

Table (1): Effect of maize cultivars on yield and its components during 2010 and 2011 growing seasons under New Valley conditions.

Characters Cultivars	Plant height (cm)	No. of ears/plant	Ear weight (g)	Ear length (cm)	No. of grains/ ear	1000-grain weight (g)	Shelling %	Grain yield (kg/fad.)	Biological yield (kg/fad.)
	2010 Season								
Giza 10	193.4	1.72	88.54	17.01	251	157.16	58.24	1504	4854
Giza 321	205.0	1.77	96.03	19.53	297	240.41	65.74	2094	5254
Giza 324	200.9	1.78	92.82	17.44	280	232.90	63.63	1989	5180
F-test	**	-	**	**	**	**	**	**	**
LSD at 5%	3.44	N.S.	1.79	0.93	14	4.65	4.43	152	437
2011 Season									
Giza 10	189.6	1.75	85.55	15.65	270	168.59	49.33	1452	4648
Giza 321	202.7	1.82	107.18	21.04	342	251.66	64.43	2344	5885
Giza 324	198.2	1.83	103.77	19.01	321	237.88	62.38	2197	5758
F-test	**	-	**	**	**	**	**	**	**
LSD at 5%	3.54	N.S.	3.02	0.46	5	1.23	3.93	189	145

\*, \*\* indicated a significant and highly significant at 5% and 1% levels of probability.

N.S. = non-significance.

LSD = Least significant difference

Table (2): Effect of boron foliar application on yield and its components of maize plant during 2010 and 2011 growing seasons under New Valley conditions.

Characters	Plant height (cm)	No. of ears/plant	Ear weight (g)	Ear length (cm)	No. of grains/ear	1000-grain weight (g)	Shelling %	Grain yield (kg/fad.)	Biological yield (kg/fad.)
	B foliar	2010 Season							
Without B	200.0	1.73	58.10	16.84	153	204.95	54.96	1057	3853
226 ppm	200.8	1.76	97.70	18.44	279	211.09	59.16	1836	5258
452 ppm	201.3	1.77	109.11	19.55	338	217.96	68.61	2330	5702
678 ppm	201.0	1.76	106.14	19.10	326	214.95	67.42	2225	5568
F-test	-	-	**	**	**	**	**	**	**
LSD at 5%	N.S.	N.S.	2.11	1.07	8	3.28	3.69	108	229
	2011 Season								
Without B	193.1	1.77	60.53	16.43	115	211.59	61.08	1089	4318
226 ppm	193.4	1.79	95.24	18.00	304	216.23	61.90	1939	5438
452 ppm	195.0	1.81	121.72	19.59	431	222.56	66.55	2560	6052
678 ppm	195.0	1.83	119.36	18.91	416	220.46	64.53	2403	5913
F-test	-	-	**	**	**	**	**	**	**
LSD at 5%5%	N.S.	N.S.	2.44	0.47	4	2.60	2.66	147	131

\*, \*\* indicated a significant and highly significant at 5% and 1% levels of probability. N.S. = non-significance. LSD = Least significant difference.

Table (3): Effect of potassium fertilizer on yield and its components of maize plant during 2010 and 2011 growing seasons under New Valley conditions.

Characters K <sub>2</sub> O (kg /fad.)	Plant height (cm)	No. of ears/ plant	Ear weight (g)	Ear length (cm)	No. of grains/ ear	1000-grain weight (g)	Shelling %	Grain yield (kg/fad.)	Biological yield (kg/fad.)
	2010 Season								
Without K <sub>2</sub> O	145.7	1.64	56.84	12.90	157	184.54	53.11	938	3720
36 kg K <sub>2</sub> O/fad.	213.3	1.79	104.92	19.95	305	219.32	65.20	2173	5525
72 kg K <sub>2</sub> O/fad.	243.3	1.83	116.51	22.74	345	233.61	69.30	2475	6042
F-test	**	**	**	**	**	**	**	**	**
LSD at 5%	3.69	0.08	1.62	0.87	6	3.28	2.36	112	216
2011 Season									
Without K <sub>2</sub> O	149.2	1.75	73.24	13.15	261	187.94	49.92	1189	4077
36 kg K <sub>2</sub> O/fad.	183.5	1.81	106.36	19.10	309	228.15	69.70	2217	5731
72 kg K <sub>2</sub> O/fad.	249.7	1.84	118.70	22.44	359	237.04	70.92	2586	6483
F-test	**	-	**	**	**	**	**	**	**
LSD at 5%	1.20	N.S.	2.62	0.32	4	3.96	2.76	116	126

