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**EFFECT OF DIFFERENT NITROGEN LEVELS AND SOURCES ON  
YIELD, FRUIT QUALITY AND DATE BUNCH FADING DISORDER  
SEVERITY IN DATE PALM CV. 'MOZAFATI' IN JIROFT REGION**

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Table 1. Chemical properties of tested soil in 2 experimental years.

Cu (mg kg <sup>-1</sup> )	Zn (mg kg <sup>-1</sup> )	Mn (mg kg <sup>-1</sup> )	Fe (mg kg <sup>-1</sup> )	K (mg kg <sup>-1</sup> )	P (mg kg <sup>-1</sup> )	O.C (%)	pH <sup>†</sup>	ECe (ds m <sup>-1</sup> )	(cm)	Year
0.62	1.6	0.34	0.5	95	11.6	0.1	7.6	0.5	0-30	First
0.34	1.6	0.16	0.28	70	12.6	0.1	7.8	0.53	30-60	
0.38	0.75	0.84	0.36	41	10.6	0.08	8.1	0.27	0-30	Second
0.30	0.5	0.46	0.27	34.4	11	0.06	8.2	0.19	30-60	

† Electrical conductivity in soil saturated extract, pH with glass electrode in saturation paste, organic carbon based on oxidation with chromic acid and titration of residual acid with ferrous ammonium sulfate, P as extraction with 0.5 M ammonium bicarbonate (pH=8.5), K as extraction with 1 N ammonium acetate and Fe, Mn, Zn and Cu with DTPA method.

pH

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K pH / = /

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Table 2. Water analysis data in 2 experimental years.

Class	SAR (meg l <sup>-1</sup> )	Cl <sup>-</sup> (meg l <sup>-1</sup> )	Na <sup>+</sup> (meg l <sup>-1</sup> )	Ca <sup>2+</sup> +Mg <sup>2+</sup> (meg l <sup>-1</sup> )	HCO <sub>3</sub> <sup>-</sup> (meg l <sup>-1</sup> )	CO <sub>3</sub> <sup>2-</sup>	pH	EC (ds m <sup>-1</sup> )	Year
C <sub>3</sub> S <sub>1</sub>	0.76	1.4	2.05	14.4	2.14	0.48	7.1	0.76	First
C <sub>2</sub> S <sub>1</sub>	1.16	1.2	1.36	2.7	2.12	0.33	7.6	0.66	Second

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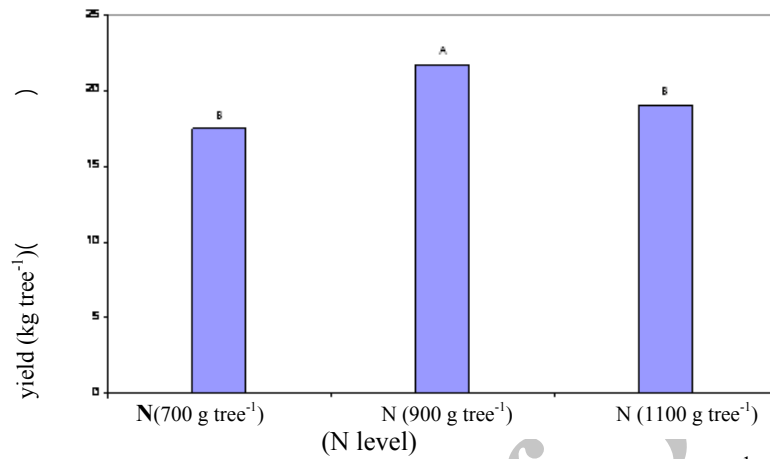


Fig. 1. The effects of nitrogen levels on yield of 'Mozafati' date (kg tree<sup>-1</sup>).

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Table 3. Effect of nitrogen levels and sources on yield and date bunch fading disorder in experimental years.

