

Hibiscus sabdariffa L.

		2004/4/1		2005/4/3		2005-2004	
		RCBD		RCBD		LSD	
		. %5		. %5		LSD	
1-	5	(N%44.66)Co(NH ₂) ₂					
			1-	4	(K%41.5) K ₂ SO ₄		
					2	(B %17) H ₃ BO ₃	
				6-4			
		156.6	142.0				
		512.40	507.0			1-	28.6 24.0
1250.7	1077.33			187.0	162.70	1-	2 4.35 3.49
475.00	20.33 17.33	130.0	120.40			1-	
1-	952.00 869.33	143.0	130.0	2	2.65 2.44		485.46

EFFECT OF FOLIAR SPRAYE WITH SOME NUTRIENT ELEMENTS ON GROTH AND YIELD OF ROSELLA A- PHYSICAL CHARACTERS AND YIELD

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Abstract

This study was conducted in Brwana district , Hadetha province , Al-Anbar governorate during the growing season of 2004 and 2005 to investigate the effect of foliar sprays with nitrogen as urea CO₂(NH₂)₂ at 5 g.L⁻¹ and K₂SO₄ at 4 g.L⁻¹ and B as H₃PO₃ at 2 g.L⁻¹ and their interaction on the growth and chemical characteristic for Rosella jamica. *Hibisus sabdariffa* L.

Rosella seed were plant on 1.4.2004 and 3.4.2005 for both seasons. The first foliar spray was done at 4-6 leaf stage and the second foliar spray application was done after one month from the first application. Eight treatments were used using RCBD with three replicates to compare the means using L.S.D at a level of 5% . The experimental results shows that treating plants with N + P + B significantly gave the highest plant height of 142.0 and 156.66 cm. Number of branches perplant of 24.0 and 28.66 branches , dry weight of vegetative parts of 507.0 and 512.40 g. plant⁻¹ leaf area of 3.49 and 4.35 cm². plant⁻¹ , number of fruit of 162.70 and 180.0 fruit . plant⁻¹ and total clays yield of 1077.33 and 1250.70 kg.h⁻¹ for both season respectively as compared with the control treatment which gave 120.40 and 131.0 cm , 17.33 and 20.33 branch. plant⁻¹ , 475.0 and 485.46 g. plant⁻¹ and 952.00 and 869.33 kg. ha⁻¹ for both seasons respectively.

Malvaceae				<i>Hibiscus sabdariffa</i> L.			
				Hibiscus		Sabdariffa	
						Hibiscin	
Vit. C				.(1)			
				.(2) Tartaric		Malic Citric	
.(3) 1-				. 800 (3)			
Roselle				(4)			
				(5)			
				1- . 620 480 320 160			
240	160	80	0	(6) .			
				(N%21) 1-			
(7)							
1- . 400 200 100 0							
(11 10 9 8)				1- . 400			
				%97			
1- . 560				(13) .(12)			
				1- . 500 1- . 243			
2.5 2 0				(14)			
				%17 Borax 1- .B 3			
(15)				1- . B 2.5			

0.56

1- . 1.12

260

101

43

34

.2005 2004

-

60-0

(2)

(1)

-

. 0.75

1

3

4

5-3

2005

3

2004

. 4-3

0.5

120

160

200

.(16)

2005 2004**.1**

2005	2004	
7.68	7.76	pH
1.30	1.60	(dS/m ²) ECe
42.43	54.44	
33.00	34.00	
24.57	11.56	
Loam	Sandy loam	Texture
13.41	11.14	mg/kg
160.7	150.8	Mg/kg NO ₃
7.95	7.95	mg/kg

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-

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Sabdariffa

6-4

10

2005 2004

.2

4.1	12.7	5.3	13.5	
5.2	17.2	6.0	18.0	
10.3	20.0	11.0	21.3	
13.2	28.3	14.0	29.0	
18.3	34.2	19.2	33.2	
23.2	40.2	22.3	40.0	
26.3	43.8	27.0	48.0	
25.0	43.0	26.0	44.0	
21.4	37.4	20.2	38.1	
15.6	32.4	16.4	33.3	
12.1	28.0	13.0	31.0	
7.6	22.0	8.5	20.2	