\*, \*\* indicated a significant and highly significant at 5% and 1% levels of probability. N.S. = non-significance. LSD = Least significant difference.



Table (4): Effect of the interaction between cultivars and boron foliar application on yield and its components of maize during 2010 and 2011 growing seasons under New Valley conditions.

Characters (C x B)*		Plant height (cm)	No. of ears/ plant	Ear weight (g)	Ear length (cm)	No. of grains/e ar	1000 grain weight (g)	Shellin g %	Grain yield kg/fad.	Biol. yield kg/fad.
C		2010 Season								
Giza 10	Without B	192.4	1.71	56.02	15.54	144	151.56	52.72	819	3692
	226	193.3	1.73	93.88	17.17	249	154.40	52.44	1419	5094
	452	193.8	1.73	103.57	17.84	311	158.50	64.67	1976	5412
	678	194	1.69	100.68	17.67	300	164.18	63.14	1801	5216
Giza 321	Without B	204.2	1.78	60.54	18.07	160	231.93	57.21	1223	4015
	226	205.1	1.73	100.58	19.48	298	239.81	63.62	2075	5323
	452	205.4	1.78	113.25	21.11	359	244.73	71.23	2623	5928
	678	205.2	1.78	109.76	20.57	346	245.16	70.89	2453	5749
Giza 324	Without B	203.3	1.71	57.75	16.92	154	231.37	54.96	1128	3853
	226	204	1.80	98.65	18.67	290	239.07	61.41	2014	5357
	452	204.6	1.80	110.49	19.69	343	244.64	69.94	2390	5769
	678	203.9	1.82	107.96	19.07	332	244.52	68.22	2421	5739
F-test		-	-	**	**	*	**	-	**	**
LSD at 5%		N.S.	N.S.	3.17	0.26	14	3.14	N.S.	157	261
		2011 Season								
Giza 10	Without B	188.6	1.71	47.45	14.27	96	164.51	56.40	737	3869
	226	188.9	1.78	87.34	15.46	257	166.93	50.07	1322	4487
	452	190.1	1.76	104.70	16.38	362	172.42	60.12	1927	5167
	678	190.6	1.76	102.74	16.50	365	170.48	59.96	1822	5067
Giza 321	Without B	195.6	1.82	67.80	17.90	112	237.77	66.08	1341	4616
	226	195.9	1.80	99.46	19.94	331	243.04	69.64	2302	5927
	452	197.5	1.84	130.97	21.66	471	248.21	71.02	2984	6627
	678	197.6	1.82	130.49	20.64	454	245.62	67.10	2749	6371
Giza 324	Without B	195	1.78	66.35	17.12	106	232.48	60.77	1187	4469
	226	195.5	1.80	98.91	18.60	325	238.72	65.98	2194	5900
	452	197.5	1.84	129.48	20.72	461	247.04	68.50	2769	6361
	678	196.8	1.91	127.53	19.58	430	245.29	66.52	2637	6301
F-test		-	-	**	*	**	**	**	**	**
LSD at 5%		N.S.	N.S.	4.23	0.82	8	2.07	4.61	235	227

\*C = cultivar, B = Boron

Table (5): Effect of the interaction between cultivars and potassium fertilizer levels on yield and its components of maize during 2010 and 2011 growing seasons under New Valley conditions.

