



Allicin

; 1999 Mirelman Ankri )

. ( 1996 Saniewska

/ 1500 2000

2000 1999 2000

. ( 2001 FAO)

1989

) .

. (

( )

(2001)

Castellanos

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( / 600000 500000 400000 300000 )

/ 39.7

/ 600000

( 2001 )

Jamroz

.

/

31

/

300000

( 16 12 8 4 )

8

(

15

30

15

1 )

4

2 x 20

( 2007 ) Skupien

Rekowska

. 8 x 20

6 x 20

4 x 20

10

( 2007 )

Kilogori

20 15 5

/ 10534

2009

( 2011 )

Morvacevic

900000

750000

600000

450000

300000

2010

/ 300000

/

/ 900000

5/1

%15

. ( 1973 Barazanji )

( 1999 )

3 2 )

(

-1

2011 - 2010

/

. ( 1 )

(

)

(<sup>2</sup> 2 x 2 )

18

10

2010 / 10 / 20

7

75

)

( 1 )

)

50

.( 1989

:

Split-Plot

( R.C.B.D. )

Main Plot

6

Sub Plot

18

( 2001) SAS

%5

:

(1

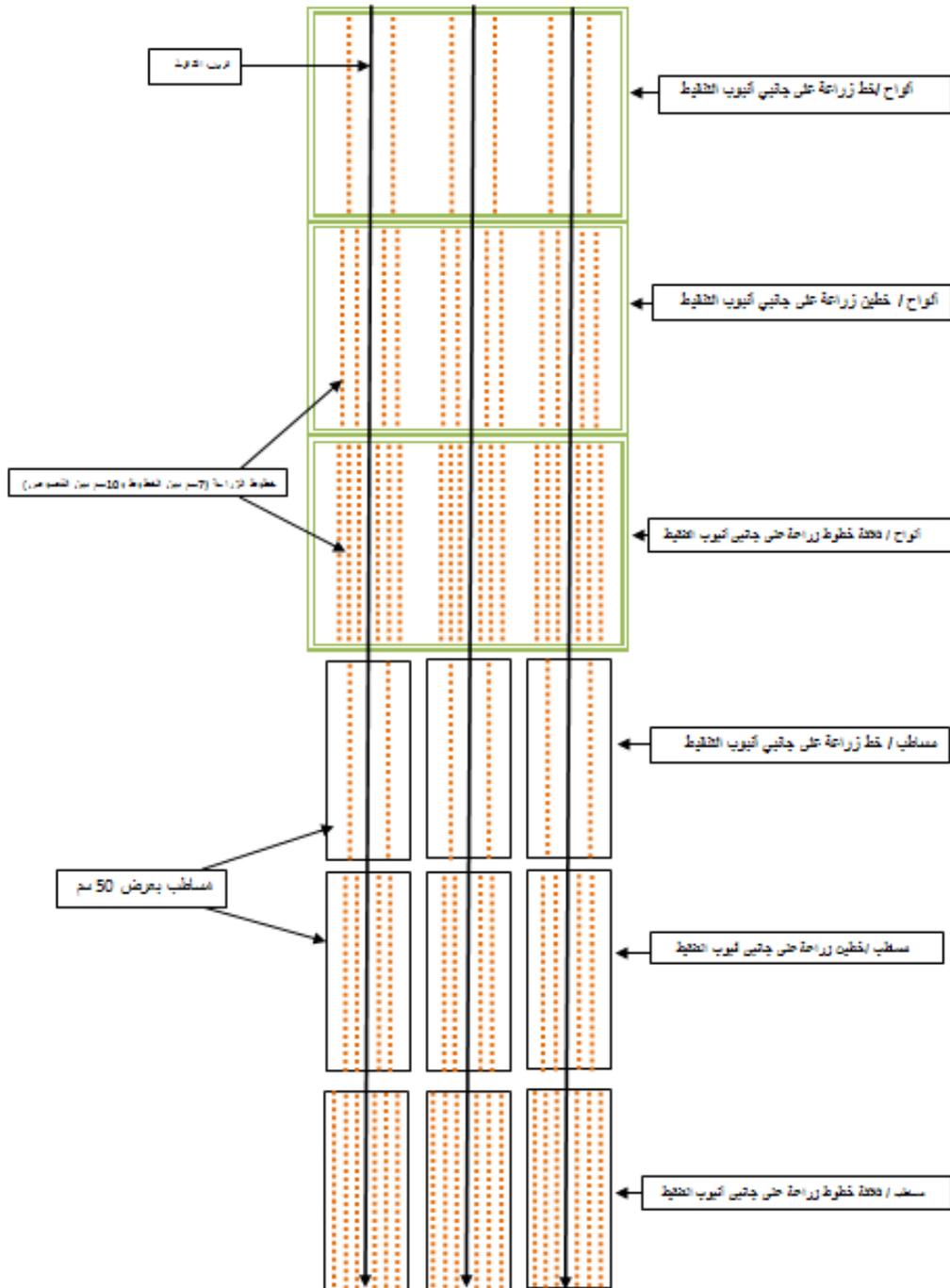
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:

(2

- 300000 / . ( )  
 - 600000 / . ( )  
 - 900000 / . ( )  
 . ( 1 )



