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Appendix 1. Tables of Analysis of variance for the estimated traits

1.1. Emergence after 30 days.

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 1369.798 | 1369.798 | 31.2967 | 0.0001 |
| 3 | R(S) | 4 | 818.976 | 204.744 | 4.6779 | 0.0166 |
| 4 | Factor A | 3 | 772.951 | 257.650 | 5.8867 | 0.0104 |
| 5 | SA | 3 | 273.619 | 91.206 | 2.0838 | 0.1559 |
| -7 | Error | 12 | 525.218 | 43.768 | | |
| 8 | Factor B | 20 | 14193.249 | 709.662 | 9.9093 | 0.0000 |
| 9 | SB | 20 | 394.360 | 19.718 | 0.2753 | |
| 12 | AB | 60 | 7049.369 | 117.489 | 1.6405 | 0.0038 |
| 13 | SAB | 60 | 812.978 | 13.550 | 0.1892 | |
| -15 | Error | 320 | 22917.156 | 71.616 | | |
| Total | | 503 | 49127.674 | | | |

Coefficient of Variation: 12.44%

1.2. Plant height at 150 days

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|----------|--------|
| 1 | Season | 1 | 12418.160 | 12418.160 | 254.2685 | 0.0000 |
| 3 | R(S) | 4 | 279.675 | 69.919 | 1.4316 | 0.2828 |
| 4 | Factor A | 3 | 1358.650 | 452.883 | 9.2730 | 0.0019 |
| 5 | LA | 3 | 1078.491 | 359.497 | 7.3609 | 0.0047 |
| -7 | Error | 12 | 586.065 | 48.839 | | |
| 8 | Factor B | 20 | 37859.882 | 1892.994 | 68.1293 | 0.0000 |
| 9 | LB | 20 | 1539.006 | 76.950 | 2.7695 | 0.0001 |
| 12 | AB | 60 | 1606.303 | 26.772 | 0.9635 | |
| 13 | LAB | 60 | 2463.475 | 41.058 | 1.4777 | 0.0182 |
| -15 | Error | 320 | 8891.307 | 27.785 | | |
| Total | | 503 | 68081.015 | | | |

Coefficient of Variation: 9.14%

1.3. Number of leaves at 150 days

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 142.285 | 142.285 | 69.7090 | 0.0000 |
| 3 | R(S) | 4 | 3.160 | 0.790 | 0.3870 | |
| 4 | Factor A | 3 | 27.241 | 9.080 | 4.4486 | 0.0254 |
| 5 | LA | 3 | 32.360 | 10.787 | 5.2847 | 0.0149 |
| -7 | Error | 12 | 24.493 | 2.041 | | |
| 8 | Factor B | 20 | 147.196 | 7.360 | 11.5636 | 0.0000 |
| 9 | LB | 20 | 36.380 | 1.819 | 2.8580 | 0.0001 |
| 12 | AB | 60 | 45.929 | 0.765 | 1.2027 | 0.1608 |
| 13 | LAB | 60 | 52.658 | 0.878 | 1.3789 | 0.0430 |
| -15 | Error | 320 | 203.668 | 0.636 | | |
| Total | | 503 | 715.370 | | | |

Coefficient of Variation: 8.18%

1.4. Bulbing ratio at 150 days

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|----------|--------|
| 1 | Season | 1 | 0.189 | 0.189 | 309.1775 | 0.0000 |
| 3 | R(S) | 4 | 0.003 | 0.001 | 1.3518 | 0.3074 |
| 4 | Factor A | 3 | 0.006 | 0.002 | 3.3435 | 0.0558 |
| 5 | LA | 3 | 0.010 | 0.003 | 5.3186 | 0.0146 |
| -7 | Error | 12 | 0.007 | 0.001 | | |
| 8 | Factor B | 20 | 0.065 | 0.003 | 7.0180 | 0.0000 |
| 9 | LB | 20 | 0.100 | 0.005 | 10.7515 | 0.0000 |
| 12 | AB | 60 | 0.040 | 0.001 | 1.4268 | 0.0287 |
| 13 | LAB | 60 | 0.036 | 0.001 | 1.2932 | 0.0848 |
| -15 | Error | 320 | 0.149 | 0.0004656 | | |
| Total | | 503 | 0.605 | | | |

Coefficient of Variation: 9.49%

1.5. Bulbing ratio at harvesting

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 0.015 | 0.015 | 26.0178 | 0.0003 |
| 3 | R(S) | 4 | 0.003 | 0.001 | 1.1821 | 0.3674 |
| 4 | Factor A | 3 | 0.004 | 0.001 | 2.2826 | 0.1312 |
| 5 | LA | 3 | 0.016 | 0.005 | 9.5424 | 0.0017 |
| -7 | Error | 12 | 0.007 | 0.001 | | |
| 8 | Factor B | 20 | 0.013 | 0.001 | 1.8038 | 0.0194 |
| 9 | LB | 20 | 0.020 | 0.001 | 2.8977 | 0.0000 |
| 12 | AB | 60 | 0.025 | 0.000 | 1.1769 | 0.1900 |
| 13 | LAB | 60 | 0.016 | 0.0002667 | 0.7540 | |
| -15 | Error | 320 | 0.111 | 0.0003468 | | |
| Total | | 503 | 0.228 | | | |

Coefficient of Variation: 11.67%

1.6. Bulb diameters after 150 days

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 766.862 | 766.862 | 29.9784 | 0.0001 |
| 3 | R(S) | 4 | 265.227 | 66.307 | 2.5921 | 0.0901 |
| 4 | Factor A | 3 | 1075.732 | 358.577 | 14.0176 | 0.0003 |
| 5 | LA | 3 | 504.702 | 168.234 | 6.5767 | 0.0071 |
| -7 | Error | 12 | 306.966 | 25.580 | | |
| 8 | Factor B | 20 | 1120.302 | 56.015 | 3.8407 | 0.0000 |
| 9 | LB | 20 | 1777.657 | 88.883 | 6.0943 | 0.0000 |
| 12 | AB | 60 | 1084.454 | 18.074 | 1.2393 | 0.1255 |
| 13 | LAB | 60 | 1111.779 | 18.530 | 1.2705 | 0.1004 |
| -15 | Error | 320 | 4667.086 | 14.585 | | |
| Total | | 503 | 12680.768 | | | |

Coefficient of Variation: 9.35%

1.7. Bulb diameter at harvesting

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|----------|--------|
| 1 | Season | 1 | 2267.383 | 2267.383 | 107.9241 | 0.0000 |
| 3 | R(S) | 4 | 358.549 | 89.637 | 4.2666 | 0.0224 |
| 4 | Factor A | 3 | 579.214 | 193.071 | 9.1899 | 0.0020 |
| 5 | LA | 3 | 283.428 | 94.476 | 4.4969 | 0.0246 |
| -7 | Error | 12 | 252.109 | 21.009 | | |
| 8 | Factor B | 20 | 1487.000 | 74.350 | 4.9583 | 0.0000 |
| 9 | LB | 20 | 1162.525 | 58.126 | 3.8764 | 0.0000 |
| 12 | AB | 60 | 821.669 | 13.694 | 0.9133 | |
| 13 | LAB | 60 | 1154.379 | 19.240 | 1.2831 | 0.0915 |
| -15 | Error | 320 | 4798.409 | 14.995 | | |
| Total | | 503 | 13164.664 | | | |

Coefficient of Variation: 8.73%

1.8. Cured bulb diameter

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|----------|--------|
| 1 | Season | 1 | 2459.509 | 2459.509 | 109.9179 | 0.0000 |
| 3 | R(S) | 4 | 592.441 | 148.110 | 6.6192 | 0.0047 |
| 4 | Factor A | 3 | 439.326 | 146.442 | 6.5446 | 0.0072 |
| 5 | LA | 3 | 175.113 | 58.371 | 2.6087 | 0.0997 |
| -7 | Error | 12 | 268.510 | 22.376 | | |
| 8 | Factor B | 20 | 1365.524 | 68.276 | 4.3221 | 0.0000 |
| 9 | LB | 20 | 1689.741 | 84.487 | 5.3483 | 0.0000 |
| 12 | AB | 60 | 927.730 | 15.462 | 0.9788 | |
| 13 | LAB | 60 | 1310.991 | 21.850 | 1.3832 | 0.0415 |
| -15 | Error | 320 | 5055.072 | 15.797 | | |
| Total | | 503 | 14283.960 | | | |