Characters (C x K)*		Plant height (cm)	No. of ears/ plant	Ear weight (g)	Ear length (cm)	No. of grains/ ear	1000 grain weight (g)	Shellin g %	Grain yield kg/fad.	Biol. yield kg/fad.
C	K	2010 Season								
Giza 10	Without K <sub>2</sub> O	134.7	1.62	55.07	11.16	133	139.99	49.45	685	3622
	36 kg K <sub>2</sub> O/fad	206.8	1.75	100.72	18.98	293	161.79	61.25	1765	5689
	72 kg K <sub>2</sub> O/fad	238.7	1.78	109.82	21.03	327	169.69	64.03	2062	5250
Giza 321	Without K <sub>2</sub> O	151.7	1.63	59.02	13.60	171	207.04	56.00	1090	3776
	36 kg K <sub>2</sub> O/fad	216.9	1.82	108.38	21.39	317	248.40	67.54	2441	6254
	72 kg K <sub>2</sub> O/fad	246.3	1.85	120.70	24.43	384	265.78	73.68	2750	5730
Giza 324	Without K <sub>2</sub> O	150.6	1.68	56.46	12.85	167	206.58	53.90	1040	3761
	36 kg K <sub>2</sub> O/fad	216.3	1.80	105.67	20.14	305	247.76	66.81	2314	5596
	72 kg K <sub>2</sub> O/fad	245.0	1.87	119.02	22.77	366	265.36	70.18	2611	6183
F-test		**	-	**	**	**	**	**	*	**
LSD at 5%		2.74	N.S.	1.81	1.67	10	5.67	3.61	194	176
2011 Season										
Giza 10	Without K <sub>2</sub> O	143.3	1.70	60.72	10.22	252	147.52	48.11	868	3612
	36 kg K <sub>2</sub> O/fad	178.6	1.77	92.73	17.03	261	174.41	59.42	1601	4710
	72 kg K <sub>2</sub> O/fad	246.7	1.78	103.22	19.70	297	183.83	62.38	1887	5622
Giza 321	Without K <sub>2</sub> O	152.1	1.77	80.55	14.87	300	209.67	51.93	1402	4230
	36 kg K <sub>2</sub> O/fad	186.9	1.83	113.63	20.63	346	256.23	76.44	2599	6344
	72 kg K <sub>2</sub> O/fad	251.0	1.87	127.35	24.61	380	265.09	77.01	2887	6793
Giza 324	Without K <sub>2</sub> O	152.1	1.78	78.45	14.38	315	206.65	49.71	1299	4388
	36 kg K <sub>2</sub> O/fad	184.9	1.83	112.73	19.63	320	253.82	73.25	2451	6141
	72 kg K <sub>2</sub> O/fad	251.5	1.88	125.52	23.01	357	262.18	73.36	2840	6745
F-test		*	-	**	**	**	**	**	**	**
LSD at 5%		3.12	N.S.	3.25	0.56	6	6.86	4.77	201	219

\*C = cultivar, K = Potassium.

Table (6): Effect of the interaction between boron foliar application and potassium fertilizer levels on yield and its components of maize during 2010 and 2011 growing seasons under New Valley conditions.

