

Table (2): Average maximum (Max) and minimum (Min) of monthly temperature and relative humidity, at the experimental farm during the two growing seasons*.

Season	Day	2008				2009			
		Temperature		Relative humidity %		Temperature		Relative humidity %	
month		Max	Min	Max	Min	Max	Min	Max	Min
June	1-10	41.1	23.4	47.9	13.3	40.6	22.2	46.3	13.8
	11-20	38.9	22.2	54.0	16.4	38.7	22.5	53.8	17.8
	21-30	40.4	23.0	47.5	14.7	41.9	23.9	51.0	13.4
	Average	40.1	22.9	49.8	14.8	40.4	22.9	50.4	15.0
July	1-10	39.2	23.9	59.4	20.0	40.2	25.0	61.5	25.9
	11-20	38.7	24.2	58.9	20.7	39.7	25.0	68.4	26.9
	21-31	37.9	22.5	63.7	24.5	40.0	23.8	68.3	26.7
	Average	38.6	23.5	60.7	21.7	39.9	24.6	66.1	26.5
August	1-10	38.8	22.4	60.1	23.2	38.6	22.8	61.5	25.9
	11-20	38.8	22.6	64.3	24.5	36.7	22.7	68.4	26.9
	21-31	39.4	23.1	60.5	28.1	37.5	21.9	68.3	26.7
	Average	39.0	22.7	61.6	25.3	37.6	22.5	66.1	26.5
September	1-10	36.6	22.5	69.8	31.4	36.5	20.9	70.4	29.4
	11-20	37.9	21.0	62.7	24.9	37.0	22.0	64.4	26.5
	21-30	37.6	21.1	63.7	23.9	36.7	20.5	66.0	24.8
	Average	37.4	21.5	65.4	26.7	36.7	21.1	67.0	27.0
October	1-10	37.0	20.6	62.3	20.8	31.5	16.7	67.7	28.6
	11-20	31.2	16.6	70.7	29.0	32.7	17.6	61.6	22.9
	21-31	28.9	14.7	75.0	32.9	33.4	17.8	67.5	28.8
	Average	32.3	17.3	69.3	27.6	32.5	17.4	65.7	26.8

*Source: Station of Agriculture Meteorology, Assiut University, Assiut

Table (3): Mean squares of irrigation intervals, maize hybrids and nitrogen levels on number of days to 50 % tasseling, ear length (cm), grains weight /ear (gm),100-grain weight (gm),grain yield (ardab/fed) and protein percentage in grains in 2008 , 2009 seasons.

		Mean squares											
		Number of days to 50 % tasseling		Ear length (cm)		Grains weight ear (g)		100-grain weight (g)		grain yield (ardab/fed)		Protein percent- age in grains	
S.O.V	df	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Irriga- tion (I)	2	1223.181*	872.542*	40.911*	107.221*	52598.722*	62857.764*	496.208*	276.931*	1053.066*	1345.160*	7.202*	23.994*
Rep. / I	9	39.954	32.218	2.099	3.809	460.778	1609.958	12.922	5.509	26.639	74.321	0.125	0.745
Hybrids (H)	1	84.500	48.347	15.680	15.494**	138.889	2556.125**	23.256	9.389*	1.150	52.925*	0.044	0.034
I×H	2	4.625	18.514	3.952	0.367	37.722	81.542	17.469	0.681	7.151	3.526	0.087	0.229
Error(a)	9	16.769	27.644	3.566	0.501	201.815	52.921	11.617	1.435	19.107	6.766	0.250	0.545
Nitrogen (N)	2	46.764**	65.375**	39.549*	49.467**	9826.722**	8645.056**	44.584**	46.931**	60.406**	167.167**	1.575*	3.581**
I×N	4	1.368	8.417	1.671	1.132	350.389	666.910**	3.498	4.618*	3.205*	4.541	0.149*	0.277*
H×N	2	2.542*	3.431	0.027	0.457	184.722	32.167	2.772	1.931	1.358	2.415	0.021	0.020
I× H×N	4	4.104	3.222	0.496	0.081	117.556	148.271	4.456	0.410	1.170	0.176	0.085	0.018
Error(b)	36	1.931	4.792	0.964	1.058	157.963	64.079	2.489	1.264	1.095	2.507	0.038	0.108
Total	71												

*, ** Significance at the 0.05 and 0.01 probability levels, respectively.