*

N%44.66 / 5	CO ₂ (NH ₂) ₂	N	-1
K%41.5 / 4	K ₂ SO ₄	K	-2
B %17 / 2	H ₂ BO ₃	B	-3
		N + K	-4
		N + B	-5
		K + B	-6
		K + N + B	-7
		Control	-8

RCBD

L.S.D

.(17) %5

:

/

1-

1-

1-

60

1- 2

:

$$\times \quad 2 \quad + \quad = 2$$

.(18)

.(20 19)

1-

1-

(3)

2005 2004

	/			/		
608.40	18.40	131.00	601.70	17.40	120.00	
636.00	26.70	153.00	631.20	23.70	137.00	N
621.00	25.00	141.00	620.00	20.40	129.40	K
613.70	22.40	143.70	615.00	18.70	126.40	B
643.40	27.00	153.00	635.00	24.00	140.00	N + K
640.00	26.00	146.00	633.40	21.70	139.40	N + B
636.00	23.00	143.00	630.00	19.00	137.00	K + B
653.40	28.70	156.70	640.00	24.00	142.00	N + K + B
6.59	1.89	1.34	9.33	2.05	2.18	%5 . .

1- . . .

B K N

B K

N

2005 2004

1- . 497.40 492.00

485.40 475 B K

.(4)

1- . 485 492.40 482.70 481.70

K + B N + B

N + K

1- . 508.4 501.40

N + K + B

512.40 507

(28)

(4 3)

(25)

Amylase Peroxidas Catalas

. (29)

(4)

2005 2004

2	.	2	.	
2.65	482.70	2.44	475.00	
3.85	497.40	3.19	492.00	N
3.40	492.40	2.87	485.40	K
3.10	485.00	2.74	481.70	B
4.09	508.40	3.34	501.40	N + K
3.96	496.00	3.25	497.00	N + B
3.60	493.00	3.00	491.00	K + B
4.35	512.40	3.49	507.00	N + K + B
0.17	3.33	0.13	4.11	%5 . .

1-

B K N
148 144 149

(5)

2005 2004 1- . 168 164 170.70
K N 1- . 143 130
. 2005 B , K 2004

(6 5)

ATP
. (29)

(13)

(23)

2005 2004 182 161.40 N + B
1- . 169 149 K + B

N + B

1- . 187 162.70

N + K + B

				2004		N + B	
(23)							
				1-			
				(5)			
				B K N			
				35.70 37.40			
				2005 2004		1- . 39 36 42.70 36	
				1-		. 35.70 32.70	
2005				2004			
						. N	
K + B				N + B N + K		2005 2004	
1-				. 44.67 43 40 39.40			
				1-		. 40.70 36.70 K + B	
				N + K + B			
				1-		. 46.70 42	
.							
1-							
				(5)			
				B K N			
1000				B K		N	
				2005 2004		1- . 1116.66	
974.66 1048.00 952.00 941.33 974.66 869.33						B K	
						1-	
				N + B N + K			
1154.70 1165.33 1049.33 1068.00						K + B	
				N + K + B		1-	
2004				2005			
				1-		. 1250.70 1077.33	
:							
(32)							
:							

(34) 3 4 :

(6 5)

(5)

2005 2004

1-		1-	1-		1-	
952.00	35.70	143.00	869.33	32.70	130.00	
1118.66	42.70	170.00	1000	37.40	149.00	N
1048	36.00	164.00	974.66	35.70	144.00	K
974.66	39.00	168.00	941.33	36.00	148.00	B
1165.33	43.00	171.70	1068	39.40	157.00	N + K
1154.70	44.67	182.00	1049.33	40.00	161.40	N + B
1082.70	40.70	169.00	978.66	36.70	149.00	K + B
1250.70	46.70	187.00	1077.33	42.00	162.70	N + K + B
53.66	2.11	2.234	33.10	1.91	3.29	%5 . .

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.7

.1994

.226-220 : (1) . 21

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	.1996 .	.9
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