.1

2011 / 5 /14

10

:  
 -1 ( ) -2 ( ) -3 ( / )  
 -4 ( / ) -5 ( / )  
 -7 ( ) -8 ( / ) -9 ( )  
 -10 ( % ) -11 ( )  
 . ( )  
 .1

1- /	1- .	O.M 1- .	E.C ds.m -1	K /	P /	N /	pH	1- .	1- .	1- .	
40	250	5.5	2.5	25	7.5	40.0	7.50	180	220	600	

( 2 )

/ 900000 / 300000  
 / 900000 / 600000  
 / 600000 75.42  
 / 300000  
 86.71  
 / 900000 . 71.51  
 . ( ) .2

	900000 /	600000 /	300000 /	
81.09 a	79.33 ab	77.23 ab	86.71 a	
78.33 a	71.51 b	82.96 a	80.51 ab	
	75.42 b	80.10 ab	83.61 a	

%5

\*



11.07 / 600000 300000 / 900000  
 . / 900000 600000

) .5 .(

	<b>900000</b>	<b>600000</b>	<b>300000</b>	
	/	/	/	
20.85 a	15.27 bc	17.03 bc	30.24 a	
19.46 a	11.07 c	25.11 ab	22.19 abc	
	13.17 b	21.07 a	26.22 a	

%5

\*

( 6 )

%13 48.90 / 300000  
 900000 600000 %38 %35 /  
 60.72 / 300000  
 . 37.27 / 900000

. ( ) .6

	<b>900000</b>	<b>600000</b>	<b>300000</b>	
	/	/	/	
48.90 a	43.74 c	42.24 c	60.72 a	
43.19 b	37.27 d	40.95 c	51.34 b	
	40.51 b	41.60 b	56.03 a	

%5

\*

( 7 )

/ 900000 600000 / 300000  
 / 300000  
 / 12.60  
 600000

900000

/ 6.90

/

/

/ )

.7

.(

	<b>900000</b>	<b>600000</b>	<b>300000</b>	
	/	/	/	
9.38 a	8.63 bc	6.90 c	12.60 a	
9.30 a	7.70 bc	9.06 b	11.15 a	
	8.17 b	7.98 b	11.88 a	

%5

\*

( 8 )

5.48

/ 900000 600000

/ 300000

%60 %44

4.97

/ 300000

6.39

2.82

/ 900000

/ 600000

.( )

.8

	<b>900000</b>	<b>600000</b>	<b>300000</b>	
	/	/	/	
4.97 a	4.01 bc	4.52 b	6.39 a	
3.49 b	2.82 d	3.07 cd	4.57 b	
	3.42 b	3.80 b	5.48 a	

%5

\*

( 9 )

%36.96

.9

. ( % )

	<b>900000</b>	<b>600000</b>	<b>300000</b>	
	/	/	/	
36.96 a	36.95 a	37.35 a	36.58 a	
35.98 b	37.31 a	35.35 a	35.28 a	
	37.13 a	36.35 a	35.93 a	

%5

\*

( 10 )

%45

	/	300000	
28.11	/	900000	
	/	600000	
	/	300000	
		80.30	
	21.82	/	900000
	.	/	600000

. ( )

.10

	<b>900000</b>	<b>600000</b>	<b>300000</b>	
	/	/	/	
48.62 a	34.40 c	31.16 c	80.30 a	
33.54 b	21.82 d	27.89 cd	50.91 b	
	28.11 b	29.53 b	65.61 a	

%5

\*

( 11 )

/ 24.58

/ 25.30 / 900000  
 / 30.96 / 900000  
 / 15.27 / 300000 / 600000  
 / 600000 / 600000  
 / ) .11 (

	<b>900000</b>	<b>600000</b>	<b>300000</b>	
	/	/	/	
24.58 a	30.96 a	18.69 cd	24.09 b	
17.21 b	19.63 c	16.73 cd	15.27 d	
	25.30 a	17.71 b	19.68 b	

%5

\*

/ 300000

( 1978 Moorby )

. ( 1989 Odurukwe )

. ( 1999 )

. 1994 .

- ..... . 1999 .
- . 55 - 46 : ( 3 )
- . 1995 .
- . 1989 .
- . ( )
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N. C. U.S.A.

## **THE EFFECT OF AGRICULTURE METHODS AND PLANT DENSITY ON GROWTH AND YIELD OF GARLIC ( *ALLIUM SATIVUM* L. ) BY USING OF IRRIGATION DRIP SYSTEM IN A GYPSIFEROUS SOIL**

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### **ABSTRACT**

A field experiment was conducted in College of Agriculture / Tikrit University during 2010 – 2011 season ON Garlic ( *Allium sativum* L. ) to study the effect of two methods of agriculture ( raw and plot ) and three treatments of plants density ( 300000 , 600000 , 900000 plant / ha ) , The experiment was factorial according to split plot design with three replication results showed that was significant increment in agriculture method on raw significantly on plot in each head diameter , cloves weight , percentage of dry matter in cloves , head weight and total yield characters . whereas the plant density showed ( 300000 plant/ha ) significant increment in all yield characters except the total yield character , The increment of plant density was ( 900000 plant/ha ) . The interaction between agriculture method on raw with plant density of 300000 plant/ha significant increment in most studied characters except the total yield which increased on raw with plant density of 900000 plant/ha which there was not any significant difference in the interaction of every leaves number and percentage of cloves dry matter .

**Keywords:** Garlic , Agriculture Methods , Plant Density