Coefficient of Variation: 9.09%

1.9. Cloves/bulb

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|----------|--------|
| 1 | Season | 1 | 11.973 | 11.973 | 1.4225 | 0.2560 |
| 3 | R(S) | 4 | 3.211 | 0.803 | 0.0954 | |
| 4 | Factor A | 3 | 397.178 | 132.393 | 15.7299 | 0.0002 |
| 5 | LA | 3 | 12.791 | 4.264 | 0.5066 | |
| -7 | Error | 12 | 101.000 | 8.417 | | |
| 8 | Factor B | 20 | 20740.462 | 1037.023 | 146.5323 | 0.0000 |
| 9 | LB | 20 | 73.280 | 3.664 | 0.5177 | |
| 12 | AB | 60 | 1197.480 | 19.958 | 2.8201 | 0.0000 |
| 13 | LAB | 60 | 147.738 | 2.462 | 0.3479 | |
| -15 | Error | 320 | 2264.670 | 7.077 | | |
| Total | | 503 | 24949.783 | | | |

Coefficient of Variation: 13.62%

1.10. Cloves weight

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 8.297 | 8.297 | 18.6395 | 0.0010 |
| 3 | R(S) | 4 | 2.593 | 0.648 | 1.4566 | 0.2755 |
| 4 | Factor A | 3 | 14.824 | 4.941 | 11.1009 | 0.0009 |
| 5 | LA | 3 | 0.221 | 0.074 | 0.1654 | |
| -7 | Error | 12 | 5.342 | 0.445 | | |
| 8 | Factor B | 20 | 527.951 | 26.398 | 94.0819 | 0.0000 |
| 9 | LB | 20 | 7.403 | 0.370 | 1.3193 | 0.1639 |
| 12 | AB | 60 | 32.021 | 0.534 | 1.9020 | 0.0002 |
| 13 | LAB | 60 | 6.456 | 0.108 | 0.3835 | |
| -15 | Error | 320 | 89.786 | 0.281 | | |
| Total | | 503 | 694.893 | | | |

Coefficient of Variation: 24.27%

1.11. Fresh yield ton/fed.

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|----------|--------|
| 1 | Season | 1 | 197.442 | 197.442 | 120.9325 | 0.0000 |
| 3 | R(S) | 4 | 29.887 | 7.472 | 4.5764 | 0.0178 |
| 4 | Factor A | 3 | 89.772 | 29.924 | 18.3285 | 0.0001 |
| 5 | LA | 3 | 84.230 | 28.077 | 17.1970 | 0.0001 |
| -7 | Error | 12 | 19.592 | 1.633 | | |
| 8 | Factor B | 20 | 170.859 | 8.543 | 6.9130 | 0.0000 |
| 9 | LB | 20 | 52.336 | 2.617 | 2.1175 | 0.0039 |
| 12 | AB | 60 | 72.083 | 1.201 | 0.9722 | |
| 13 | LAB | 60 | 61.301 | 1.022 | 0.8268 | |
| -15 | Error | 320 | 395.450 | 1.236 | | |
| Total | | 503 | 1172.952 | | | |

Coefficient of Variation: 36.26%

1.12. Cured yield ton/fed.

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|----------|--------|
| 1 | Season | 1 | 87.797 | 87.797 | 124.8227 | 0.0000 |
| 3 | R(S) | 4 | 9.419 | 2.355 | 3.3477 | 0.0464 |
| 4 | Factor A | 3 | 42.194 | 14.065 | 19.9962 | 0.0001 |
| 5 | LA | 3 | 34.127 | 11.376 | 16.1732 | 0.0002 |
| -7 | Error | 12 | 8.440 | 0.703 | | |
| 8 | Factor B | 20 | 67.540 | 3.377 | 6.3140 | 0.0000 |
| 9 | LB | 20 | 27.924 | 1.396 | 2.6105 | 0.0002 |
| 12 | AB | 60 | 32.333 | 0.539 | 1.0076 | 0.4668 |
| 13 | LAB | 60 | 22.724 | 0.379 | 0.7081 | |
| -15 | Error | 320 | 171.148 | 0.535 | | |
| Total | | 503 | 503.647 | | | |

Coefficient of Variation: 36.38%

1.13. Weight loss during curing

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 0.419 | 0.419 | 0.0093 | |
| 3 | R(S) | 4 | 114.889 | 28.722 | 0.6393 | |
| 4 | Factor A | 3 | 653.965 | 217.988 | 4.8523 | 0.0195 |
| 5 | LA | 3 | 1804.094 | 601.365 | 13.3859 | 0.0004 |
| -7 | Error | 12 | 539.101 | 44.925 | | |
| 8 | Factor B | 20 | 15401.940 | 770.097 | 44.8831 | 0.0000 |
| 9 | LB | 20 | 342.339 | 17.117 | 0.9976 | |
| 12 | AB | 60 | 1218.443 | 20.307 | 1.1836 | 0.1821 |
| 13 | LAB | 60 | 1385.363 | 23.089 | 1.3457 | 0.0564 |
| -15 | Error | 320 | 5490.511 | 17.158 | | |
| Total | | 503 | 26951.064 | | | |

Coefficient of Variation: 12.22%

1.14. Weight loss after one months from storage

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 15.200 | 15.200 | 51.8482 | 0.0000 |
| 3 | R(S) | 4 | 0.945 | 0.236 | 0.8056 | |
| 4 | Factor A | 3 | 21.144 | 7.048 | 24.0407 | 0.0000 |
| 5 | LA | 3 | 0.137 | 0.046 | 0.1555 | |
| -7 | Error | 12 | 3.518 | 0.293 | | |
| 8 | Factor B | 20 | 127.147 | 6.357 | 17.7538 | 0.0000 |
| 9 | LB | 20 | 6.435 | 0.322 | 0.8986 | |
| 12 | AB | 60 | 56.061 | 0.934 | 2.6093 | 0.0000 |
| 13 | LAB | 60 | 17.291 | 0.288 | 0.8048 | |
| -15 | Error | 320 | 114.586 | 0.358 | | |
| Total | | 503 | 362.464 | | | |

Coefficient of Variation: 19.52%

1.15. Weight loss after five months from storage

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 5.728 | 5.728 | 2.0611 | 0.1767 |
| 3 | R(S) | 4 | 11.226 | 2.807 | 1.0099 | 0.4404 |
| 4 | Factor A | 3 | 223.183 | 74.394 | 26.7689 | 0.0000 |
| 5 | LA | 3 | 4.476 | 1.492 | 0.5368 | |
| -7 | Error | 12 | 33.350 | 2.779 | | |
| 8 | Factor B | 20 | 907.769 | 45.388 | 29.0297 | 0.0000 |
| 9 | LB | 20 | 5.695 | 0.285 | 0.1821 | |
| 12 | AB | 60 | 354.535 | 5.909 | 3.7792 | 0.0000 |
| 13 | LAB | 60 | 22.601 | 0.377 | 0.2409 | |
| -15 | Error | 320 | 500.326 | 1.564 | | |
| Total | | 503 | 2068.887 | | | |

Coefficient of Variation: 15.85%

1.16. Total weight loss after five months from storage from harvesting

| K Value | Source | Degrees of Freedom | Sum of Squares | Mean Square | F Value | Prob |
|---------|----------|--------------------|----------------|-------------|---------|--------|
| 1 | Season | 1 | 1.892 | 1.892 | 0.0449 | |
| 3 | R(S) | 4 | 122.922 | 30.730 | 0.7290 | |
| 4 | Factor A | 3 | 1266.727 | 422.242 | 10.0161 | 0.0014 |
| 5 | LA | 3 | 1706.743 | 568.914 | 13.4953 | 0.0004 |
| -7 | Error | 12 | 505.876 | 42.156 | | |
| 8 | Factor B | 20 | 22435.944 | 1121.797 | 57.9934 | 0.0000 |
| 9 | LB | 20 | 344.362 | 17.218 | 0.8901 | |
| 12 | AB | 60 | 1833.448 | 30.557 | 1.5797 | 0.0070 |
| 13 | LAB | 60 | 1497.622 | 24.960 | 1.2904 | 0.0866 |
| -15 | Error | 320 | 6189.929 | 19.344 | | |
| Total | | 503 | 35905.466 | | | |

