Table (4). Mean square of grain yield and its components, Straw yield / plant, Biological yield / plant and Harvest index %, for four bread wheat genotypes under different sodium azide treatments.

S. V	d. f	No. of spikes / plant	No. of grain / spike	Spike grain weigh t (g)	1000-grain weight (g)	Grain yield/ plant (g)	Straw yield / plant (g)	Biologic al yield / plant (g)	Harvest index %
Replication	2	5.74	4.43	0.39	68	7.07	3.95	46.2	4.8
Genotypes	3	8.80**	655**	2.40**	220**	31**	36.5	57.3	50.4
Error A	6	1.29	98.74	0.239	8.91	23.58	47.47	76.01	41.38
Sodium azide	3	2.50*	52.8	0.42	45.52	31**	107.2*	177*	39.2
G × S	9	2.27*	43.6	0.09	15.08	10.1	107.6*	156*	34.2
Error	23	0.68	30.3	0.11	20.43	6.34	27.2	38	15.1

*,**Significant at 0.05 and 0.01of levels probability, respectively

Table (5): Mean performance of days to heading and plant height for Gemmeiza-11, Shandawel-1, Sids-12 and Sahel-1 by sodium azide treatments and their interaction in M_2 generation under water steers**.**

Treatments	**Days to heading 50%**				**Mean**	**Plant height (cm)**				**Mean**
	Control	**0.04 %**	**0.06 %**	**0.08 %**		**Control**	**0.04 %**	**0.06 %**	**0.08 %**	
Gemmieza -11	86.66	87	86	82.33	85.49	90.66	92.63	87.75	93.06	91.03
Sids-12	83.66	87.33	84.33	82.66	88.57	83.4	82.16	84.4	82.66	87.17
Shandawel-1	87.66	91.66	89.33	85.66	84.49	92.3	83.83	84.36	88.26	83.16
Sahel-1	95.33	95.66	91.33	88.66	92.74	89.6	95.23	90	87.2	90.51
Mean	**88.32**	**90.41**	**87.74**	**84.82**		**88.99**	**88.46**	**86.62**	**87.79**	
L.S.D										
G	2.792					1.817				
Sa	1.519					2.546				
G × Sa	3.038					5.092				

Table (6): Mean performance peduncle length and number of tillers/plant for Gemmeiza-11, Shandawel-1, Sids-12 and Sahel-1 by sodium azide treatments and their interaction in M_2 generation under water steers.

Treatments	Peduncle length (cm)				Mean	Number of tillers/plant				Mean
	Control	0.04 %	0.06%	0.08%		Control	0.04 %	0.06%	0.08%	
Gemmieza - 11	38.39	38.36	38.45	39.61	38.70	6.16	5.96	5.61	5.35	5.77
Sids-12	35.64	34.68	35.4	36.56	35.57	4.4	5.43	5.7	5.06	5.14
Shandawel-1	36.76	35.28	36.51	36.97	36.38	8.1	8.8	6.56	7.55	7.75
Sahel-1	35.88	34.93	35.25	37.45	35.87	9.66	7.9	6.66	6.66	7.72
Mean	**36.66**	**35.81**	**36.40**	**37.64**		**7.08**	**7.02**	**6.13**	**6.15**	
L.S.D										
G	1.560					0.760				
Sa	1.082					0.490				
G × Sa	2.164					0.980				

Table (7): Mean performance spike length and number of spikelets/spike for Gemmeiza-11, Shandawel-1, Sids-12 and Sahel-1 by sodium azide treatments and their interaction in M_2 generation under water steers.

Treatments	Spike length/cm				Mean	Number of spikelets/spike				Mean
	Control	0.04 %	0.06%	0.08%		Control	0.04 %	0.06%	0.08%	
Gemmeiza -11	15.04	15.21	14.95	15.18	15.09	21.86	24.06	22.1	23.1	22.78
Sids-12	12.8	11.83	12.57	13.25	12.61	22	21.4	22.26	21.53	21.79
Shandawel-1	13.2	12.91	13.21	13.13	13.11	24.06	24.06	21.86	23.1	23.27
Sahel-1	12.28	11.86	12.02	11.7	11.96	22.93	22.93	21.66	20.65	22.04
Mean	**13.33**	**12.95**	**13.18**	**13.31**		**22.71**	**23.11**	**21.97**	**22.09**	
L.S.D										
G	0.597					0.951				
Sa	0.416					0.941				
G × Sa	0.832					1.882				

Table (8): Mean performance for number of infertile spikelets/spike for Gemmeiza-11, Shandawel-1, Sids-12 and Sahel-1 by sodium azide treatments and their interaction in M_2 generation under water steers.