(Mean)		N(1100 g tree <sup>-1</sup> )		N(900 g tree <sup>-1</sup> )		N(700 g tree <sup>-1</sup> )		N. Source	Year
Disorder (%)	Yield (kg tree <sup>-1</sup> )	Disorder (%)	Yield (kg tree <sup>-1</sup> )	Disorder (%)	Yield (kg tree <sup>-1</sup> )	Disorder (%)	Yield (kg tree <sup>-1</sup> )		
20.31A	11.45AB	15ab	11.88ab	28.00ab	14.44a	17.94ab	8.02bc	(Urea)	First
20.13A	9.05B	31.2a	10.70abc	2.00b	9.76abc	27.2ab	6.7c	(Ammonium sulfate)	
5.53a	13.47a	5.16ab	12.84ab	4.00ab	13.48a	7.44ab	14.10a	(Ammonium nitrate)	
		17.12A	11.81AB	11.33A	12.56A	17.53A	9.61B	(Mean)	
25.57A	25.89B	34.66a	21.92cd	19.8b	26.14bcd	22.26b	29.62bc	(Urea)	Second
24.32A	24.73B	20.38b	25.44bcd	18.26b	28Bcd	34.32a	20.74d	(Ammonium sulfate)	
19.37B	31.87A	21.4b	31.42AB	12.68b	38.4a	22.04b	25.78bcd	(Ammonium nitrate)	
		24.48A	26.26B	17.58B	30.85A	26.21A	25.38B	(Mean)	

† Means with the same letter in each row or column (small letters for means and capital letters for means of columns and rows are not significant difference in 5% level of probability.

Table 4. The effect of nitrogen levels and sources on Khalal diameter (cm).

Mean	N level (g tree <sup>-1</sup> ) ( )			N source
	1100	900	700	
2.498B	2.463cd	2.532ab	2.500bc	Urea
2.500B	2.529ab	2.428d	2.544ab	Ammonium sulfate
2.541A	2.532ab	2.517b	2.573a	Ammonium nitrate
	2.49B	2.51B	2.54A	Mean

† Means with the same letter in each row or column (small letters for means and capital letters for means of columns and rows are not significant difference in 5% level of probability.

Table 5. The effect of nitrogen levels and sources on Khalal length (cm).

Mean	N level (g tree <sup>-1</sup> ) ( )			N source
	1100	900	700	
4.054B	3.948e	4.099cd	4.115cd	Urea
4.146A	4.194ab	4.045d	4.253a	Ammonium sulfate
4.164A	4.217ab	4.106Cd	4.169bc	Ammonium nitrate
	4.083B	4.120B	4.179A	Mean

† Means with the same letter in each row or column (small letters for means and capital letters for means of columns and rows are not significant difference in 5% level of probability.

Table 6. The effect of nitrogen levels and sources on mean Khalal weight (g).

Mean	N level (g tree <sup>-1</sup> )			N source
	1100	900	700	
15.16B	14.36e	15.89b	15.14d	Urea
15.60A	15.87b	14.24e	16.68a	Ammonium sulfate
15.58A	15.62bcd	15.35cd	15.76bc	Ammonium nitrate
	15.28B	15.16B	15.89A	Mean

† Means with the same letter in each row or column (small letters for means and capital letters for means of columns and rows are not significant difference in 5% level of probability.

Table 7. The effect of nitrogen levels and sources on mean rutab weight (g).

Mean	N level (g tree <sup>-1</sup> )			N source
	1100	900	700	
11.9B	10.90e	12.59a	12.20bc	Urea
12.07B	12.07c	11.65d	12.48ab	Ammonium sulfate
12.32A	12.72a	12.73a	11.50d	Ammonium nitrate
	11.90B	12.33A	12.06B	Mean

† Means with the same letter in each row or column (small letters for means and capital letters for means of columns and rows are not significant difference in 5% level of probability.