Coefficient of Variation: 10.52%

Appendix 2. Tables of the second order of interactions of the studied traits

2.1. Emergence after 30 days

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 67.92 | 69.61 | 59.10 | 62.60 | 49.31 | 57.00 | 60.18 | 55.33 |
| Bani Ghany | 62.58 | 69.81 | 61.29 | 62.93 | 63.45 | 67.35 | 57.62 | 56.82 |
| Clone 21 | 67.16 | 77.62 | 61.25 | 55.02 | 53.83 | 59.73 | 61.37 | 62.65 |
| Clone 22 C | 59.87 | 61.35 | 61.21 | 62.10 | 61.25 | 64.20 | 63.05 | 66.28 |
| Egaseed 1 | 66.73 | 70.58 | 64.43 | 65.00 | 65.49 | 70.07 | 61.92 | 62.50 |
| Egaseed 2 | 59.63 | 55.79 | 59.00 | 58.69 | 64.33 | 68.99 | 57.73 | 58.65 |
| Grower's Clone | 63.33 | 61.30 | 63.69 | 61.98 | 59.20 | 61.32 | 56.32 | 57.26 |
| Salaqus-3 C | 71.61 | 77.38 | 60.26 | 61.59 | 64.04 | 69.64 | 60.92 | 63.52 |
| Sids 40 "Aiat" | 59.65 | 64.63 | 63.30 | 62.57 | 64.69 | 74.59 | 61.05 | 62.74 |
| Sids 40 "Station" | 68.16 | 73.21 | 72.55 | 73.18 | 63.36 | 63.00 | 56.52 | 57.92 |
| Clone 5 | 81.30 | 92.53 | 69.38 | 74.60 | 71.57 | 79.91 | 72.38 | 79.61 |
| Clone 10 | 70.16 | 69.45 | 69.28 | 71.14 | 65.91 | 70.66 | 68.21 | 72.33 |
| Clone 18 | 62.96 | 69.16 | 69.42 | 71.60 | 72.92 | 78.976 | 71.76 | 78.30 |
| Clone 22 W | 65.31 | 68.80 | 72.36 | 77.95 | 62.36 | 5.84 | 70.99 | 74.57 |
| Clone 24 | 69.29 | 73.39 | 67.77 | 71.78 | 70.15 | 75.74 | 68.17 | 74.22 |
| Clone 25 | 77.90 | 86.07 | 73.18 | 76.42 | 70.45 | 78.48 | 68.01 | 69.88 |
| Egaseed clone | 74.09 | 77.77 | 69.43 | 70.71 | 66.44 | 70.92 | 73.77 | 77.40 |
| Egyptian | 75.64 | 83.70 | 71.42 | 73.22 | 78.02 | 82.90 | 69.41 | 68.43 |
| Elwady | 69.86 | 79.92 | 70.65 | 73.14 | 74.78 | 74.69 | 77.43 | 73.36 |
| Owainat | 62.64 | 68.97 | 69.46 | 71.89 | 68.90 | 72.44 | 72.90 | 75.15 |
| Salaqus-3 W | 64.00 | 68.29 | 65.66 | 74.89 | 68.60 | 73.41 | 70.70 | 72.27 |

2.2. Plant height at 150 days, cm

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 45.50 | 57.11 | 41.17 | 47.56 | 43.67 | 50.11 | 33.33 | 46.00 |
| Bani Ghany | 45.83 | 57.22 | 41.33 | 54.33 | 42.17 | 57.67 | 47.50 | 47.56 |
| Clone 21 | 48.67 | 56.11 | 42.00 | 50.00 | 48.33 | 52.33 | 44.17 | 48.67 |
| Clone 22 C | 44.00 | 53.78 | 48.83 | 50.56 | 47.00 | 51.56 | 49.83 | 46.33 |
| Egaseed 1 | 43.50 | 50.56 | 45.67 | 52.33 | 43.50 | 55.44 | 43.17 | 50.22 |
| Egaseed 2 | 57.67 | 73.45 | 55.33 | 60.11 | 59.83 | 63.22 | 59.00 | 61.67 |
| Grower's Clone | 39.67 | 49.67 | 42.17 | 48.45 | 44.67 | 51.11 | 40.50 | 47.67 |
| Salaqus-3 C | 48.67 | 50.89 | 47.67 | 50.22 | 46.33 | 51.89 | 39.67 | 49.67 |
| Sids 40 "Aiat" | 44.00 | 54.78 | 42.50 | 52.44 | 46.67 | 55.44 | 45.00 | 46.89 |
| Sids 40 "Station" | 46.17 | 53.89 | 45.00 | 50.67 | 45.90 | 58.11 | 44.17 | 50.56 |
| Clone 5 | 54.17 | 79.56 | 63.00 | 70.33 | 58.00 | 74.44 | 63.00 | 67.45 |
| Clone 10 | 52.50 | 76.67 | 63.83 | 66.00 | 64.17 | 72.11 | 58.50 | 67.89 |
| Clone 18 | 51.33 | 73.22 | 56.00 | 72.67 | 62.17 | 70.67 | 59.00 | 59.89 |
| Clone 22 W | 62.83 | 74.56 | 60.00 | 67.78 | 59.33 | 70.50 | 61.17 | 58.55 |
| Clone 24 | 59.50 | 64.89 | 58.33 | 72.55 | 59.00 | 75.84 | 59.83 | 63.78 |
| Clone 25 | 62.50 | 76.84 | 69.00 | 76.56 | 60.67 | 79.89 | 63.50 | 68.11 |
| Egaseed clone | 50.50 | 72.89 | 62.83 | 61.44 | 56.17 | 74.22 | 54.17 | 67.78 |
| Egyptian | 58.00 | 70.11 | 55.00 | 68.67 | 61.00 | 79.00 | 59.33 | 64.67 |
| Elwady | 59.00 | 80.45 | 56.17 | 76.22 | 71.67 | 78.78 | 63.67 | 80.45 |
| Owainat | 56.00 | 76.67 | 58.00 | 71.56 | 57.17 | 70.00 | 53.00 | 65.33 |
| Salaqus-3 W | 54.33 | 74.00 | 56.67 | 75.45 | 59.50 | 75.00 | 54.83 | 63.33 |

2.3. Number of leaves at 150 days

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 10.50 | 10.22 | 10.17 | 11.22 | 9.33 | 10.11 | 8.67 | 11.00 |
| Bani Ghany | 10.50 | 9.99 | 9.50 | 11.00 | 9.67 | 10.89 | 9.17 | 11.44 |
| Clone 21 | 8.83 | 9.68 | 9.67 | 11.45 | 9.17 | 10.44 | 8.83 | 11.55 |
| Clone 22 C | 8.00 | 8.77 | 9.17 | 10.55 | 8.83 | 10.44 | 8.67 | 10.99 |
| Egaseed 1 | 10.17 | 10.34 | 8.83 | 12.55 | 8.83 | 10.89 | 9.50 | 11.55 |
| Egaseed 2 | 7.67 | 7.66 | 9.67 | 8.45 | 8.33 | 8.67 | 8.00 | 6.67 |
| Grower's Clone | 9.67 | 8.99 | 9.67 | 11.22 | 10.33 | 11.11 | 8.67 | 11.44 |
| Salaqus-3 C | 10.67 | 9.78 | 9.83 | 12.11 | 10.33 | 11.33 | 9.33 | 11.33 |
| Sids 40 "Aiat" | 10.00 | 9.89 | 9.33 | 11.78 | 9.83 | 10.67 | 9.67 | 11.22 |
| Sids 40 "Station" | 9.83 | 9.33 | 9.50 | 11.55 | 8.67 | 11.67 | 8.33 | 11.56 |
| Clone 5 | 8.33 | 9.78 | 8.50 | 10.00 | 8.67 | 10.33 | 9.00 | 10.22 |
| Clone 10 | 8.50 | 9.45 | 9.67 | 10.45 | 9.67 | 10.78 | 8.17 | 10.44 |
| Clone 18 | 8.67 | 9.56 | 8.33 | 9.67 | 8.67 | 9.11 | 8.33 | 9.33 |
| Clone 22 W | 9.67 | 9.55 | 9.00 | 11.00 | 8.67 | 10.34 | 8.67 | 9.89 |
| Clone 24 | 9.83 | 9.56 | 9.00 | 10.44 | 9.83 | 10.50 | 10.67 | 10.11 |
| Clone 25 | 9.33 | 9.83 | 10.17 | 10.56 | 9.00 | 10.33 | 9.67 | 10.33 |
| Egaseed clone | 8.00 | 9.11 | 9.17 | 9.78 | 8.83 | 9.78 | 8.17 | 10.33 |
| Egyptian | 8.33 | 9.11 | 9.00 | 10.33 | 9.67 | 10.22 | 9.33 | 10.56 |
| Elwady | 9.83 | 9.78 | 9.17 | 10.34 | 10.00 | 10.57 | 9.17 | 10.67 |
| Owainat | 8.83 | 9.44 | 9.67 | 10.11 | 9.17 | 10.33 | 8.33 | 10.00 |
| Salaqus-3 W | 9.33 | 10.00 | 9.17 | 10.44 | 10.33 | 10.44 | 9.50 | 9.67 |