Treatments	**Number of infertile spikelets/spike**				**Mean**	**Number spikes/plant**				**Mean**
	Control	**0.04 %**	**0.06 %**	**0.08 %**		**Control**	**0.04 %**	**0.06 %**	**0.08 %**	
Gemmieza -11	1.266	2.233	1.55	2.066	1.77	5.28	4.93	4.8	4.6	4.90
Sids-12	1.466	2.1	2.233	2.166	1.99	4.33	5.16	5.06	4.46	4.75
Shandawel-1	2.866	3.366	2.966	2.8	2.99	6.46	5.4	6.16	6.30	6.08
Sahel-1	1.8	1.833	1.966	1.4	1.74	8.8	6.4	5.33	5.4	6.48
Mean	**1.84**	**2.38**	**2.17**	**2.10**		**6.21**	**5.47**	**5.33**	**5.19**	
L.S.D										
G	0.697					1.136				
Sa	0.306					0.697				
G × Sa	0.873					1.395				

Table (9): Mean performance for number of grains/spike and spike grain weight of Gemmeiza-11, Shandawel-1, Sids-12 and Sahel-1 by sodium azide treatments and their interaction in M_2 generation under water steers.

Treatments	**Number of grain/spike**				**Mean**	**Spike grain weight(g)**				**Mean**
	Control	**0.04 %**	**0.06 %**	**0.08 %**		**Control**	**0.04 %**	**0.06 %**	**0.08 %**	
Gemmieza -11	73.08	71.93	68.4	68.05	70.36	3.76	4.13	3.71	3.9	3.87
Sids-12	84.7	73.66	75.1	82.26	78.93	3.99	3.48	3.28	3.68	3.61
Shandawel-1	70.1	64.03	65.43	68.2	66.94	3.36	3.08	2.74	3.30	3.12
Sahel-1	61.8	66.06	61.63	55.6	61.27	3.05	3.06	2.68	2.78	2.89
Mean	**72.42**	**68.92**	**67.64**	**68.52**		**3.54**	**3.43**	**3.10**	**3.41**	
L.S.D										
G	9.926					0.489				
Sa	4.644					0.279				
G × Sa	12.732					0.686				

Table (10): Mean performance for 1000- grain weight and grain yield/plant of Gemmeiza-11, Shandawel-1, Sids-12 and Sahel-1 by sodium azide treatments and their interaction in M_2 generation under water steers.

Treatments	1000-Grain weight				Mean	Grain yield/plant (g)				Mean
	Control	0.04 %	0.06 %	0.08 %		Control	0.04 %	0.06 %	0.08 %	
Gemmieza -11	51.44	57.7	54.12	57.30	55.14	16.51	17.04	15.82	12.45	16.12
Sids-12	46.98	47.33	44.1	44.99	45.85	14.86	14.08	15.01	14.82	14.69
Shandawel-1	48.07	48.10	41.96	48.33	46.61	19.4	13.84	14.76	17.12	16.28
Sahel-1	49.43	46.36	43.75	50.58	47.53	19.49	13.84	14.8	16.95	16.27
Mean	**48.98**	**49.87**	**45.98**	**50.3**		**18.23**	**14.7**	**15.09**	**15.33**	
L.S.D										
G	2.983					4.629				
Sa	3.809					2.187				
G × Sa	7.227					5.960				

Table (11). Genetic correlation between traits of M_2 mutants in wheat under sodium azide.

Traits	Days to heading	Plant high	Peduncle length	Spike length	No. tillers /plant	No. spikes/ plant	No. spikelets /spike	No. grains /spike	Spike grain weight	1000-grain weight	Straw yield/ plant	Biological yield /plant	Harvest index %	Grain yield/ plant
Days to heading		0.32	-0.627 **	-0.53*	0.87**	0.89**	0.204	-0.77**	-0.78**	-0.33	0.44	0.45	0.34	-0.42
Plant high			0.391	0.34	0.37	0.376	0494	-0.45	0.064	0.57*	-0.039	0.112	0.66**	0.69**
Peduncle length				0.96**	-0.31	-0.318	0.109	-0.117	0.66**	0.96**	-0.35	-0.191	0.96**	0.46
Spike length					-0.33	-0.418	0.36	0.246	0.74**	0.82**	-0.37	-0.29	0.60*	0.09 ns
No. tillers/plant						0.906**	0.69**	-0.80**	-0.67**	-0.106	0.52*	0.55*	-0.36	0.58*
No. spikes/plant							0.470	-0.77**	-0.68**	-0.158	0.68**	0.69**	-0.60*	0.64**
No. spikelets./spike								-0.071	0.22	0.36	0.24	0.31	0.29	0.54 *
No. grains /spike									0.74**	-0.014	-0.049	-0.24	-0.42	-0.79 **
Spike grain weight										0.66**	-0.18	-0.19	0.145	-0.20 ns
1000-grain weight											-0.13	0.023	0.71**	0.62 **
Straw yield/ plant												0.99**	-0.94**	0.83**
Biological yield /plant													-0.92**	0.89**
Harvest index %														0.72 **
Grain yield/plant														

*,& **Significant at 0.05 and 0.01of levels probability, respectively