Table (4): Means number of days to 50 % tasseling of maize hybrids as affected by irrigation intervals and nitrogen levels in 2008 and 2009 seasons.

Years		2008				2009			
Treatment		N1	N2	N3	Mean	N1	N2	N3	Mean
I ₁	H 1	60.500	61.500	62.000	61.333	61.250	61.500	63.250	62.000
	H 2	61.000	64.000	65.000	63.333	63.500	65.000	66.250	64.917
Mean		60.750	62.750	63.500	62.333	62.375	63.250	64.750	63.458
I ₂	H 1	64.500	64.750	66.250	65.167	65.250	66.750	71.250	67.750
	H 2	66.250	66.250	67.250	66.583	66.750	67.000	68.750	67.500
Mean		65.375	65.500	66.750	65.875	66.000	66.875	70.000	67.625
I ₃	H 1	71.500	71.750	72.250	71.833	73.000	75.500	76.500	75.000
	H 2	72.750	74.500	76.250	74.500	73.000	76.250	77.250	75.500
Mean		72.125	73.125	74.250	73.167	73.000	75.875	76.875	75.250
Mean over all I	H 1	65.500	66.000	66.833	66.111	66.500	67.917	70.333	68.250
	H 2	66.667	68.250	69.500	68.139	67.750	69.417	70.750	69.306
Mean of N		66.083	67.125	68.167	67.125	67.125	68.667	70.542	68.778

L.S.D	2008		2009	
	(0.05)	(0.01)	(0.05)	(0.01)
Irrigation(I)	4.193	6.030	3.263	4.692
Hybrids (H)	N.S.	N.S.	N.S.	N.S.
I X H	N.S.	N.S.	N.S.	N.S.
Nitrogen (N)	0.622	0.833	1.187	1.590
I x N	N.S.	N.S.	N.S.	N.S.
H X N	0.879	N.S.	N.S.	N.S.
I X H X N	N.S.	N.S.	N.S.	N.S.

Table (5): Means of ear length (cm) of maize hybrids as affected by irrigation intervals and nitrogen levels in 2008 and 2009 season.

Years		2008			2009				
Treatment		N1	N2	N3	Mean	N1	N2	N3	Mean
I ₁	H 1	18.600	19.900	20.500	19.667	22.250	23.450	24.750	23.483
	H 2	20.000	20.400	21.650	20.683	21.800	22.400	24.100	22.767
Mean		19.300	20.150	21.075	20.175	22.025	22.925	24.425	23.125
I ₂	H 1	18.600	19.650	20.600	19.617	20.400	21.450	22.850	21.567
	H 2	18.100	20.100	20.900	19.700	19.500	20.250	22.350	20.700
Mean		18.350	19.875	20.750	19.658	19.950	20.850	22.600	21.133
I ₃	H 1	14.850	17.200	18.500	16.850	17.700	19.800	21.000	19.500
	H 2	16.750	18.850	20.050	18.550	16.350	18.400	20.150	18.300
Mean		15.800	18.025	19.275	17.700	17.025	19.100	20.575	18.900
Mean over all I	H 1	17.350	18.917	19.867	18.711	20.117	21.567	22.867	21.517
	H 2	18.283	19.783	20.867	19.644	19.217	20.350	22.200	20.589
Mean of N		17.817	19.350	20.367	19.178	19.667	20.958	22.533	21.053

L.S.D	2008		2009	
	(0.05)	(0.01)	(0.05)	(0.01)
Irrigation(I)	0.945	1.359	1.273	1.831
Hybrids (H)	N.S.	N.S.	0.377	0.542
I X H	N.S.	N.S.	N.S.	N.S.
Nitrogen (N)	0.575	0.771	0.603	0.807
I x N	N.S.	N.S.	N.S.	N.S.
H X N	N.S.	N.S.	N.S.	N.S.
I X H X N	N.S.	N.S.	N.S.	N.S.