2.4. Bulbing ratio at 150 day

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 0.217 | 0.237 | 0.200 | 0.223 | 0.247 | 0.213 | 0.180 | 0.230 |
| Bani Ghany | 0.203 | 0.200 | 0.210 | 0.200 | 0.247 | 0.220 | 0.253 | 0.227 |
| Clone 21 | 0.213 | 0.207 | 0.193 | 0.230 | 0.210 | 0.217 | 0.243 | 0.217 |
| Clone 22 C | 0.190 | 0.223 | 0.177 | 0.227 | 0.197 | 0.217 | 0.210 | 0.233 |
| Egaseed 1 | 0.203 | 0.213 | 0.190 | 0.217 | 0.220 | 0.247 | 0.243 | 0.250 |
| Egaseed 2 | 0.183 | 0.280 | 0.230 | 0.253 | 0.207 | 0.263 | 0.220 | 0.277 |
| Grower's Clone | 0.197 | 0.213 | 0.230 | 0.237 | 0.210 | 0.227 | 0.213 | 0.230 |
| Salaqus-3 C | 0.187 | 0.207 | 0.193 | 0.210 | 0.207 | 0.220 | 0.193 | 0.213 |
| Sids 40 "Aiat" | 0.207 | 0.207 | 0.210 | 0.217 | 0.217 | 0.233 | 0.220 | 0.200 |
| Sids 40 "Station" | 0.197 | 0.217 | 0.230 | 0.227 | 0.217 | 0.220 | 0.220 | 0.213 |
| Clone 5 | 0.183 | 0.267 | 0.210 | 0.260 | 0.207 | 0.237 | 0.167 | 0.263 |
| Clone 10 | 0.193 | 0.247 | 0.187 | 0.283 | 0.217 | 0.263 | 0.217 | 0.263 |
| Clone 18 | 0.200 | 0.253 | 0.190 | 0.260 | 0.230 | 0.250 | 0.187 | 0.290 |
| Clone 22 W | 0.220 | 0.263 | 0.223 | 0.287 | 0.223 | 0.250 | 0.200 | 0.267 |
| Clone 24 | 0.203 | 0.287 | 0.183 | 0.277 | 0.203 | 0.267 | 0.190 | 0.300 |
| Clone 25 | 0.203 | 0.247 | 0.200 | 0.243 | 0.197 | 0.250 | 0.220 | 0.307 |
| Egaseed clone | 0.240 | 0.253 | 0.207 | 0.277 | 0.250 | 0.253 | 0.203 | 0.257 |
| Egyptian | 0.210 | 0.257 | 0.183 | 0.257 | 0.207 | 0.257 | 0.203 | 0.277 |
| Elwady | 0.183 | 0.257 | 0.187 | 0.273 | 0.197 | 0.250 | 0.193 | 0.270 |
| Owainat | 0.220 | 0.260 | 0.197 | 0.290 | 0.230 | 0.253 | 0.210 | 0.277 |
| Salaqus-3 W | 0.213 | 0.260 | 0.213 | 0.297 | 0.210 | 0.263 | 0.197 | 0.267 |

2.5. Bulbing ratio at harvesting

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 0.160 | 0.147 | 0.153 | 0.167 | 0.193 | 0.130 | 0.170 | 0.133 |
| Bani Ghany | 0.163 | 0.140 | 0.160 | 0.147 | 0.190 | 0.144 | 0.220 | 0.150 |
| Clone 21 | 0.163 | 0.140 | 0.150 | 0.143 | 0.177 | 0.155 | 0.210 | 0.137 |
| Clone 22 C | 0.140 | 0.143 | 0.130 | 0.147 | 0.153 | 0.153 | 0.167 | 0.140 |
| Egaseed 1 | 0.163 | 0.170 | 0.153 | 0.153 | 0.170 | 0.167 | 0.210 | 0.157 |
| Egaseed 2 | 0.147 | 0.150 | 0.177 | 0.163 | 0.163 | 0.153 | 0.177 | 0.163 |
| Grower's Clone | 0.163 | 0.143 | 0.183 | 0.180 | 0.183 | 0.157 | 0.177 | 0.140 |
| Salaqus-3 C | 0.153 | 0.147 | 0.160 | 0.153 | 0.160 | 0.147 | 0.167 | 0.147 |
| Sids 40 "Aiat" | 0.160 | 0.137 | 0.163 | 0.163 | 0.170 | 0.140 | 0.180 | 0.147 |
| Sids 40 "Station" | 0.150 | 0.150 | 0.177 | 0.147 | 0.173 | 0.133 | 0.183 | 0.143 |
| Clone 5 | 0.147 | 0.167 | 0.167 | 0.167 | 0.173 | 0.157 | 0.140 | 0.150 |
| Clone 10 | 0.143 | 0.167 | 0.147 | 0.167 | 0.170 | 0.153 | 0.187 | 0.163 |
| Clone 18 | 0.153 | 0.150 | 0.150 | 0.157 | 0.183 | 0.160 | 0.150 | 0.157 |
| Clone 22 W | 0.173 | 0.177 | 0.170 | 0.160 | 0.187 | 0.160 | 0.173 | 0.143 |
| Clone 24 | 0.160 | 0.160 | 0.153 | 0.163 | 0.163 | 0.150 | 0.173 | 0.163 |
| Clone 25 | 0.160 | 0.167 | 0.157 | 0.170 | 0.157 | 0.140 | 0.180 | 0.150 |
| Egaseed clone | 0.170 | 0.160 | 0.157 | 0.167 | 0.170 | 0.153 | 0.157 | 0.153 |
| Egyptian | 0.160 | 0.150 | 0.140 | 0.150 | 0.163 | 0.163 | 0.157 | 0.150 |
| Elwady | 0.140 | 0.153 | 0.147 | 0.177 | 0.143 | 0.163 | 0.164 | 0.157 |
| Owainat | 0.163 | 0.153 | 0.157 | 0.167 | 0.183 | 0.157 | 0.163 | 0.150 |
| Salaqus-3 W | 0.163 | 0.167 | 0.160 | 0.170 | 0.170 | 0.163 | 0.167 | 0.167 |

