

### Supplementary Tables

**Table 1.** Effect of gamma irradiation on agronomical traits of groundnut (*Arachis hypogaea* L.) in M<sub>2</sub> generation

(Gamma Rays) Gy	Whole plant height	Plant Survival (%)	Days to first flower	Days to 50% flowering	No. of Branches	No. of leaves	Leaflet length	Pod length	No. of pods/plant	100 seed weight	Pod yield/plant (g)	Fresh weight	Dry weight
Control	42.85±1.48	50.44±0.33	35.46±0.18	42.33±0.46	2.36±0.18	80.06±2.00	4.98±0.14	2.21±0.07	8.53±0.46	30.60±1.20	18.06±0.40	46.78±1.75	22.54±0.87
100 Gy	45.05±1.54	72.14±1.15	33.73±0.12	42.66±0.95	3.83±0.26	179.6±6.10	3.92±0.19	2.22±0.09	11.0±0.59	35.19±1.14	19.26±0.34	72.10±1.81	28.06±0.94
200 Gy	54.17±2.53	<b>90.41±1.17</b>	35.86±0.22	46.86±0.61	4.86±0.33	<b>360.53±8.38</b>	5.68±0.19	2.46±0.07	11.9±0.70	31.07±0.49	19.34±0.43	76.11±2.25	29.91±0.74
300 Gy	63.90±1.92	64.65±1.20	37.26±0.61	46.6±0.8	6.36±0.50	271.66±11.50	2.98±0.23	2.64±0.08	8.63±0.52	38.64±0.64	30.67±1.55	82.97±1.31	37.27±0.95
400 Gy	<b>81.2 ±2.14</b>	83.30±2.22	38.33±0.86	39.8±0.61	<b>7.73±0.75</b>	288.1±19.82	<b>6.91±1.86</b>	<b>2.70±0.09</b>	<b>13.13±0.85</b>	<b>38.79±0.93</b>	<b>39.22±0.87</b>	<b>89.93±1.23</b>	<b>39.43±0.52</b>
500 Gy	65.45±2.11	69.88±1.99	34.6±1.38	44.76±1.08	4.53±0.25	187.46±5.59	3.99±0.17	2.65±0.08	11.93±1.24	38.71±0.83	36.99±0.75	68.41±1.55	30.66±1.24
600 Gy	51.12 ± 1.22	75.57±1.62	<b>39.86±0.29</b>	<b>51.5±0.82</b>	4.46±0.19	100.93±4.96	4.16±0.15	2.38±0.05	10.7±0.57	38.41±0.62	21.92±1.03	64.78±1.82	23.78±0.72

± Standard error

**Table 2.** Effect of gamma rays in coefficient of variation, heritability (h<sup>2</sup>), genetic advance and genetic advance mean (%) of groundnut (*Arachis hypogaea* L.) M<sub>2</sub> generation

S.no	(Gamma Rays) Gy		Whole plant height	Plant Survival (%)	Days to first flower	Days to 50% flowering	No. of Branch	No. of leaves	Leaflet length	Pod length	No. of Pods /plant	100 seed weight	Pod yield/plant (g)	Fresh weight	Dry weight
1	100 Gy	PCV	18.44	15.00	13.47	12.08	37.60	16.07	32.96	18.92	32.70	20.22	12.23	13.58	18.20
		GCV	10.93	11.26	10.93	10.59	35.08	15.00	31.78	16.67	31.13	19.38	11.97	12.56	16.84
		H <sup>2</sup>	65.17	91.56	31.10	76.81	51.85	87.13	50.57	44.08	52.43	66.19	68.52	60.89	50.12
		GA	8.22	11.75	6.75	8.11	11.53	28.84	10.15	10.40	11.24	12.52	10.80	11.39	11.48
		GAM (%)	22.72	16.29	12.22	19.12	40.17	54.08	23.78	24.84	24.43	27.16	24.16	21.92	25.29
2	200 Gy	PCV	16.18	11.59	13.33	17.08	37.33	22.79	27.24	22.12	31.77	17.74	12.06	15.13	14.80
		GCV	15.24	11.34	21.93	16.70	31.15	21.44	26.15	21.71	30.83	16.03	11.73	13.99	11.14