Characters (B x K)		Plant height (cm)	No. of ears/ plant	Ear weight (g)	Ear length (cm)	No. of grains/ ear	1000 grain weight (g)	Shellin g%	Grain yield kg/fad.	Biol. yield kg/fad.
		2010 Season								
B	K									
Without B	Without K <sub>2</sub> O	144.4	1.60	39.98	12.09	87	180.42	47.73	479	3149
	36 kg K <sub>2</sub> O/fad	213.4	1.78	62.61	18.47	162	210.66	57.15	1251	4061
	72 kg K <sub>2</sub> O/fad	242.1	1.82	71.72	19.98	209	223.77	60.01	1441	4430
226 ppm	Without K <sub>2</sub> O	145.4	1.64	58.87	12.73	163	184.03	49.86	928	3781
	36 kg K <sub>2</sub> O/fad	134.4	1.78	74.07	13.01	204	134.34	38.66	2112	5765
	72 kg K <sub>2</sub> O/fad	243.7	1.84	121.77	22.82	362	232.97	67.40	2468	6230
452 ppm	Without K <sub>2</sub> O	146.0	1.67	66.16	12.77	195	186.32	57.68	1184	4035
	36 kg K <sub>2</sub> O/fad	213.6	1.80	123.77	21.30	381	224.11	71.69	2721	6255
	72 kg K <sub>2</sub> O/fad	244.2	1.84	137.39	24.58	438	237.44	76.47	2775	6258
678 ppm	Without K <sub>2</sub> O	146.9	1.67	62.39	12.56	184	187.38	57.19	1161	3913
	36 kg K <sub>2</sub> O/fad	212.9	1.80	120.83	21.17	366	226.22	71.75	2609	6103
	72 kg K <sub>2</sub> O/fad	243.3	1.82	135.18	23.58	429	240.25	73.31	2672	6068
F-test		*	-	**	*	**	**	**	**	**
LSD at 5%		2.56	N.S.	3.14	1.36	11	2.93	1.44	214	432
		2011 Season								
Without B	Without K <sub>2</sub> O	149.1	1.73	48.64	12.92	89	181.93	43.64	522	3626
	36 kg K <sub>2</sub> O/fad	180.9	1.76	60.62	17.34	100	218.68	67.98	1171	4394
	72 kg K <sub>2</sub> O/fad	249.2	1.82	72.34	19.02	125	234.14	71.63	1572	4934
226 ppm	Without K <sub>2</sub> O	149.0	1.73	61.30	13.23	287	184.21	47.80	1161	4184
	36 kg K <sub>2</sub> O/fad	114.1	1.82	68.19	11.77	184	140.62	41.80	1304	3343
	72 kg K <sub>2</sub> O/fad	248.4	1.82	120.24	22.32	336	238.52	69.23	2469	6643
452 ppm	Without K <sub>2</sub> O	149.8	1.76	92.17	13.59	389	192.89	55.15	1605	4342
	36 kg K <sub>2</sub> O/fad	185.2	1.82	130.98	20.41	433	235.99	72.31	2822	6543
	72 kg K <sub>2</sub> O/fad	250.1	1.89	142.00	24.76	472	238.80	72.17	2856	6481
678 ppm	Without K <sub>2</sub> O	148.6	1.78	90.86	12.87	390	192.74	53.08	1471	4155
	36 kg K <sub>2</sub> O/fad	185.1	1.84	129.71	20.20	413	231.97	69.86	2687	6501
	72 kg K <sub>2</sub> O/fad	251.3	1.87	140.20	23.66	446	236.68	70.64	2648	6170
F-test		**	-	**	**	**	**	-	**	**
LSD at 5%		1.44	N.S.	4.23	0.65	7	3.23	N.S.	232	253

Table (7): Effect of the interaction between cultivars, boron foliar application and potassium fertilizer levels on yield and its components of maize during 2010 season under New Valley conditions.