2.6. Bulb diameter after 150 days, mm

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 37.53 | 46.60 | 38.06 | 41.25 | 35.28 | 42.89 | 28.98 | 40.10 |
| Bani Ghany | 42.35 | 50.37 | 37.66 | 46.43 | 37.30 | 51.07 | 35.47 | 41.51 |
| Clone 21 | 37.56 | 46.57 | 37.66 | 38.30 | 40.02 | 46.00 | 35.93 | 42.50 |
| Clone 22 C | 36.01 | 44.88 | 38.24 | 41.57 | 39.98 | 46.42 | 39.36 | 37.81 |
| Egaseed 1 | 36.17 | 48.12 | 40.84 | 45.11 | 38.41 | 46.25 | 39.65 | 40.17 |
| Egaseed 2 | 40.01 | 45.54 | 35.71 | 39.69 | 37.42 | 40.48 | 38.77 | 36.53 |
| Grower's Clone | 36.30 | 47.96 | 37.30 | 42.65 | 37.63 | 42.17 | 41.83 | 41.84 |
| Salaqus-3 C | 45.36 | 45.45 | 40.51 | 44.61 | 38.43 | 44.57 | 34.63 | 43.41 |
| Sids 40 "Aiat" | 40.80 | 48.63 | 36.85 | 45.97 | 39.32 | 42.83 | 37.19 | 42.39 |
| Sids 40 "Station" | 39.12 | 47.06 | 38.91 | 43.98 | 40.16 | 49.46 | 37.53 | 43.21 |
| Clone 5 | 43.61 | 46.26 | 40.16 | 39.06 | 39.61 | 41.25 | 42.92 | 40.53 |
| Clone 10 | 37.40 | 44.50 | 42.00 | 33.18 | 39.88 | 40.65 | 32.94 | 37.66 |
| Clone 18 | 37.39 | 44.96 | 42.43 | 39.66 | 42.49 | 40.20 | 40.94 | 33.81 |
| Clone 22 W | 41.83 | 43.51 | 35.15 | 37.33 | 43.32 | 39.66 | 43.20 | 32.32 |
| Clone 24 | 42.32 | 37.52 | 41.33 | 38.57 | 41.07 | 42.31 | 43.95 | 34.09 |
| Clone 25 | 41.29 | 41.46 | 49.71 | 43.29 | 45.08 | 45.82 | 39.54 | 36.24 |
| Egaseed clone | 36.99 | 42.52 | 38.99 | 37.68 | 40.44 | 43.66 | 35.71 | 38.32 |
| Egyptian | 35.92 | 43.08 | 40.34 | 39.00 | 42.34 | 45.50 | 41.49 | 38.89 |
| Elwady | 47.32 | 45.07 | 41.93 | 40.55 | 47.12 | 43.24 | 44.71 | 43.77 |
| Owainat | 36.68 | 42.14 | 39.50 | 38.35 | 41.62 | 40.66 | 36.70 | 35.52 |
| Salaqus-3 W | 41.37 | 42.52 | 37.48 | 39.56 | 42.25 | 43.16 | 41.76 | 34.41 |

2.7. Bulb diameter at harvesting, mm

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 41.46 | 50.29 | 39.80 | 41.32 | 38.49 | 48.39 | 30.54 | 45.97 |
| Bani Ghany | 44.18 | 48.78 | 40.32 | 46.66 | 39.19 | 52.46 | 37.66 | 46.86 |
| Clone 21 | 40.64 | 48.74 | 40.74 | 43.95 | 43.41 | 49.42 | 37.01 | 49.17 |
| Clone 22 C | 39.77 | 50.00 | 41.01 | 43.99 | 42.55 | 44.87 | 43.98 | 42.38 |
| Egaseed 1 | 39.42 | 52.62 | 43.32 | 46.71 | 41.83 | 49.99 | 41.22 | 49.05 |
| Egaseed 2 | 42.91 | 49.08 | 38.44 | 44.15 | 39.97 | 47.00 | 41.50 | 45.05 |
| Grower's Clone | 40.63 | 50.35 | 39.80 | 46.25 | 39.63 | 49.09 | 44.88 | 45.77 |
| Salaqus-3 C | 46.49 | 45.79 | 42.70 | 49.84 | 42.07 | 46.69 | 37.01 | 47.25 |
| Sids 40 "Aiat" | 43.07 | 49.51 | 39.82 | 48.79 | 41.81 | 49.46 | 39.81 | 50.56 |
| Sids 40 "Station" | 41.83 | 52.23 | 42.54 | 46.25 | 41.27 | 51.05 | 39.75 | 48.72 |
| Clone 5 | 45.81 | 48.94 | 44.05 | 45.38 | 41.51 | 48.24 | 44.44 | 43.01 |
| Clone 10 | 38.76 | 46.11 | 44.75 | 39.24 | 43.14 | 43.33 | 35.20 | 41.06 |
| Clone 18 | 40.19 | 47.85 | 44.00 | 43.69 | 45.71 | 43.73 | 42.58 | 38.83 |
| Clone 22 W | 43.28 | 46.27 | 38.58 | 42.99 | 46.11 | 45.70 | 45.81 | 41.56 |
| Clone 24 | 43.97 | 45.41 | 44.02 | 44.61 | 43.51 | 45.56 | 44.99 | 43.52 |
| Clone 25 | 43.05 | 48.81 | 53.38 | 50.42 | 48.26 | 46.62 | 42.64 | 43.15 |
| Egaseed clone | 39.29 | 46.89 | 42.12 | 42.91 | 42.70 | 44.93 | 39.11 | 39.45 |
| Egyptian | 39.29 | 51.40 | 44.06 | 46.84 | 45.88 | 50.03 | 44.34 | 43.11 |
| Elwady | 48.88 | 52.20 | 45.12 | 47.95 | 50.13 | 50.44 | 48.43 | 48.59 |
| Owainat | 38.713 | 45.29 | 42.72 | 42.24 | 43.20 | 43.88 | 38.77 | 40.89 |
| Salaqus-3 W | 44.67 | 48.15 | 41.14 | 42.53 | 44.86 | 46.62 | 45.91 | 43.40 |

2.8 Cured bulb diameter, mm

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 40.80 | 47.06 | 39.23 | 41.94 | 37.90 | 47.19 | 29.84 | 49.79 |
| Bani Ghany | 42.48 | 47.56 | 40.29 | 47.90 | 38.79 | 51.43 | 37.24 | 49.93 |
| Clone 21 | 38.85 | 45.64 | 40.39 | 43.59 | 42.82 | 50.05 | 36.47 | 47.75 |
| Clone 22 C | 38.95 | 50.08 | 39.22 | 45.66 | 41.65 | 44.04 | 42.55 | 43.25 |
| Egaseed 1 | 39.02 | 52.37 | 41.94 | 47.83 | 40.70 | 49.70 | 40.64 | 49.49 |
| Egaseed 2 | 42.00 | 48.43 | 37.04 | 43.25 | 39.44 | 46.51 | 40.99 | 44.07 |
| Grower's Clone | 40.22 | 48.38 | 39.61 | 45.44 | 37.47 | 48.51 | 43.82 | 45.25 |
| Salaqus-3 C | 44.85 | 47.57 | 41.82 | 50.24 | 39.50 | 46.05 | 36.32 | 45.33 |
| Sids 40 "Aiat" | 42.38 | 49.85 | 39.27 | 50.12 | 41.23 | 50.52 | 38.92 | 48.69 |
| Sids 40 "Station" | 41.20 | 49.58 | 42.56 | 49.93 | 40.87 | 50.39 | 39.05 | 49.32 |
| Clone 5 | 44.77 | 46.15 | 43.09 | 46.04 | 40.72 | 48.22 | 44.06 | 42.01 |
| Clone 10 | 37.28 | 44.92 | 44.45 | 38.69 | 42.90 | 42.36 | 34.51 | 40.75 |
| Clone 18 | 39.50 | 46.92 | 43.36 | 43.20 | 44.40 | 44.03 | 41.80 | 36.94 |
| Clone 22 W | 42.82 | 45.70 | 38.51 | 43.49 | 45.48 | 45.55 | 45.60 | 40.05 |
| Clone 24 | 42.42 | 45.44 | 43.37 | 41.51 | 42.84 | 45.02 | 44.79 | 43.11 |
| Clone 25 | 41.40 | 46.47 | 53.18 | 48.31 | 47.68 | 45.01 | 42.39 | 43.22 |
| Egaseed clone | 37.43 | 52.18 | 40.85 | 41.85 | 41.62 | 44.94 | 38.37 | 43.06 |
| Egyptian | 48.26 | 51.08 | 41.71 | 43.89 | 43.84 | 48.54 | 43.81 | 42.89 |
| Elwady | 47.97 | 49.86 | 44.81 | 45.54 | 48.38 | 48.71 | 47.39 | 47.75 |
| Owainat | 38.38 | 43.75 | 41.44 | 41.25 | 42.24 | 43.67 | 37.01 | 40.48 |
| Salaqus-3 W | 43.51 | 43.32 | 40.94 | 37.91 | 44.35 | 46.06 | 45.42 | 39.73 |