<b>3</b>	<b>300 Gy</b>	<b>H<sup>2</sup></b>	40.08	95.73	33.76	44.07	69.65	96.95	71.28	63.03	56.24	51.55	79.12	60.97	40.11
		<b>GA</b>	8.542	17.28	10.83	13.01	22.60	23.70	10.31	11.33	14.38	11.63	17.71	11.40	13.37
		<b>GAM (%)</b>	23.36	20.87	22.31	26.43	43.57	45.53	26.33	25.05	26.81	24.22	29.67	22.17	21.27
		<b>PCV</b>	17.42	13.38	18.82	19.28	42.40	26.48	34.01	17.32	35.08	19.33	12.13	14.06	13.74
		<b>GCV</b>	15.41	12.21	18.43	17.60	40.38	24.22	32.70	15.36	34.46	17.63	11.59	12.24	11.26
		<b>H<sup>2</sup></b>	50.73	87.71	91.24	67.10	86.26	83.65	68.14	53.33	70.51	44.86	54.33	34.35	31.64
<b>4</b>	<b>400 Gy</b>	<b>GA</b>	11.92	24.11	6.18	5.98	14.79	46.06	10.22	10.22	16.69	13.82	8.69	8.25	11.54
		<b>GAM (%)</b>	28.21	38.95	16.59	12.83	25.36	45.64	25.70	28.32	30.96	29.90	19.58	19.95	34.14
		<b>PCV</b>	25.17	15.63	21.08	18.35	52.51	37.05	145.32	37.78	56.33	23.42	27.26	15.93	21.94
		<b>GCV</b>	20.38	14.13	19.81	16.56	50.89	35.86	140.14	33.80	52.28	20.70	26.34	13.97	19.23
		<b>H<sup>2</sup></b>	70.53	97.15	95.58	44.30	93.93	98.97	98.38	80.02	86.14	40.87	93.31	39.21	30.70
		<b>GA</b>	18.41	24.47	19.12	13.03	17.85	17.68	20.35	21.48	11.92	13.13	16.07	9.79	9.90
<b>5</b>	<b>500 Gy</b>	<b>GAM (%)</b>	33.99	33.72	29.80	37.62	31.62	35.55	44.52	62.29	39.97	20.07	32.41	12.87	18.00
		<b>PCV</b>	15.99	10.03	12.50	13.07	30.52	18.29	31.46	17.61	29.04	17.83	25.45	14.60	21.93
		<b>GCV</b>	13.24	9.63	11.38	11.84	21.10	17.28	30.80	15.86	28.06	16.17	23.46	13.71	20.58
		<b>H<sup>2</sup></b>	40.11	92.22	90.29	82.01	47.77	89.18	44.67	45.29	38.69	51.99	84.97	10.42	50.45
		<b>GA</b>	10.69	12.32	15.11	9.88	1.36	16.37	18.12	10.24	12.54	1.70	9.76	2.14	6.99
		<b>GAM (%)</b>	21.35	19.06	23.67	22.09	3.04	23.61	23.03	29.17	23.15	4.40	14.54	5.13	8.80
<b>6</b>	<b>600 Gy</b>	<b>PCV</b>	14.23	16.98	11.97	18.43	24.08	12.52	23.43	17.01	28.84	16.88	11.01	11.92	12.73
		<b>GCV</b>	11.27	14.69	10.14	16.91	22.83	11.16	22.54	15.74	26.90	15.87	10.34	10.63	11.23
		<b>H<sup>2</sup></b>	52.05	91.78	62.34	67.31	30.44	94.23	37.80	7.76	34.32	30.26	71.85	22.31	21.04
		<b>GA</b>	12.39	11.94	8.03	6.02	6.29	7.72	9.21	8.06	12.18	10.03	6.03	4.93	9.14
		<b>GAM (%)</b>	25.26	23.20	15.11	21.69	26.67	14.33	13.77	32.72	20.39	20.09	16.31	15.48	32.89

PCV=Phenotypic coefficient variation, GCV=Genotypic coefficient variation, H<sup>2</sup>=Heritability, GA=Genetic Advance, GAM=Genetic advance mean

**Table 3.** Correlation studies among yield contributing characters of groundnut in M<sub>2</sub> generation

<b>Traits</b>	<b>PH</b>	<b>PS %</b>	<b>DFF</b>	<b>50 % F</b>	<b>NB</b>	<b>NL</b>	<b>LL</b>	<b>NPPP</b>	<b>PL</b>	<b>PYPP</b>	<b>100 SW</b>	<b>FW</b>	<b>DW</b>
<b>PH</b>	1	.274**	.093	-.172*	.466**	.389**	.088	.155*	.278**	.293**	.676**	.523**	.537**
<b>PS %</b>		1	.167*	.059	.243**	.539**	.091	.150*	.191**	.056	.127	.474**	.244**
<b>DFF</b>			1	.138*	.106	.047	.080	.081	.093	.121	.064	.120	.080

<b>50 % F</b>	1	-0.062	-0.087	-0.062	.007	-.048	.047	-.191**	-.032	-.181**
<b>NB</b>		1	.455**	-.039	.127	.184**	.234**	.441**	.496**	.495**
<b>NL</b>			1	.062	.175*	.112	.062	.230**	.544**	.510**
<b>LL</b>				1	.103	-.051	-.027	.029	.087	.056
<b>NPPP</b>					1	.120	.008	.194**	.136*	.032
<b>PL</b>						1	.122	.311**	.294**	.359**
<b>PYPP</b>							1	.345**	.285**	.268**
<b>100 SW</b>								1	.469**	.524**
<b>FW</b>									1	.657**
<b>DW</b>										1

\*\* . Correlation is significant at the 0.01 level (2-tailed), \* . Correlation is significant at the 0.05 level (2-tailed). PH=Plant height, PS%=Plant survival percentage, DFF=Days to first flower, 50%F=50% flowering, NB=Number of branch per plant, NL=Number of leaves per plant, LL=Leaflet length, NPPP=Number of pods per plant, PL=Pod length, PYPP=Pod yield per plant, 100 SW=100 seed weight, FW=Fresh weight, DW=Dry weight

**Table 4.** One-way ANOVA Mean square, range, means all the agronomic traits for groundnut (*Arachis hypogaea* L.)

<b>Traits</b>	<b>Range</b>	<b>Mean</b>	<b>Mean Square</b>
<b>PH</b>	76.92-85.48	81.20	104.77
<b>PS %</b>	78.86-87.74	90.41	65.64
<b>DFF</b>	36.61-40.05	38.33	13.47
<b>50 % F</b>	38.58-41.02	51.50	439.56
<b>NB</b>	6.23-9.23	7.73	4.74
<b>NL</b>	248.46-327.74	360.53	2870.69

<b>LL</b>	3.19-10.63	6.91	15.268
<b>NPPP</b>	11.43-14.83	2.70	16.378
<b>PL</b>	2.52-2.88	13.13	.189
<b>PYPP</b>	27.57-33.77	38.79	22.26
<b>100 SW</b>	28.2-33	39.22	21.97
<b>FW</b>	71.61-80.61	89.93	84.69
<b>DW</b>	28.18-33.14	39.43	22.76

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