Characters (C x B x K)			Plant height (cm)	No. of ears/ plant	Ear weight (g)	Ear length (cm)	No. of grains/ ear	1000 grain weight (g)	Shellin g %	Grain yield kg/fad.	Biol. yield kg/fad.
C	B	K <sub>2</sub> O/fad.	2010 Season								
Giza 10	Witho ut B	0 kg	133.6	1.67	38.48	10.47	84	135.80	43.20	404	3154
		36 kg	206.5	1.73	61.63	17.47	152	154.80	56.04	947	3982
		72 kg	237.0	1.73	67.91	18.70	195	164.07	58.91	1105	4180
	226 ppm	0 kg	134.1	1.60	55.81	11.13	117	137.60	42.73	559	3632
		36 kg	206.9	1.73	109.43	18.87	296	157.83	53.86	1588	5569
		72 kg	238.9	1.87	116.40	21.50	332	167.77	60.73	2110	6090
	452 ppm	0 kg	135.0	1.60	64.76	11.37	175	141.93	55.66	913	3906
		36 kg	207.0	1.80	117.71	19.67	375	164.13	69.22	2398	5977
		72 kg	239.4	1.80	128.25	22.50	383	169.43	69.13	2619	6350
	678 ppm	0 kg	135.9	1.60	61.22	11.67	156	144.63	56.20	864	3797
		36 kg	206.6	1.73	114.12	19.93	347	170.40	65.86	2126	5721
		72 kg	239.4	1.73	126.72	21.40	398	177.50	67.36	2413	6132
Giza 321	Witho ut B	0 kg	150.4	1.60	42.17	13.30	90	203.00	50.53	552	3218
		36 kg	217.2	1.87	64.09	19.40	170	239.14	59.45	1449	4211
		72 kg	245.0	1.87	75.38	21.50	221	253.65	61.67	1669	4617
	226 ppm	0 kg	151.8	1.60	61.12	13.97	186	207.67	54.76	1114	3806
		36 kg	216.9	1.80	115.22	20.23	321	245.79	64.65	2471	5903
		72 kg	246.7	1.80	125.40	24.23	386	265.96	71.46	2642	6260
	452 ppm	0 kg	152.0	1.67	68.08	13.83	207	208.53	59.72	1323	4100
		36 kg	217.1	1.80	129.10	23.40	391	254.22	72.47	2768	5934
		72 kg	247.1	1.87	142.58	26.10	479	271.43	81.49	2850	6391
	678 ppm	0 kg	152.7	1.67	64.70	13.30	202	208.97	58.98	1372	3983
		36 kg	216.3	1.80	125.13	22.53	385	254.45	73.61	2694	5774
		72 kg	246.5	1.87	139.45	25.87	452	272.05	80.09	2933	6409
Giza 324	Witho ut B	0 kg	149.2	1.53	39.28	12.50	87	202.47	49.45	481	3077
		36 kg	216.4	1.73	62.12	18.53	164	238.04	55.97	1356	3990
		72 kg	244.3	1.87	71.87	19.73	211	253.60	59.45	1549	4494
	226 ppm	0 kg	150.2	1.73	59.67	13.10	186	206.83	52.09	1111	3907
		36 kg	216.2	1.80	112.78	20.17	315	245.20	62.12	2278	5824
		72 kg	245.6	1.87	123.52	22.73	367	265.18	70.01	2654	6340
	452 ppm	0 kg	151.0	1.73	65.64	13.10	202	208.50	57.65	1318	4099
		36 kg	216.7	1.80	124.51	20.83	376	253.98	73.38	2724	5864
		72 kg	246.1	1.87	141.32	25.13	452	271.44	78.79	2913	6408
	678 ppm	0 kg	152.1	1.73	61.25	12.70	193	208.53	56.39	1249	3959
		36 kg	215.8	1.87	123.26	21.03	366	253.82	75.79	2609	5697
		72 kg	243.9	1.87	139.37	23.47	436	271.21	72.47	2817	6255
F-test			**	-	**	**	**	**	**	**	**
LSD at 5%			3.21	N.S.	3.41	0.82	20	3.55	1.49	117	318



Table (8): Effect of the interaction between cultivars, boron foliar application and potassium fertilizer levels on yield and its components of maize during 2011 season under New Valley conditions.