2.9. Number of cloves/bulb

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 13.13 | 13.22 | 10.78 | 11.33 | 14.44 | 15.66 | 12.66 | 12.78 |
| Bani Ghany | 13.14 | 14.11 | 9.78 | 10.83 | 14.27 | 14.78 | 12.33 | 12.11 |
| Clone 21 | 14.00 | 16.78 | 14.33 | 14.67 | 17.00 | 17.84 | 14.00 | 15.89 |
| Clone 22 C | 16.44 | 18.33 | 18.00 | 18.78 | 16.33 | 16.33 | 16.61 | 17.50 |
| Egaseed 1 | 14.14 | 15.22 | 11.67 | 11.55 | 12.58 | 12.67 | 11.11 | 11.56 |
| Egaseed 2 | 9.05 | 11.11 | 9.10 | 9.44 | 10.05 | 10.55 | 9.94 | 11.89 |
| Grower's Clone | 14.67 | 13.56 | 13.36 | 12.89 | 13.00 | 14.22 | 13.11 | 11.45 |
| Salaqus-3 C | 13.13 | 13.50 | 11.00 | 10.56 | 10.67 | 10.33 | 12.91 | 15.34 |
| Sids 40 "Aiat" | 13.07 | 13.11 | 10.89 | 11.83 | 13.00 | 13.67 | 11.78 | 12.45 |
| Sids 40 "Station" | 12.67 | 14.33 | 12.67 | 12.52 | 11.00 | 13.00 | 13.00 | 10.56 |
| Clone 5 | 28.00 | 25.67 | 23.87 | 25.22 | 21.43 | 21.98 | 21.44 | 21.00 |
| Clone 10 | 30.00 | 30.67 | 22.82 | 23.44 | 26.12 | 26.78 | 22.67 | 25.11 |
| Clone 18 | 27.43 | 24.11 | 25.67 | 24.89 | 20.00 | 20.33 | 22.33 | 19.44 |
| Clone 22 W | 25.33 | 26.11 | 22.00 | 21.89 | 24.64 | 25.63 | 23.67 | 23.00 |
| Clone 24 | 24.33 | 24.55 | 27.33 | 27.78 | 27.57 | 28.33 | 24.11 | 24.89 |
| Clone 25 | 28.10 | 29.33 | 28.00 | 31.11 | 26.33 | 27.17 | 23.67 | 23.55 |
| Egaseed clone | 20.51 | 18.67 | 21.78 | 21.11 | 22.03 | 23.22 | 23.10 | 21.67 |
| Egyptian | 32.89 | 28.89 | 25.67 | 25.17 | 24.38 | 25.87 | 25.55 | 24.83 |
| Elwady | 32.80 | 31.78 | 28.11 | 26.17 | 27.51 | 30.45 | 30.77 | 33.61 |
| Owainat | 28.00 | 27.22 | 25.89 | 24.11 | 23.20 | 23.89 | 24.00 | 24.75 |
| Salaqus-3 W | 29.24 | 30.78 | 23.00 | 22.56 | 26.15 | 26.78 | 21.94 | 22.34 |

2.10. Clove weight, g

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 3.07 | 3.61 | 2.11 | 2.55 | 3.05 | 3.30 | 2.67 | 2.69 |
| Bani Ghany | 3.25 | 3.31 | 2.80 | 3.66 | 3.43 | 4.88 | 3.02 | 3.53 |
| Clone 21 | 3.12 | 2.39 | 2.05 | 2.18 | 2.71 | 3.93 | 2.24 | 2.64 |
| Clone 22 C | 2.58 | 2.97 | 1.90 | 1.87 | 3.17 | 3.22 | 1.60 | 1.78 |
| Egaseed 1 | 3.18 | 3.76 | 3.17 | 3.44 | 3.49 | 4.23 | 2.54 | 3.74 |
| Egaseed 2 | 3.62 | 3.91 | 3.41 | 3.53 | 3.58 | 3.90 | 2.81 | 3.04 |
| Grower's Clone | 3.51 | 3.75 | 2.96 | 3.28 | 3.28 | 3.53 | 2.78 | 3.17 |
| Salaqus-3 C | 3.01 | 3.21 | 3.92 | 4.63 | 3.45 | 3.94 | 2.31 | 2.44 |
| Sids 40 "Aiat" | 2.86 | 3.65 | 3.04 | 3.96 | 3.03 | 3.51 | 2.96 | 3.85 |
| Sids 40 "Station" | 3.42 | 4.04 | 3.20 | 3.87 | 3.52 | 4.06 | 3.63 | 4.41 |
| Clone 5 | 1.32 | 1.56 | 1.16 | 1.21 | 1.61 | 1.74 | 1.23 | 1.30 |
| Clone 10 | 1.21 | 1.09 | 0.90 | 0.90 | 1.13 | 1.20 | 1.14 | 1.01 |
| Clone 18 | 1.52 | 1.67 | 1.02 | 1.28 | 1.19 | 1.39 | 1.10 | 1.07 |
| Clone 22 W | 1.04 | 1.37 | 1.25 | 1.37 | 1.28 | 1.43 | 1.12 | 1.06 |
| Clone 24 | 1.36 | 1.39 | 0.81 | 0.94 | 1.15 | 1.18 | 1.02 | 1.10 |
| Clone 25 | 1.31 | 1.34 | 1.21 | 1.30 | 1.22 | 1.23 | 1.12 | 1.30 |
| Egaseed clone | 1.79 | 1.96 | 1.26 | 1.37 | 1.40 | 1.34 | 1.16 | 1.26 |
| Egyptian | 1.27 | 1.60 | 1.14 | 1.29 | 1.73 | 1.80 | 1.27 | 1.15 |
| Elwady | 1.26 | 1.45 | 1.31 | 1.42 | 1.31 | 1.51 | 1.11 | 1.19 |
| Owainat | 1.15 | 1.16 | 1.04 | 1.06 | 1.16 | 1.26 | 1.08 | 1.00 |
| Salaqus-3 W | 0.97 | 1.05 | 1.04 | 1.21 | 1.21 | 1.24 | 1.03 | 1.02 |

2.11. Fresh yield, ton/fed

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 1.237 | 4.771 | 1.807 | 2.228 | 1.250 | 2.552 | 0.221 | 1.740 |
| Bani Ghany | 1.520 | 4.732 | 1.496 | 3.688 | 2.065 | 4.480 | 1.029 | 2.444 |
| Clone 21 | 1.807 | 6.160 | 1.870 | 2.340 | 3.317 | 4.392 | 1.938 | 3.180 |
| Clone 22 C | 2.183 | 4.723 | 3.914 | 3.680 | 3.987 | 3.672 | 2.392 | 2.492 |
| Egaseed 1 | 2.468 | 5.852 | 2.698 | 3.428 | 4.187 | 5.184 | 2.242 | 2.796 |
| Egaseed 2 | 1.371 | 4.484 | 1.843 | 3.740 | 2.110 | 4.628 | 1.443 | 3.460 |
| Grower's Clone | 1.260 | 3.616 | 2.083 | 3.264 | 2.552 | 4.175 | 1.593 | 2.008 |
| Salaqus-3 C | 2.267 | 5.172 | 2.400 | 2.964 | 2.687 | 3.968 | 1.242 | 3.788 |
| Sids 40 "Aiat" | 1.312 | 4.116 | 1.797 | 3.224 | 2.122 | 6.040 | 1.897 | 3.052 |
| Sids 40 "Station" | 1.658 | 4.612 | 1.937 | 4.536 | 2.163 | 2.968 | 1.036 | 1.988 |
| Clone 5 | 2.916 | 7.155 | 3.970 | 3.888 | 3.980 | 4.464 | 2.893 | 3.812 |
| Clone 10 | 1.316 | 3.060 | 2.973 | 2.300 | 2.770 | 3.664 | 1.383 | 2.171 |
| Clone 18 | 1.644 | 4.592 | 2.393 | 2.692 | 3.045 | 3.644 | 3.253 | 2.348 |
| Clone 22 W | 2.155 | 3.200 | 2.757 | 3.820 | 4.095 | 2.876 | 1.970 | 2.423 |
| Clone 24 | 2.776 | 4.119 | 3.593 | 3.432 | 3.760 | 4.032 | 3.243 | 3.260 |
| Clone 25 | 2.342 | 5.182 | 3.857 | 3.756 | 3.837 | 3.160 | 1.213 | 2.878 |
| Egaseed clone | 2.323 | 5.560 | 2.833 | 3.544 | 3.383 | 3.036 | 1.123 | 2.463 |
| Egyptian | 2.080 | 4.744 | 4.307 | 4.188 | 3.413 | 4.804 | 3.155 | 2.817 |
| Elwady | 3.297 | 5.244 | 4.110 | 4.808 | 4.958 | 4.836 | 3.887 | 4.827 |
| Owainat | 1.892 | 3.436 | 1.996 | 2.700 | 2.586 | 2.372 | 0.937 | 2.836 |
| Salaqus-3 W | 2.101 | 3.353 | 2.143 | 3.141 | 2.713 | 2.840 | 3.157 | 2.267 |

