

Table 1. Plant height, number of tillers/m² and number of spikes/m² of the three barley cultivars as affected by sowing dates and seeding rates and their interactions in the two seasons and their combined

Main effects and interactions	Plant height (cm)			No. of tillers/m ²			No. of spikes/m ²		
	1 st	2 nd	Comb.	1 st	2 nd	Comb.	1 st	2 nd	Comb.
Sowing dates, D:									
20 th Nov.	95.31a	84.48a	89.89a	548.97a	464.33a	506.65a	342.03a	294.93a	318.48a
20 th Dec.	85.72b	78.14b	81.93b	445.74b	359.33b	402.53b	290.07b	228.74b	259.41b
F-test	**	*	**	**	**	**	**	**	**
Cultivars, C									
Giza 123	88.12b	79.97	84.05b	477.05c	398.74b	437.90c	297.50c	249.50b	273.50c
Giza 132	90.30ab	81.44	85.87b	520.75a	432.29a	476.52a	344.72a	276.22a	310.47a
Giza 2000	93.12a	82.51	87.81a	494.26b	404.46b	449.36b	305.94b	259.78b	282.86b
F-test	*	NS	**	**	**	**	**	**	**
Seeding rates (kg/fad), S:									
30	86.64c	78.62c	82.63c	387.09c	334.87c	360.98c	242.33c	203.11c	222.72c
45	91.02b	80.75b	85.88b	512.41b	419.22b	465.82b	325.83b	272.39b	299.11b
60	93.89a	84.55a	89.22a	592.55a	481.41a	536.98a	380.00a	310.00a	345.00a
F-test	**	**	**	**	**	**	**	**	**
Interactions:									
DxC	NS	NS	NS	**	NS	NS	NS	NS	NS
DxS	NS	NS	NS	**	NS	NS	NS	*	NS
CxS	NS	**	*(1-a)	**	**	*(1-b)	*	NS	*(1-c)
D x C x S	NS	NS	NS	NS	**	**	NS	NS	NS

*, ** and NS indicate significant at 0.05, 0.01 and not significant, respectively.

Table 2. Spike length, number of grains/spike, 1000-grain weight and grain weight/spike of the three barley cultivars as affected by sowing dates and seeding rates and their interactions in the two seasons and their combined

Main effects and interactions	Spike length (cm)			No. of grains/spike			1000-grain weight (g)			Grain weight/spike (g)		
	1 st	2 nd	Comb.	1 st	2 nd	Comb.	1 st	2 nd	Comb.	1 st	2 nd	Comb.
<i>Sowing dates, D:</i>												
20 th Nov.	6.65a	6.47a	6.56a	45.10	39.33a	42.21a	48.519a	46.881a	47.700a	2.045a	1.851a	1.948a
20 th Dec.	6.11b	5.83b	5.97b	39.94	35.73b	37.83b	45.067b	43.473b	44.270b	1.781b	1.584b	1.682b
F-test	*	**	**	NS	**	**	**	**	**	**	**	**
<i>Cultivars, C</i>												
Giza 123	5.91b	5.94b	5.93b	42.83	35.53c	39.18	45.532c	44.294c	44.913c	1.804c	1.596b	1.700c
Giza 132	6.66a	6.34a	6.50a	41.59	38.04b	39.82	46.700b	45.144b	45.922b	1.899b	1.754a	1.826b
Giza 2000	6.57a	6.16a	6.36a	43.14	39.02a	41.08	48.147a	46.093a	47.120a	2.037a	1.802a	1.919a
F-test	**	**	**	NS	**	NS	**	**	**	**	**	**
<i>Seeding rates(kg/fad), S:</i>												
30	6.85a	6.47a	6.66a	45.83a	40.20a	43.02a	48.356a	46.632a	47.494a	2.104a	1.910a	2.007a
45	6.35b	6.18b	6.26b	41.36b	37.50b	39.43b	47.136b	45.307b	46.222b	1.910b	1.704b	1.807b
60	5.95c	5.79c	5.87c	40.37b	34.88c	37.62c	44.888c	43.592c	44.240c	1.725c	1.538c	1.631c
F-test	**	**	**	*	**	**	**	**	**	**	**	**
<i>Interactions:</i>												
DxC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DxS	NS	NS	NS	NS	**	NS	NS	NS	NS	NS	NS	NS
CxS	**	NS	NS	NS	NS	NS	**	NS	NS	**	**	NS
DxCxS	NS	NS	NS	NS	**	NS	NS	NS	NS	NS	*	**

*, ** and NS indicate significant at 0.05, 0.01 and not significant, respectively.

Table 3. Grain, straw and biological yields/fad and harvest index of the three barley cultivars as affected by sowing dates and seeding rates and their interactions in the two seasons and their combined

Main effects and interactions	Grain yield (t/fad)			Straw yield (t/fad)			Biological yield (t/fad)			Harvest index (%)		
	1 st	2 nd	Comb.	1 st	2 nd	Comb.	1 st	2 nd	Comb.	1 st	2 nd	Comb.
Sowing dates, D												
20 th Nov.	1.722a	1.433a	1.578a	3.925a	3.115a	3.520a	5.647a	4.548a	5.097a	30.59a	31.44	31.02a
20 th Dec.	1.290b	1.111b	1.201b	3.427b	2.489b	2.958b	4.718b	3.599b	4.159b	27.23b	30.48	28.85b
f-test	**	**	**	*	*	**	**	**	**	*	NS	*
Cultivars, C												
Giza 123	1.316c	1.096c	1.206c	3.431b	2.721b	3.076c	4.747c	3.817b	4.282c	27.52b	28.31c	27.92c
Giza 132	1.682a	1.415a	1.548a	3.504b	2.788ab	3.146b	5.185b	4.202a	4.694b	32.22a	33.53a	32.87a
Giza 2000	1.521b	1.306b	1.413b	4.093a	2.897a	3.495a	5.614a	4.202a	4.908a	26.99b	31.04b	29.02b
f-test	**	**	**	**	*	**	**	**	**	**	**	**
Seeding rates(kg/fad), S												
30	1.257c	1.014c	1.136c	3.344c	2.541c	2.943c	4.601c	3.555c	4.078c	27.13b	28.21c	27.67b
45	1.559b	1.326b	1.442b	3.654b	2.872b	3.263b	5.213b	4.198b	4.706b	29.86a	31.61b	30.74a
60	1.703a	1.476a	1.589a	4.030a	2.992a	3.511a	5.732a	4.468a	5.100a	29.74a	33.06a	31.40a
f-test	**	**	**	**	**	**	**	**	**	**	**	**
Interactions												
DxC	*	*	** (3-a)	**	*	** (3-b)	**	*	** (3-c)	**	**	** (3-d)
DxS	NS	*	NS	NS	*	NS	NS	NS	NS	NS	**	** (3-e)
CxS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
DxCxS	*	NS	NS	**	NS	**	**	NS	**	**	NS	NS

*, ** and NS indicate significant at 0.05, 0.01 and not significant, respectively.