Characters (C x B x K)			Plant height (cm)	No. of ears/ plant	Ear weight (g)	Ear length (cm)	No. of grains/ ear	1000 grain weight (g)	Shellin g %	Grain yield kg/fad	Biol. yield kg/fad
C	B	K <sub>2</sub> O/fad	2011 Season								
Giza 10	With out B	0 kg	143.1	1.67	35.26	9.60	78	143.63	46.59	408	3267
		36 kg	177.9	1.73	51.75	15.80	91	167.40	60.36	854	3871
		72 kg	244.8	1.73	55.34	17.40	118	182.50	62.25	950	4470
	226 ppm	0 kg	143.2	1.73	57.00	9.87	246	146.27	42.22	660	3645
		36 kg	177.1	1.80	94.96	16.67	237	170.73	50.14	1498	3769
		72 kg	246.3	1.80	110.05	19.83	287	183.80	57.84	1809	6047
	452 ppm	0 kg	143.5	1.67	76.31	10.53	339	150.53	52.93	1210	3838
		36 kg	179.7	1.80	113.15	17.77	359	180.37	64.47	2123	5654
		72 kg	247.2	1.80	124.62	20.83	388	186.37	62.96	2449	6011
	678 ppm	0 kg	143.4	1.73	74.32	10.87	345	149.63	50.70	1194	3696
		36 kg	179.9	1.73	111.06	17.90	355	179.13	62.70	1930	5544
		72 kg	248.6	1.80	122.87	20.73	396	182.67	66.48	2341	5960
Giza 321	With out B	0 kg	151.3	1.80	55.85	15.00	97	203.73	44.41	631	3883
		36 kg	185.9	1.80	65.29	18.67	105	246.83	76.26	1446	4733
		72 kg	249.7	1.87	82.27	20.03	135	262.73	77.57	1947	5230
	226 ppm	0 kg	151.7	1.73	64.40	14.97	303	206.53	51.92	1441	4356
		36 kg	186.4	1.87	107.90	20.03	316	256.03	80.56	2651	6435
		72 kg	249.7	1.80	126.05	24.83	373	266.57	76.45	2812	6990
	452 ppm	0 kg	153.1	1.80	101.43	15.27	395	212.90	56.65	1893	4480
		36 kg	188.1	1.80	140.92	22.20	503	264.37	76.39	2844	7070
		72 kg	251.3	1.93	150.54	27.50	515	267.37	80.01	3068	7477
	678 ppm	0 kg	152.1	1.73	100.50	14.23	404	215.50	54.75	1642	4201
		36 kg	187.3	1.87	140.45	21.63	460	257.67	72.54	2730	6836
		72 kg	253.3	1.87	150.53	26.07	497	263.70	74.02	2957	7265
Giza 324	With out B	0 kg	153.0	1.73	54.81	14.17	94	198.43	39.92	526	3728
		36 kg	178.9	1.73	64.80	17.57	102	241.80	67.31	1215	4578
		72 kg	253.0	1.87	79.43	19.63	124	257.20	75.07	1820	5102
	226 ppm	0 kg	152.2	1.73	62.51	14.87	313	199.83	49.26	1381	4549
		36 kg	185.1	1.80	109.62	18.63	314	251.13	75.27	2414	6260
		72 kg	249.1	1.87	124.61	22.30	348	265.20	73.39	2786	6890
	452 ppm	0 kg	152.9	1.80	98.75	14.97	433	215.23	55.87	1711	4708
		36 kg	187.8	1.87	138.88	21.27	437	263.23	76.09	2744	6871
		72 kg	251.7	1.87	150.83	25.93	514	262.67	73.55	2978	7276
	678 ppm	0 kg	150.4	1.87	97.74	13.50	421	213.10	53.79	1578	4567
		36 kg	188.0	1.93	137.61	21.07	425	259.10	74.35	2667	6738
		72 kg	252.0	1.93	147.23	24.17	444	263.67	71.43	2809	6956
F-test			**	-	**	**	**	**	**	**	**
LSD at 5%			2.46	N.S.	3.78	1.12	13	5.62	1.74	132	438