

**Table (5):** Impacts of Irrigation Frequencies, Hand Weedings and Herbicides on Weed Population Density and Growth Performances, in Field Grown Tuberoses (*Polianthes tuberosa*, L cv "Double"), During the 2001/02 and 2002/03 Growing Seasons, at Hada AL-Sham's Agricultural Experiment Station (Macca AL-Mokarama Area, KSA).

Growth Parameters (Avg.)/ Sub-Sub-Plot (3.0 m <sup>2</sup> )	Weed Density (#)		Fresh Weight (Kg)		Dry Weight (Kg)		WUE (#) <sup>y</sup>		WUE (Dry wt) <sup>y</sup>		Weed Control Efficiency (%) <sup>z</sup>	
	2001/02	2002/03	2001/02	2002/03	2001/02	2002/03	2001/02	2002/03	2001/02	2002/03	2001/02	2002/03
<b>● Irrigation Frequencies (Days)<sup>x</sup></b>												
Two	551.7 a	417.5 a	11.1 a	9.2 a	2.7 a	2.0 a	49.0 c	37.1 d	0.24 a	0.24 a	39.1 a	27.2 a
Four	295.4 b	300.8 b	5.3 b	5.9 b	1.2 b	1.3 b	52.5 bc	53.4 c	0.21 ab	0.23 a	33.9 b	25.2 ab
Six	244.3 b	252.1 c	4.4 b	4.5 c	0.8 bc	0.9 c	65.1 ab	61.3 b	0.22 a	0.18 b	28.3 c	23.8 b
Eight	205.1 b	172.2 d	2.4 c	2.8 d	0.5 c	0.5 d	72.9 a	67.3 a	0.16 b	0.17 b	23.9 d	23.8 b
<i>F-Test</i>	**	**	**	**	**	**	**	**	*	**	**	*
<i>LSD 0.05</i>	100.6	23.24	1.57	0.55	0.49	0.11	12.75	3.99	0.05	0.02	1.21	2.16
<i>0.01</i>	144.5	33.39	2.26	0.79	0.71	0.16	18.32	5.73	0.08	0.03	1.73	3.11
<i>Polynomial Regression</i>												
<i>Linear</i>	**	**	**	**	**	**	**	**	ns	ns	**	**
<i>Quadratic</i>	**	*	**	**	**	**	ns	**	**	**	ns	ns
<i>Cubic</i>	ns	*	ns	*	ns	ns	ns	**	**	**	ns	ns
<b>● Manual Weeding (Weeks)</b>												
Control	480.6 a	336.4 a	8.5 a	6.6 a	2.0 a	1.4 b	83.3 a	65.7 a	0.29 a	0.24 a	0.0 d	0.0 d
Four	201.7 d	224.9 c	3.6 d	4.5 c	0.7 d	0.9 c	40.7 d	41.1 d	0.13 d	0.15 d	48.5 a	39.8 a
Eight	258.5 c	263.4 b	4.3 c	5.1 b	1.0 c	1.1 b	50.6 c	51.5 c	0.16 c	0.19 c	41.0 b	29.5 b
Twelve	355.7 b	317.7 a	6.6 b	6.2 a	1.5 b	1.3 a	65.1 b	60.8 b	0.24 b	0.23 b	29.0 c	23.9 c
<i>F-Test</i>	**	**	**	**	**	**	**	**	**	**	*	*
<i>LSD 0.05</i>	34.49	20.46	0.62	0.41	0.14	0.09	5.35	3.58	0.02	0.01	1.82	1.27
<i>0.01</i>	46.25	27.44	0.83	0.54	0.18	0.12	7.18	4.79	0.03	0.02	2.44	1.71
<i>Polynomial Regression</i>												
<i>Linear</i>	**	**	**	**	**	*	**	**	**	**	**	**
<i>Quadratic</i>	**	**	**	**	**	**	**	**	**	**	**	**
<i>Cubic</i>	ns	**	ns	**	ns	**	ns	**	ns	**	ns	**
<b>● Herbicides</b>												
Control	498.9 a	547.5 a	9.1 a	10.8 a	2.1 a	2.3 a	93.5 a	103.7 a	0.33 a	0.39 a	0.0 d	0.0 d
Pendimethalin	385.9 b	314.6 b	6.8 b	6.1 b	1.6 b	1.3 b	69.6 b	58.9 b	0.24 b	0.22 b	56.0 c	60.68 c
Glyphosate	244.7 c	172.0 c	4.2 c	3.4 c	0.9 c	0.7 c	46.0 c	32.9 c	0.16 c	0.12 c	72.6 b	82.58 b
Pendimethalin + Glyphosate	166.8 d	108.5 d	2.9 d	2.1 d	0.6 d	0.4 d	30.6 d	23.5 d	0.10 d	0.08 d	86.9 a	93.68 a
<i>F-Test</i>	**	**	**	**	**	**	**	**	**	**	**	**
<i>LSD 0.05</i>	38.25	16.06	0.43	0.34	0.14	0.07	5.03	2.67	0.02	0.01	1.14	1.50
<i>0.01</i>	50.52	21.22	0.57	0.45	0.19	0.10	6.65	3.53	0.02	0.01	2.56	1.98
<i>Orthogonal Contrast</i>												
<i>Control vs Others</i>	**	**	**	**	**	**	**	**	**	**	**	**
<i>Pendi. vs Pendi. + Glyphosate</i>	**	**	**	**	**	**	**	**	**	**	**	**
<i>Pendi. vs Pendi. + Glyphosate</i>	**	**	**	**	**	**	**	**	**	**	**	**