Table (6): Means of grains weight/ear (g) of maize hybrids as affected by irrigation intervals and nitrogen levels in 2008 and 2009 seasons.

Years		2008				2009			
Treatment		N1	N2	N3	Mean	N1	N2	N3	Mean
I ₁	H 1	146.500	162.000	188.000	165.500	211.500	220.000	249.500	227.000
	H 2	139.000	161.000	197.000	165.667	206.500	214.000	227.750	216.083
Mean		142.750	161.500	192.500	165.583	209.000	217.000	238.625	221.542
I ₂	H 1	136.000	147.000	170.000	151.000	176.500	190.500	195.500	187.500
	H 2	128.000	157.000	183.500	156.167	158.250	183.500	194.250	178.667
Mean		132.000	152.000	176.750	153.583	167.375	187.000	194.875	183.083
I ₃	H 1	62.000	79.500	91.500	77.667	98.500	131.250	154.750	128.167
	H 2	67.500	83.000	91.500	80.667	81.500	116.500	138.500	112.167
Mean		64.750	81.250	91.500	79.167	90.000	123.875	146.625	120.167
Mean over all I	H 1	114.833	129.500	149.833	131.389	162.167	180.583	199.917	180.889
	H 2	111.500	133.667	157.333	134.167	148.750	171.333	186.833	168.972
Mean of N		113.167	131.583	153.583	132.778	155.458	175.958	193.375	174.931

L.S.D	2008		2009	
	(0.05)	(0.01)	(0.05)	(0.01)
Irrigation(I)	14.004	20.139	26.177	37.644
Hybrids (H)	N.S.	N.S.	3.875	5.573
I X H	N.S.	N.S.	N.S.	N.S.
Nitrogen (N)	7.365	9.869	4.691	6.285
I x N	N.S.	N.S.	8.125	10.887
H X N	N.S.	N.S.	N.S.	N.S.
I X H X N	N.S.	N.S.	N.S.	N.S.

Table (7): Means 100-grain weight (g) of maize hybrids as affected by irrigation intervals and nitrogen levels in 2008 and 2009 seasons.

Years		2008				2009			
Treatment		N1	N2	N3	Mean	N1	N2	N3	Mean
I ₁	H 1	40.558	42.852	43.163	42.191	48.500	50.000	51.250	49.917
	H 2	43.760	44.257	46.483	44.833	46.500	50.000	50.000	48.833
Mean		42.159	43.555	44.823	43.512	47.500	50.000	50.625	49.375
I ₂	H 1	39.440	39.597	39.948	39.662	45.000	45.500	46.500	45.667
	H 2	37.795	38.408	40.632	38.945	44.000	45.500	45.500	45.000
Mean		38.618	39.003	40.290	39.303	44.500	45.500	46.000	45.333
I ₃	H 1	30.485	34.552	36.015	33.684	41.250	42.250	45.000	42.833
	H 2	33.965	35.460	36.080	35.168	40.750	42.000	44.500	42.417
Mean		32.225	35.006	36.048	34.426	41.000	42.125	44.750	42.625
Mean over all I	H 1	36.828	39.001	39.708	38.512	44.917	45.917	47.583	46.139
	H 2	38.507	39.375	41.065	39.649	43.750	45.833	46.667	45.417
Mean of N		37.667	39.188	40.387	40.387	39.081	44.333	45.875	47.125

L.S.D	2008		2009	
	(0.05)	(0.01)	(0.05)	(0.01)
Irrigation(I)	2.345	3.373	1.531	2.202
Hybrids (H)	N.S.	N.S.	0.638	N.S.
I X H	N.S.	N.S.	N.S.	N.S.
Nitrogen (N)	0.924	1.239	0.659	0.883
I x N	N.S.	N.S.	1.141	N.S.
H X N	N.S.	N.S.	N.S.	N.S.
I X H X N	N.S.	N.S.	N.S.	N.S.

