**Table 1: Effect of different doses of gamma-rays on the morphological traits in $M_1$-generation of okra (2017).**

| Varieties | Dose | Plant height (cm) | Total green chlorophyll content (SPAD) | Fresh weight /plant (g) | Dry weight/ plant (g) | Leaf area /plant ($cm^2$) | No. of pods/plant | No. of seeds / plant |
|---|---|---|---|---|---|---|---|---|
| **Balady** | Control | 119.7a | 41.8b | 363.7 | 56.2 | 583.4 | 3.7b | 325.5 |
| | 10KR | 118.2a | 55.1a | 344.2 | 48.1 | 663.4 | 5.5ab | 443.0 |
| | 20KR | 120.2a | 44.3b | 351.2 | 52.2 | 744.9 | 6.7a | 447.0 |
| | 30KR | 119.2a | 43.4b | 315.2 | 45.9 | 570.2 | 5.2ab | 314.5 |
| | 40KR | 99.5b | 41.2b | 330.7 | 47.6 | 703.7 | 4.5b | 330.7 |
| **L.S.D** | | 10.5 | 7.4 | NS | NS | NS | 1.9 | NS |
| **Sabahia** | Control | 69.7 | 51.3 | 252.5 | 34.2 | 633.5 | 9.2 | 746.7 |
| | 10KR | 59.7 | 44.5 | 208.2 | 29.9 | 568.5 | 7.2 | 516.2 |
| | 20KR | 70.5 | 41.5 | 193.2 | 29.3 | 519.5 | 7.7 | 459.5 |
| | 30KR | 72.7 | 47.2 | 251.2 | 38.1 | 558.6 | 7.5 | 487.5 |
| | 40KR | 69.2 | 43.7 | 216.7 | 31.1 | 553.7 | 6.7 | 364.0 |
| **L.S.D** | | NS | NS | NS | NS | NS | NS | NS |

**Table 2: Some vegetative trait's pod yield and its components traits of 26 mutant lines in M3 and their original parent growen in 2019 season**

| Varieties | Mutant No. | Plant height (cm) | No. of branches /plant | No. of leaves/plant | Pod weight (g) | Pod length (cm) | Pod diameter (cm) | No. of days from Sowing to first flowering | No. of pods/Plant | Weight of pods/Plant (g) |
|---|---|---|---|---|---|---|---|---|---|---|
| Balady | Control | 93.6a | 0.0d | 22.0de | 2.7cd | 4.0c | 1.3 | 55.3ab | 4.6de | 16.6e |
| | 1 | 45.3b | 0.0d | 16.0f | 4.6ab | 5.6ab | 1.3 | 51.3bc | 14.3a | 41.8c |
| | 2 | 87.3a | 2.0bc | 38.6c | 5.1a | 6.3a | 1.3 | 48.3c | 10.4c | 42.1c |
| | 3 | 97.0a | 3.3b | 45.3b | 2.4cd | 3.7c | 1.9 | 39.6d | 12.4b | 35.2d |
| | 4 | 93.3a | 0.0d | 20.6ef | 2.8cd | 4.0c | 1.2 | 57.0ab | 4.2e | 17.1e |
| | 5 | 93.0a | 1.0cd | 26.3d | 2.5cd | 4.2c | 1.2 | 55.6ab | 5.6d | 48.3a |
| | 6 | 95.0a | 6.6a | 64.3a | 3.5bc | 4.6bc | 1.3 | 59.0a | 13.4ab | 44.2b |
| L.S.D | | 10.6 | 1.4 | 5.0 | 1.4 | 1.2 | NS | 5.90 | 1.1 | 2.0 |
| Sabahia | Control | 59.6af | 1.0abc | 29.0c-h | 5.3bc | 7.1abc | 1.3b-e | 45.1fg | 14.6ef | 46.1g |
| | 1 | 67.0cde | 0.0c | 28.3d-h | 3.1de | 5.2gh | 1.3de | 45.6f | 21.4b | 44.6g |
| | 2 | 62.3de | 1.6abc | 32.0b-f | 4.2cde | 5.5d-h | 1.3b-e | 50.7b | 18.3c | 61.6d |
| | 3 | 72.0c | 1.0abc | 30.0c-g | 5.5bc | 6.5a-g | 1.3b-e | 49.2cde | 18.4c | 71.2b |
| | 4 | 69.3cd | 2.0abc | 32.0b-f | 5.1cd | 5.9c-g | 1.3cde | 48.2e | 15.3e | 61.5d |
| | 5 | 72.6c | 2.6ab | 38.0abc | 7.7a | 6.8a-d | 1.7a | 42.1h | 29.4a | 65.9c |
| | 6 | 105.0a | 2.6ab | 31.0c-f | 8.0a | 6.4a-g | 1.8a | 42.0h | 7.3l | 26.8i |
| | 7 | 61.3def | 1.0abc | 39.3c-g | 5.4bc | 6.7a-e | 1.4bcd | 50.5b | 13.5fg | 50.1f |
| | 8 | 60.0def | 0.0c | 20.6ghi | 2.8e | 3.8i | 1.3b-e | 54.1a | 8.6k | 36.4h |
| | 9 | 60.3def | 0.0c | 19.6hi | 5.1cd | 6.3b-g | 1.4bcd | 48.9de | 11.5i | 44.7g |
| | 10 | 64.6cde | 0.6bc | 26.6d-i | 5.0cd | 6.0b-g | 1.3b-e | 44.2g | 12.7ghi | 50.5f |
| | 11 | 71.6c | 2.0abc | 38.3abc | 5.4bc | 6.6a-f | 1.4bcd | 49.7bcd | 16.5d | 58.0e |
| | 12 | 61.6def | 0.0c | 23.0f-i | 4.8cd | 5.2gh | 1.5b | 50.6b | 13.3gh | 67.7c |
| | 13 | 81.0b | 2.0abc | 40.3ab | 7.2ab | 7.7a | 1.5bc | 49.9bcd | 11.6i | 45.6g |
| | 14 | 68.0cde | 0.0c | 23.0f-i | 4.1cde | 5.9c-h | 1.3cde | 45.3f | 15.0e | 49.4f |
| | 15 | 72.6c | 3.0a | 41.6a | 4.1cde | 6.0b-g | 1.2de | 50.1bc | 7.3l | 27.0i |
| | 16 | 87.6b | 1.3abc | 32.6a-e | 5.3bc | 5.3fgh | 1.7a | 42.3h | 10.1j | 24.0j |
| | 17 | 69.0cde | 0.6bc | 34.3a-d | 9.0a | 7.3ab | 1.7a | 49.9bcd | 21.6b | 99.3a |
| | 18 | 38.6g | 0.0c | 18.6i | 4.3cde | 5.4c-h | 1.5b | 42.0h | 13.6fg | 48.7f |
| | 19 | 39.3g | 0.6bc | 23.3e-i | 5.4bc | 5.4e-h | 1.5b | 50.3bc | 12.5ghi | 49.1f |
| | 20 | 52.6f | 1.6abc | 28.0d-h | 3.1de | 4.6hi | 1.2e | 50.7b | 12.2h | 37.1h |
| L.S.D | | 8.1 | 1.8 | 8.0 | 1.7 | 1.1 | 0.1 | 0.9 | 1.1 | 2.5 |