2.12. Cured yield, ton/fed

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 0.89 | 3.20 | 1.38 | 1.65 | 0.91 | 1.83 | 0.16 | 1.11 |
| Bani Ghany | 1.12 | 3.54 | 1.19 | 2.73 | 1.52 | 3.38 | 0.68 | 1.82 |
| Clone 21 | 1.32 | 4.27 | 1.41 | 1.69 | 2.31 | 2.86 | 1.26 | 2.23 |
| Clone 22 C | 1.58 | 3.40 | 2.91 | 2.56 | 2.84 | 2.74 | 1.49 | 1.88 |
| Egaseed 1 | 1.80 | 4.09 | 2.05 | 2.41 | 3.03 | 3.86 | 1.45 | 2.08 |
| Egaseed 2 | 0.93 | 2.83 | 1.28 | 2.42 | 1.37 | 3.03 | 0.87 | 2.12 |
| Grower's Clone | 0.94 | 2.44 | 1.61 | 2.40 | 1.89 | 3.08 | 0.96 | 1.54 |
| Salaqus-3 C | 1.66 | 3.90 | 1.82 | 2.17 | 1.98 | 3.02 | 0.82 | 2.81 |
| Sids 40 "Aiat" | 1.14 | 3.08 | 1.39 | 2.33 | 1.52 | 3.79 | 1.22 | 2.23 |
| Sids 40 "Station" | 1.22 | 3.51 | 1.48 | 3.18 | 1.61 | 2.21 | 0.67 | 1.46 |
| Clone 5 | 1.90 | 4.23 | 2.57 | 2.40 | 2.51 | 2.79 | 1.70 | 2.39 |
| Clone 10 | 0.80 | 1.85 | 1.87 | 1.43 | 1.68 | 2.33 | 0.84 | 1.42 |
| Clone 18 | 1.10 | 2.67 | 1.59 | 1.71 | 1.90 | 2.30 | 2.01 | 1.53 |
| Clone 22 W | 1.30 | 1.96 | 1.76 | 2.14 | 2.45 | 1.73 | 1.17 | 1.51 |
| Clone 24 | 1.61 | 2.44 | 2.18 | 1.88 | 2.26 | 2.54 | 1.82 | 1.92 |
| Clone 25 | 1.36 | 3.22 | 2.68 | 2.25 | 2.27 | 1.98 | 0.70 | 1.87 |
| Egaseed clone | 1.20 | 2.95 | 1.83 | 2.28 | 2.02 | 1.95 | 0.70 | 1.56 |
| Egyptian | 1.18 | 2.83 | 2.71 | 2.48 | 1.97 | 2.98 | 1.83 | 1.78 |
| Elwady | 1.91 | 3.11 | 2.67 | 2.91 | 3.02 | 3.03 | 2.31 | 3.02 |
| Owainat | 1.15 | 2.03 | 1.29 | 1.59 | 1.52 | 1.52 | 0.54 | 1.79 |
| Salaqus-3 W | 1.30 | 1.77 | 1.35 | 1.82 | 1.73 | 1.67 | 1.81 | 1.49 |

2.13 Weight loss during curing, %

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 26.88 | 33.86 | 23.70 | 26.49 | 27.64 | 26.69 | 29.73 | 33.99 |
| Bani Ghany | 26.21 | 25.11 | 19.61 | 25.52 | 26.33 | 24.92 | 29.66 | 25.00 |
| Clone 21 | 27.08 | 30.29 | 24.30 | 27.92 | 30.23 | 32.25 | 35.64 | 30.15 |
| Clone 22 C | 27.37 | 31.49 | 25.66 | 28.72 | 29.36 | 25.93 | 33.80 | 24.76 |
| Egaseed 1 | 26.94 | 28.41 | 22.84 | 28.25 | 27.39 | 25.84 | 34.80 | 24.73 |
| Egaseed 2 | 30.86 | 36.07 | 30.83 | 35.12 | 34.95 | 34.71 | 40.29 | 38.69 |
| Grower's Clone | 24.35 | 32.90 | 22.88 | 26.27 | 26.91 | 25.85 | 39.89 | 23.38 |
| Salaqus-3 C | 26.06 | 24.46 | 24.37 | 26.77 | 26.25 | 22.42 | 34.76 | 25.99 |
| Sids 40 "Aiat" | 28.34 | 25.18 | 21.27 | 28.30 | 26.68 | 37.80 | 34.45 | 27.06 |
| Sids 40 "Station" | 26.55 | 23.86 | 22.52 | 30.34 | 26.75 | 26.34 | 35.98 | 26.03 |
| Clone 5 | 35.77 | 40.25 | 34.36 | 38.57 | 39.82 | 36.47 | 41.15 | 37.05 |
| Clone 10 | 39.29 | 39.09 | 36.57 | 37.79 | 38.58 | 36.49 | 39.97 | 34.42 |
| Clone 18 | 33.38 | 42.31 | 33.51 | 36.14 | 37.02 | 37.31 | 38.80 | 34.84 |
| Clone 22 W | 41.01 | 37.29 | 36.28 | 43.28 | 38.71 | 39.93 | 40.87 | 37.21 |
| Clone 24 | 42.42 | 41.01 | 38.59 | 46.18 | 39.65 | 37.44 | 44.04 | 41.16 |
| Clone 25 | 41.03 | 37.74 | 30.76 | 40.11 | 40.77 | 36.81 | 43.37 | 35.05 |
| Egaseed clone | 39.81 | 47.02 | 35.55 | 36.12 | 41.50 | 35.90 | 35.23 | 36.68 |
| Egyptian | 42.80 | 40.46 | 36.94 | 39.77 | 42.58 | 36.91 | 42.41 | 36.74 |
| Elwady | 42.22 | 40.26 | 35.38 | 39.48 | 39.00 | 37.85 | 41.46 | 37.63 |
| Owainat | 39.42 | 40.88 | 35.63 | 41.41 | 38.17 | 36.03 | 40.94 | 36.10 |
| Salaqus-3 W | 38.34 | 47.01 | 37.71 | 42.17 | 35.96 | 40.49 | 43.13 | 34.36 |

2.14. Weight loss after one moth from storage, %

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 2.12 | 2.48 | 2.41 | 3.00 | 1.15 | 1.34 | 2.76 | 3.30 |
| Bani Ghany | 2.59 | 2.60 | 2.27 | 2.49 | 1.69 | 3.03 | 3.18 | 3.30 |
| Clone 21 | 2.51 | 2.62 | 1.68 | 1.60 | 2.76 | 3.06 | 3.57 | 4.45 |
| Clone 22 C | 2.09 | 2.36 | 3.03 | 3.34 | 2.90 | 3.29 | 3.11 | 3.81 |
| Egaseed 1 | 2.41 | 2.72 | 2.15 | 2.30 | 2.33 | 2.58 | 3.26 | 3.41 |
| Egaseed 2 | 2.36 | 2.56 | 1.91 | 1.97 | 2.14 | 2.69 | 2.47 | 2.88 |
| Grower's Clone | 2.38 | 2.59 | 2.43 | 2.39 | 3.03 | 3.01 | 2.43 | 2.44 |
| Salaqus-3 C | 2.20 | 2.73 | 2.19 | 2.37 | 2.39 | 2.66 | 2.81 | 3.03 |
| Sids 40 "Aiat" | 2.22 | 2.31 | 2.38 | 3.07 | 2.34 | 2.81 | 2.23 | 2.41 |
| Sids 40 "Station" | 2.00 | 2.53 | 2.17 | 2.39 | 2.15 | 1.95 | 3.16 | 3.66 |
| Clone 5 | 3.05 | 3.43 | 3.10 | 3.42 | 3.72 | 3.79 | 3.58 | 3.87 |
| Clone 10 | 3.00 | 3.49 | 3.31 | 3.45 | 3.06 | 4.10 | 3.18 | 3.78 |
| Clone 18 | 3.21 | 3.65 | 3.45 | 3.53 | 3.32 | 3.38 | 3.62 | 4.49 |
| Clone 22 W | 3.81 | 4.40 | 3.51 | 3.56 | 3.65 | 4.51 | 3.37 | 4.04 |
| Clone 24 | 3.12 | 3.54 | 2.25 | 5.55 | 3.78 | 4.06 | 3.57 | 4.05 |
| Clone 25 | 3.38 | 4.00 | 3.05 | 3.18 | 3.50 | 3.95 | 3.58 | 3.70 |
| Egaseed clone | 3.27 | 3.81 | 3.08 | 3.08 | 3.77 | 3.50 | 2.96 | 2.85 |
| Egyptian | 3.75 | 3.54 | 3.14 | 3.20 | 2.78 | 2.96 | 3.47 | 3.70 |
| Elwady | 3.89 | 3.96 | 3.75 | 4.15 | 3.18 | 4.06 | 3.53 | 4.24 |
| Owainat | 2.74 | 2.62 | 2.66 | 2.89 | 3.33 | 3.77 | 3.80 | 3.90 |
| Salaqus-3 W | 2.77 | 3.09 | 2.50 | 2.90 | 3.26 | 3.30 | 3.78 | 4.16 |