Table (8): Means grain yield (ardab/fed) of maize hybrids as affected by irrigation intervals and nitrogen levels in 2008 and 2009 seasons.

Years		2008				2009			
Treatment		N1	N2	N3	Mean	N1	N2	N3	Mean
I ₁	H 1	15.630	18.205	19.570	17.802	22.372	22.938	27.505	24.272
	H 2	14.273	16.352	19.163	16.596	21.492	22.565	25.670	23.242
Mean		14.951	17.279	19.366	17.199	21.932	22.751	26.587	23.757
I ₂	H 1	10.860	11.287	13.085	11.744	14.515	17.725	20.730	17.657
	H 2	10.477	12.920	14.650	12.682	11.703	15.722	17.917	15.114
Mean		10.669	12.104	13.867	12.213	13.109	16.724	19.324	16.385
I ₃	H 1	3.362	4.313	5.290	4.322	6.938	9.375	12.400	9.571
	H 2	2.885	3.840	4.767	3.831	5.553	8.475	9.967	7.998
Mean		3.124	4.076	5.029	4.076	6.245	8.925	11.184	8.785
Mean over all I	H 1	9.951	11.268	12.648	11.289	14.608	16.679	20.212	17.166
	H 2	9.212	11.038	12.860	11.036	12.916	15.587	17.852	15.452
Mean of N		9.581	11.153	12.754	11.163	13.762	16.133	19.032	16.309

L.S.D

2008

2009

	(0.05)	(0.01)	(0.05)	(0.01)
Irrigation(I)	3.369	4.844	5.624	8.088
Hybrids (H)	N.S.	N.S.	1.386	N.S.
I X H	N.S.	N.S.	N.S.	N.S.
Nitrogen (N)	0.613	0.822	0.928	1.243
I x N	1.062	N.S.	N.S.	N.S.
H X N	N.S.	N.S.	N.S.	N.S.
I X H X N	N.S.	N.S.	N.S.	N.S.

Fig.1: Effect of irrigation intervals on grain yield (ardab / feddan) of two maize hybrids in two years 2008 and 2009.