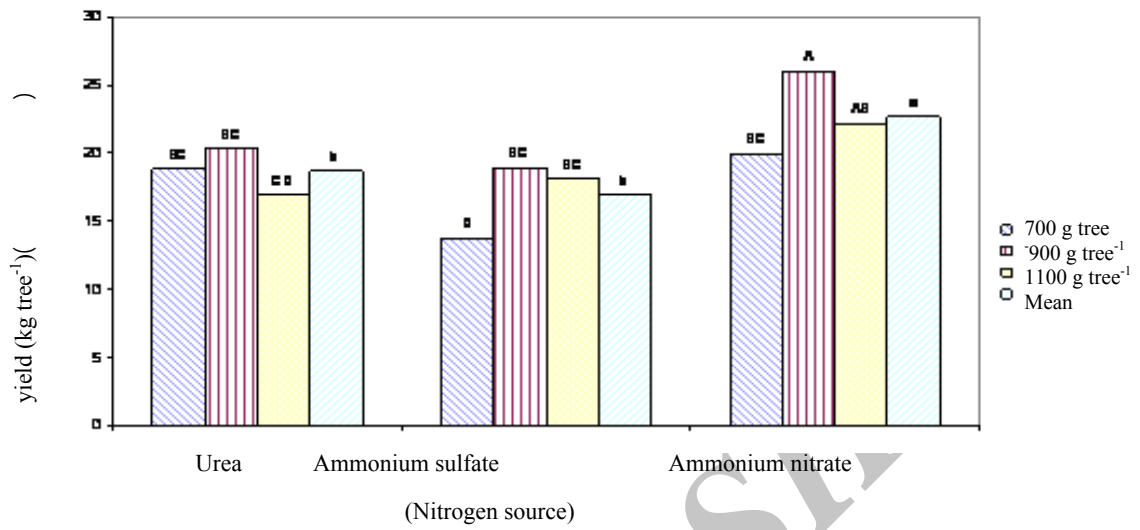


Fig. 2. The effects of nitrogen levels and sources on yield of 'Mozafati' date (kg tree<sup>-1</sup>)

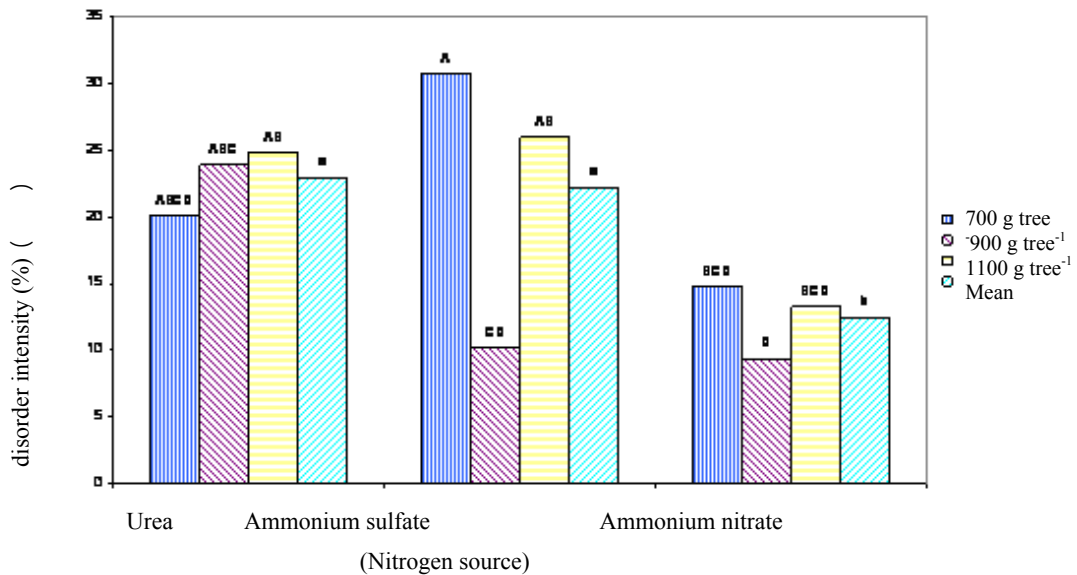


Fig. 3. The effect of nitrogen levels and sources on intensity date palm bunch fading disorder (%).



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