plastichouse and relative humidity inside plastichouse at 800 hour in Winter.

36-Linear regression between relative humidity outside plastichouse and relative humidity inside plastichouse at 1300 hour in Winter.

37-Linear regression between solar radiation outside plastichouse and solar radiation inside plastichouse in Winter.

38-Linear regression between max. temp. outside plastichouse and min. temp. inside plastichouse in Winter.

39-Linear regression between temp. outside plastichouse at 800 hour and temp. inside plastichouse at 800 hour in Winter.

40-Linear regression between temp. outside plastichouse at 1300 hour and temp. inside plastichouse at 1300 hour in Winter .

41-Linear regression between min. relative humidity outside plastichouse and relative humidity inside plastichouse at 1300 hour in Spring.

42-Linear regression between solar radiation outside plastichouse and solar radiation inside plastichouse in Spring.

43-Linear regression between Class "A" Pan evaporation outside plastichouse and Pan evaporation inside plastichouse in Spring.

44-Linear regression between solar radiation outside plastichouse and Pan evaporation inside plastichouse in Spring.

45-Linear regression between temp. outside plastichouse and temp. inside plastichouse at 800 hour in Spring.

46-Linear regression between temp. outside plastichouse and temp. inside plastichouse at 1300 hour in Spring.

47-Linear regression between relative humidity outside plastichouse and relative humidity inside plastichouse at 800 hour in Spring.

48-Linear regression between max. relative humidity outside plastichouse and relative humidity inside plastichouse at 800 hour in Spring.

49-Linear regression between min. temp. outside plastichouse and min. temp. inside plastichouse in Spring.

50-Linear regression between solar radiation outside plastichouse and min. temp. inside plastichouse in Spring

51-Linear regression between max. temp. outside plastichouse and min. temp. inside plastichouse in Spring

52-Linear regression between max. temp. outside plastichouse and max. temp. inside plastichouse in Spring

53-Linear regression between solar radiation outside plastichouse and max. temp. inside plastichouse in Spring

54-Linear regression between max. temp. inside plastichouse and min. temp. inside plastichouse in Spring

55-Linear regression between max. temp. inside plastichouse and max. temp. inside plastichouse in Summer

56-Linear regression between solar radiation outside plastichouse and max. temp. inside plastichouse in Summer

57-Linear regression between min. temp. outside plastichouse and min. temp. inside plastichouse in Summer.

58-Linear regression between solar radiation outside plastichouse and min. temp. inside plastichouse in Summer.

59-Linear regression between temp. outside plastichouse and temp. inside plastichouse at 800 hour in Summer.

60-Linear regression between temp. outside plastichouse and temp. inside plastichouse at 1300 hour in Summer.

61-Linear regression between min. relative humidity outside plastichouse and relative humidity inside plastichouse at 800 hour in Summer.

62-Linear regression between max. relative humidity outside plastichouse and relative humidity inside plastichouse at 800 hour in Summer.

63-Linear regression between solar radiation outside plastichouse and solar radiation inside plastichouse in Summer.

64-Linear regression between Class "A" Pan evaporation outside plastichouse and Pan evaporation inside plastichouse in Summer.

65-Linear regression between solar radiation outside plastichouse and Pan evaporation inside plastichouse in Summer.

66-Linear regression between mean temperature outside plastichouse and Pan evaporation inside plastichouse in Summer.

LIST OF TABLES

page