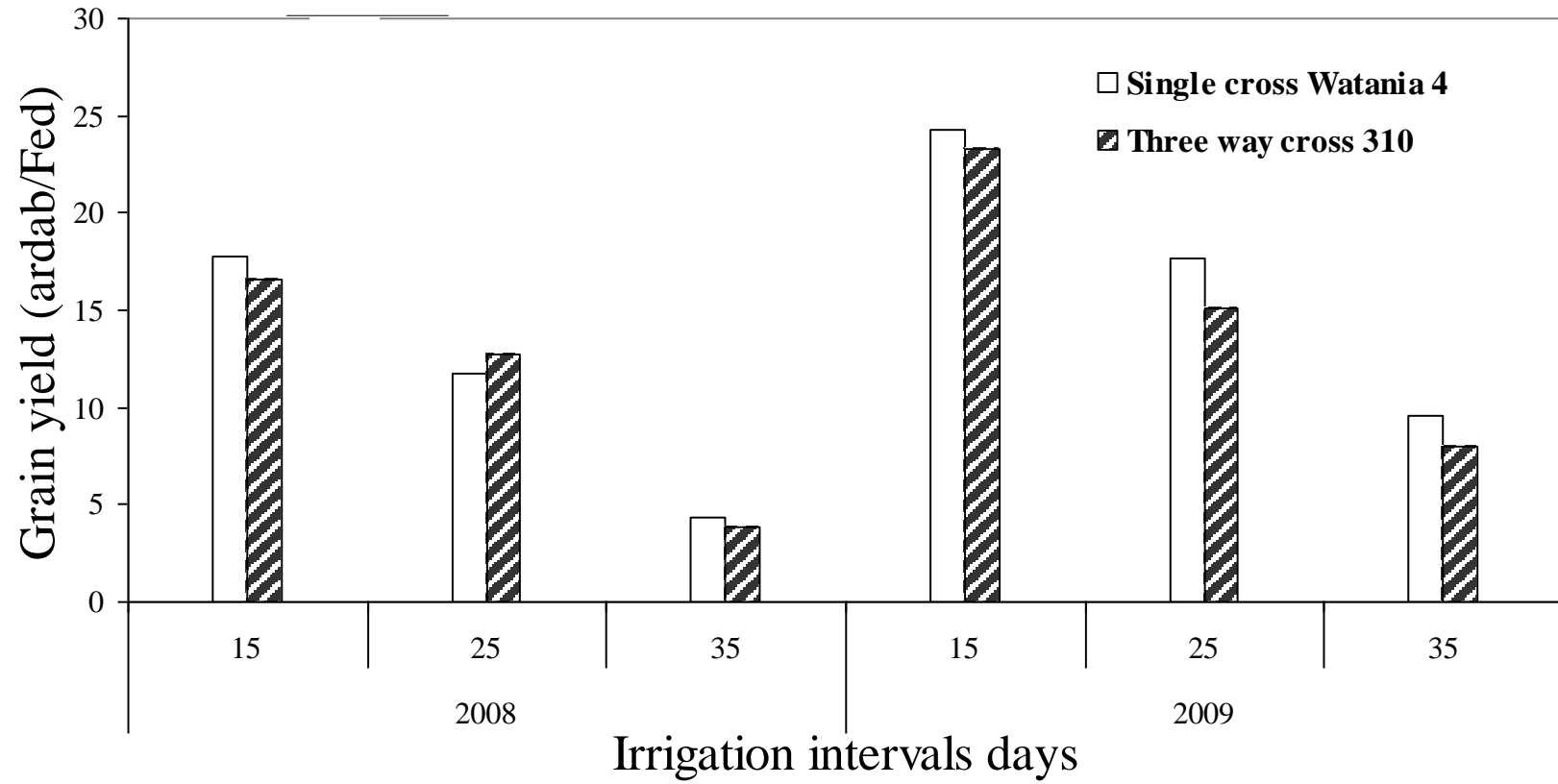


Fig. 2: Effect of nitrogen fertilizer rates on grain yield (ardab / feddan) of two maize hybrids in two years 2008 and 2009.