\*., \*\*, ns Significant, Highly significant and not significant at the 0.05 and 0.01 levels of Significance, According to the Least Significant Difference Test.

<sup>x</sup> Means with the Same Letters are not Significantly Different at the 0.05 Level of Significance, According to Fisher's Protected L.S.D Test of Significance.

<sup>y</sup> Water Use Efficiencies, Based on Either Weed Number or Dry Weight, were Estimated as (Number of Weeds or Unit Dry Weight/Sub-Sub-Plot/m<sup>3</sup>).

<sup>z</sup> Weed Control Efficiencies (%), were Estimated as Angularly Transformed Data, According to Steel and Torrie, 1980.

**Table (6):** Pearson Correlation Coefficients of Weed Population Density, Growth Performances Characteristics and Tuberoses Cut Flower Yield as Influenced by Irrigation Frequencies, Manual Hand Weeding and Herbicides, in Field Grown Tuberoses (*Polianthes tuberosa*, L cv “Double”), During the 2001/02 and 2002/03 Growing Seasons, at Hada AL-Sham’s Agricultural Experiment Station (Macca AL-Mokaramah Area, KSA).

Parameters	Weed Density (#)	Fresh Weight (Kg/3 m <sup>2</sup> )	Dry Weight (Kg/3 m <sup>2</sup> )	WUE (#/ 3 m <sup>2</sup> /m <sup>3</sup> )	WUE (Dry) (Unit Dry wt/3 m <sup>2</sup> /m <sup>3</sup> )	WCE (%)	Cut Flower Yield (#)
Weed Density (#)		0.930 ** @ 0.989 **	0.940 ** 0.977 **	0.619 ** 0.672 **	0.856 ** 0.844 **	- 0.511 ** - 0.750 **	0.014 ns - 0.151 *
Fresh Weight (Kg/3 m <sup>2</sup> )			0.980 ** 0.995 **	0.455 ** 0.566 **	0.836 ** 0.769 **	- 0.476 ** - 0.690 **	0.108 ns - 0.070 ns
Dry Weight (Kg/3 m <sup>2</sup> )				0.420 ** 0.507 **	0.817 ** 0.737 **	- 0.425 ** - 0.653 **	0.152 * - 0.024 ns
WUE (#) (#/ 3 m <sup>2</sup> /m <sup>3</sup> )					0.796 ** 0.932 **	- 0.702 ** - 0.810 **	- 0.543 ** - 0.541 **
WUE (Dry) (Unit Dry wt/3m <sup>2</sup> /m <sup>3</sup> )						- 0.674 ** - 0.830 **	- 0.252 ** - 0.392 **
WCE (%)							0.458 ** 0.390 **
Cut Flower Yield (#)							

ns, \*, \*\* Indicate Non Significant, Significant and Highly Significant at the 0.05 and 0.01 Levels of Significance.

@ The Upper Coefficients Denote 2001/2002, and the Lower Ones indicate 2002/2003 Growing Seasons, Respectively.