

LIST OF TABLES

Table No.	Particulars	Page No.
3.1	Meteorological data for the experimental period <i>Rabi</i> , 2011-12	60
3.2	Meteorological data for the experimental period <i>Rabi</i> , 2012-13	61
3.3	Meteorological data for the experimental period <i>Rabi</i> , 2013-14	62
3.4	Rate and time taken during irradiation	63
3.8	Skeleton of ANOVA for the characters under study	87
4.1	Effect of different levels of gamma rays on seed germination and plant survival in M ₁ generation of Pea <i>cv.</i> Arkel (<i>Rabi</i> 2011-12)	96
4.2	Effect of different levels of gamma rays on seedling length after five and eight days under laboratory conditions in M ₁ generation of Pea <i>cv.</i> Arkel (<i>Rabi</i> 2011-12)	97
4.3	Effect of gamma rays on pollen sterility in M ₁ generation of Pea <i>cv.</i> Arkel (<i>Rabi</i> 2011-12)	98
4.4	Effect of gamma rays on spectrum and frequency of chlorophyll mutations in M ₂ generation of Pea <i>cv.</i> Arkel (<i>Rabi</i> 2012-13)	102
4.5	Effect of gamma rays on spectrum and frequency of chlorophyll mutations in M ₃ generation of Pea <i>cv.</i> Arkel (<i>Rabi</i> 2013-14)	103
4.6	Effect of gamma rays on spectrum and frequency of induced viable mutations in M ₂ generations of Pea <i>cv.</i> Arkel (<i>Rabi</i> 2012-13)	104
4.7	Effect of gamma rays on spectrum and frequency of induced viable mutations in M ₃ generations of pea <i>cv.</i> Arkel (<i>Rabi</i> 2013-14)	108
4.8	Spectrum of macro mutations in M ₂ generation of Pea (<i>cv.</i> Arkel) under different levels of gamma treatments in <i>Rabi</i> (2012-13)	109
4.9	Spectrum of macro mutations in M ₃ generation of Pea (<i>cv.</i> Arkel) under different levels of gamma treatments in <i>Rabi</i> (2013-14)	110
4.10	Mutagenic effectiveness and efficiency of gamma rays in M ₂ generation of Pea <i>cv.</i> Arkel (2012-13)	112
4.11	Mutagenic effectiveness and efficiency of gamma rays in M ₃ generation of Pea <i>cv.</i> Arkel (2013-14)	113
4.12	Analysis of Variance for yield and yield attributing traits in M ₂ generation of gamma irradiated Pea <i>cv.</i> Arkel	117
4.13	Analysis of Variance for yield and yield attributing traits in M ₃ generation of gamma irradiated pea <i>cv.</i> Arkel	117
4.14	Mean performance, range, coefficient of variation and critical difference for 13 characters in M ₂ generation of gamma irradiated Pea <i>cv.</i> Arkel	121
4.15	Mean performance, range, coefficient of variation and critical difference for 13 characters in M ₃ generation of gamma irradiated pea <i>cv.</i> Arkel	122
4.16	Morphological and physiological variations in M ₂ generation of gamma irradiated pea <i>cv.</i> Arkel grown under different moisture stress leading to drought tolerance	127
4.17	Physiological and yield attributing characters in M ₂ generation of gamma irradiated pea <i>cv.</i> Arkel grown under different moisture stress leading to drought tolerance	128
4.18	Morphological and Physiological variations in M ₃ generation of gamma irradiated pea <i>cv.</i> Arkel grown under different moisture stress leading to drought tolerance	129

4.19	Physiological and yield attributing characters in M ₃ generation of gamma irradiated pea <i>cv.</i> Arkel grown under different moisture stress leading to drought tolerance	130
4.20	Estimates of GCV, PCV, heritability, genetic advance and genetic as percent of mean in M ₂ generation of gamma irradiated Pea <i>cv.</i> Arkel	134
4.21	Estimates of GCV, PCV, heritability, genetic advance and genetic as percent of mean in M ₃ generation of gamma irradiated Pea <i>cv.</i> Arkel	139
4.22	Estimation of genotypic correlation coefficient for different characters in M ₂ generation of gamma irradiated Pea <i>cv.</i> Arkel	144
4.23	Estimation of phenotypic correlation coefficient for different characters in M ₂ generation of gamma irradiated Pea <i>cv.</i> Arkel	145
4.24	Estimation of genotypic correlation coefficient for different characters in M ₃ generation of gamma irradiated Pea <i>cv.</i> Arkel	152
4.25	Estimation of phenotypic correlation coefficient for different characters in M ₃ generation of gamma irradiated Pea <i>cv.</i> Arkel	153
4.26	Direct (diagonal) and indirect path coefficient values of 13 yield component characters on seed yield at genotypic level of M ₂ generation of gamma irradiated Pea <i>cv.</i> Arkel	157
4.27	Direct (diagonal) and indirect path coefficient values of 13 yield component characters on seed yield at phenotypic level of M ₂ generation of gamma irradiated Pea <i>cv.</i> Arkel	158
4.28	Direct (diagonal) and indirect path coefficient values of 13 yield component characters on seed yield at genotypic level of M ₃ generation of gamma irradiated Pea <i>cv.</i> Arkel	162
4.29	Direct (diagonal) and indirect path coefficient values of 13 yield component characters on seed yield at phenotypic level of M ₃ generation of gamma irradiated Pea <i>cv.</i> Arkel	162
4.30	Analysis of variance for four characters under trimonthly storage period in different packaging materials in M ₁ generation of freshly harvested of pea seeds	169
4.31	Analysis of variance for four characters under trimonthly storage period in different packaging materials in M ₁ generation of freshly harvested of pea seeds	169
4.32	Analysis of variance for four characters under trimonthly storage period in different packaging materials in M ₁ generation of freshly harvested of pea seeds	170
4.33	Analysis of variance for four characters under trimonthly storage period in different packaging materials in M ₁ generation of freshly harvested of pea seeds	170
4.34	Effect on different treatments on percent seed viability before and after 24 th months of Storage in M ₁ generation of freshly harvested of pea seeds	171
4.35	Effect on different treatments on percent germination at different tri-monthly storage period in M ₁ generation of freshly harvested of pea seeds	172
4.36	Effect on different treatments on percent germination at different tri-monthly storage period in M ₁ generation of freshly harvested of pea seeds	176
4.37	Effect on different treatments on percent germination at different tri-	177

	monthly storage period in M_1 generation of freshly harvested of pea seeds	
4.38	Effect on different treatments on percent germination at different tri-monthly storage period in M_1 generation of freshly harvested of pea seeds	180
4.39	Effect on different treatments on percent germination at different tri-monthly storage period in M_1 generation of freshly harvested of pea seeds	181
4.40	Effect on different treatments on percent germination at different tri-monthly storage period in M_1 generation of freshly harvested of pea seeds	183
4.41	Effect on different treatments on percent germination at different tri-monthly storage period in M_1 generation of freshly harvested of pea seeds	184
4.42	Effect on different treatments on percent germination at different tri-monthly storage period in M_1 generation of freshly harvested of pea seeds	185