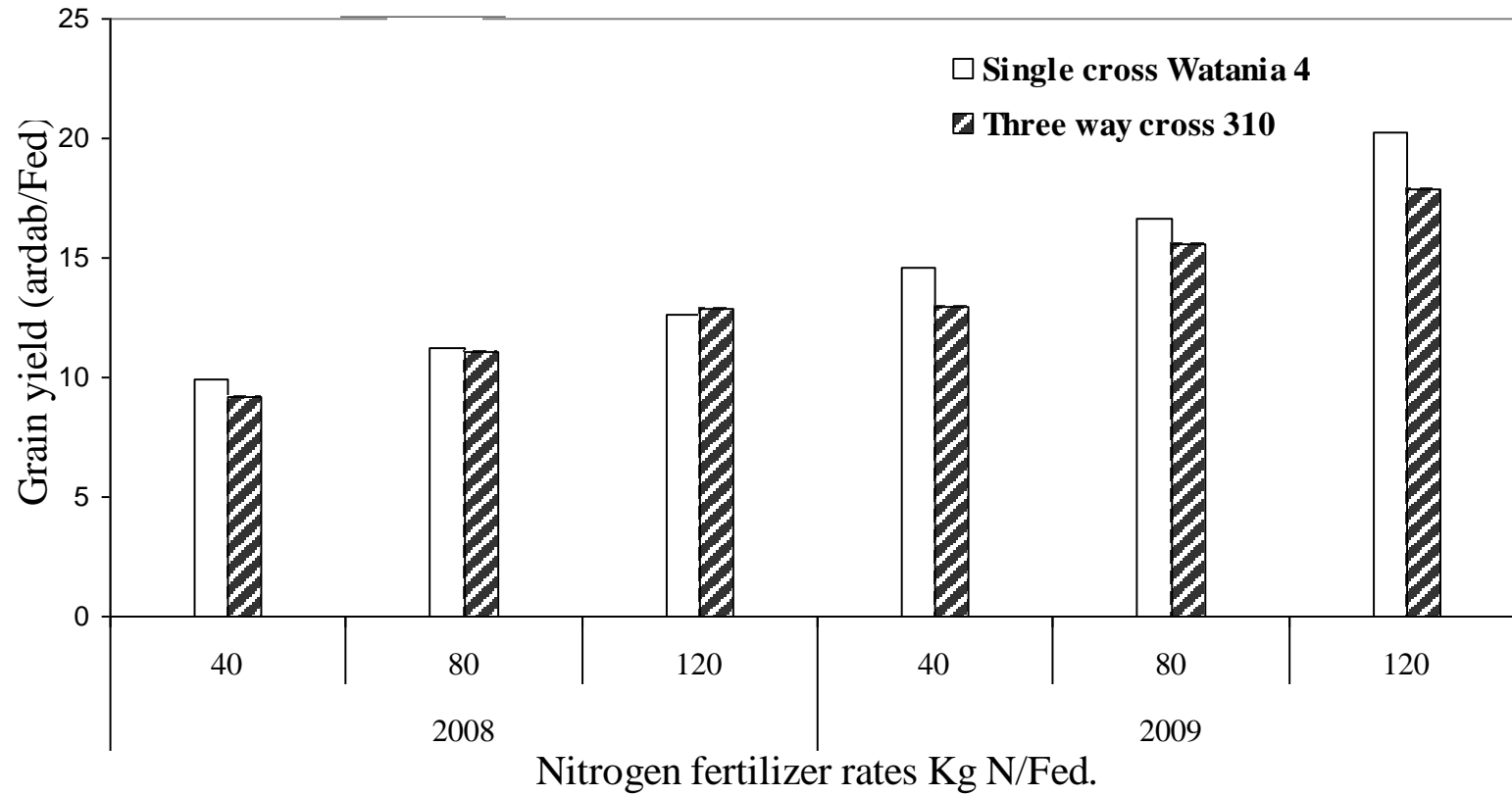


Table (9): Means protein percentage in grains of maize hybrids as affected by irrigation intervals and nitrogen levels in 2008 and 2009 seasons.

Years		2008				2009			
Treatment		N1	N2	N3	Mean	N1	N2	N3	Mean
I ₁	H 1	10.697	10.865	11.162	10.908	10.858	11.387	11.800	11.348
	H 2	10.820	10.957	11.315	11.031	10.872	11.215	11.497	11.195
Mean		10.759	10.911	11.239	10.970	10.865	11.301	11.649	11.272
I ₂	H 1	10.250	10.398	10.705	10.451	10.003	10.250	10.433	10.228
	H 2	10.473	10.553	10.673	10.566	10.205	10.523	10.670	10.466
Mean		10.361	10.475	10.689	10.508	10.104	10.386	10.551	10.347
I ₃	H 1	9.648	10.013	10.110	9.923	8.588	9.537	9.628	9.251
	H 2	9.245	10.018	10.238	9.833	8.675	9.565	9.650	9.297
Mean		9.446	10.015	10.174	9.878	8.631	9.551	9.639	9.274
Mean over all I	H 1	10.198	10.425	10.659	10.428	9.816	10.392	10.620	10.276
	H 2	10.179	10.509	10.742	10.477	9.918	10.434	10.606	10.319
Mean of N		10.189	10.467	10.700	10.452	9.867	10.413	10.613	10.298

L.S.D	2008		2009	
	(0.05)	(0.01)	(0.05)	(0.01)
Irrigation(I)	0.231	0.332	0.563	0.810
Hybrids (H)	N.S.	N.S.	N.S.	N.S.
I X H	N.S.	N.S.	N.S.	N.S.
Nitrogen (N)	0.114	0.152	0.193	0.258
I x N	0.197	0.264	0.334	N.S.
H X N	N.S.	N.S.	N.S.	N.S.
I X H X N	N.S.	N.S.	N.S.	N.S.