2.15. Weight loss after five months from storage, %

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 5.08 | 5.78 | 7.13 | 7.19 | 3.38 | 3.35 | 7.47 | 7.69 |
| Bani Ghany | 5.17 | 6.05 | 6.23 | 6.13 | 7.26 | 7.36 | 7.73 | 7.97 |
| Clone 21 | 5.03 | 6.20 | 5.23 | 4.41 | 7.60 | 7.50 | 10.79 | 11.78 |
| Clone 22 C | 5.23 | 5.59 | 8.19 | 8.57 | 7.01 | 7.33 | 8.65 | 8.89 |
| Egaseed 1 | 6.07 | 6.28 | 5.91 | 5.87 | 5.83 | 6.29 | 7.70 | 8.11 |
| Egaseed 2 | 5.91 | 5.96 | 6.11 | 5.35 | 6.12 | 6.82 | 6.59 | 6.73 |
| Grower's Clone | 5.62 | 6.10 | 5.41 | 5.61 | 6.30 | 7.38 | 7.20 | 6.50 |
| Salaqus-3 C | 6.12 | 6.59 | 5.63 | 5.56 | 5.98 | 6.51 | 6.42 | 7.62 |
| Sids 40 "Aiat" | 5.48 | 5.34 | 7.21 | 8.16 | 7.38 | 7.41 | 6.76 | 7.00 |
| Sids 40 "Station" | 5.39 | 5.78 | 5.64 | 5.85 | 5.76 | 5.95 | 9.11 | 8.34 |
| Clone 5 | 7.27 | 7.59 | 9.87 | 9.12 | 8.35 | 8.96 | 10.12 | 9.72 |
| Clone 10 | 7.90 | 8.12 | 9.68 | 8.69 | 9.86 | 10.69 | 9.78 | 9.11 |
| Clone 18 | 7.84 | 8.23 | 7.80 | 7.78 | 9.15 | 8.76 | 9.71 | 10.52 |
| Clone 22 W | 9.11 | 9.81 | 8.91 | 9.56 | 11.15 | 11.77 | 10.05 | 10.42 |
| Clone 24 | 8.73 | 8.89 | 8.28 | 8.65 | 8.80 | 9.30 | 9.37 | 9.92 |
| Clone 25 | 9.27 | 9.16 | 8.44 | 8.14 | 10.11 | 11.16 | 9.58 | 9.39 |
| Egaseed clone | 8.07 | 8.78 | 8.36 | 8.29 | 10.03 | 9.31 | 8.41 | 7.79 |
| Egyptian | 8.37 | 8.11 | 8.29 | 7.95 | 7.22 | 7.37 | 8.88 | 9.43 |
| Elwady | 9.69 | 9.81 | 10.22 | 10.67 | 8.73 | 10.22 | 10.95 | 11.46 |
| Owainat | 6.34 | 6.91 | 8.09 | 7.26 | 9.81 | 10.21 | 9.03 | 9.37 |
| Salaqus-3 W | 8.36 | 8.78 | 7.64 | 7.45 | 8.64 | 8.44 | 10.49 | 11.08 |

2.16. Total weight loss from harvesting to five months from storage, %

| Genotypes | Source and level of compost and seasons | | | | | | | |
|-------------------|---|---------------|--------------|---------------|----------------------|---------------|--------------|---------------|
| | Plant compost | | | | Plant Animal compost | | | |
| | 120 Kg (N) | | 60 Kg (N) | | 120 Kg (N) | | 60 Kg (N) | |
| | First season | Second season | First season | Second season | First season | Second season | First season | Second season |
| Aiat" clone 1 " | 31.96 | 39.64 | 30.84 | 33.69 | 31.02 | 30.03 | 37.20 | 41.68 |
| Bani Ghany | 34.71 | 31.16 | 25.84 | 31.65 | 33.58 | 32.28 | 37.38 | 33.30 |
| Clone 21 | 32.14 | 36.49 | 29.53 | 32.39 | 37.83 | 39.75 | 46.43 | 41.93 |
| Clone 22 C | 32.60 | 37.08 | 33.85 | 37.29 | 36.37 | 33.26 | 42.45 | 33.65 |
| Egaseed 1 | 33.01 | 34.70 | 28.75 | 34.12 | 33.22 | 32.13 | 42.50 | 32.84 |
| Egaseed 2 | 36.77 | 42.04 | 36.94 | 40.47 | 41.07 | 41.52 | 46.89 | 45.42 |
| Grower's Clone | 29.97 | 38.99 | 28.29 | 31.88 | 33.20 | 33.22 | 47.08 | 29.88 |
| Salaqus-3 C | 32.18 | 31.04 | 30.01 | 32.34 | 32.23 | 28.93 | 41.18 | 33.61 |
| Sids 40 "Aiat" | 33.82 | 30.52 | 28.48 | 36.45 | 34.07 | 45.21 | 41.21 | 34.07 |
| Sids 40 "Station" | 31.94 | 29.64 | 28.16 | 36.30 | 32.50 | 32.28 | 45.10 | 34.87 |
| Clone 5 | 43.05 | 47.83 | 44.23 | 47.69 | 48.17 | 45.43 | 51.26 | 46.76 |
| Clone 10 | 47.19 | 47.21 | 46.25 | 46.48 | 48.44 | 47.18 | 49.75 | 43.53 |
| Clone 18 | 41.22 | 50.54 | 41.30 | 43.92 | 46.17 | 46.07 | 48.51 | 45.36 |
| Clone 22 W | 50.12 | 47.10 | 45.19 | 52.84 | 49.86 | 51.70 | 50.92 | 47.63 |
| Clone 24 | 51.14 | 49.90 | 46.87 | 54.83 | 48.45 | 46.74 | 53.42 | 51.08 |
| Clone 25 | 50.29 | 46.90 | 39.20 | 48.25 | 50.88 | 47.97 | 52.95 | 44.44 |
| Egaseed clone | 47.89 | 55.79 | 43.91 | 44.41 | 51.52 | 45.21 | 43.64 | 44.46 |
| Egyptian | 51.17 | 48.57 | 45.24 | 47.72 | 49.80 | 44.28 | 51.29 | 46.17 |
| Elwady | 51.91 | 50.07 | 45.60 | 50.15 | 47.73 | 48.07 | 52.41 | 49.09 |
| Owainat | 45.76 | 47.78 | 43.55 | 48.67 | 47.98 | 46.24 | 49.97 | 45.45 |
| Salaqus-3 W | 46.71 | 55.80 | 45.35 | 49.62 | 44.60 | 48.94 | 53.62 | 45.44 |

ABSTRACT OF DISSERTATION

Organic agriculture for obtaining safe and healthy food nowadays is very crucial. Hence, experiments to cultivate organic garlic and obtain organic high priced garlic bulbs were conducted in a virgin sandy soil in the region of Middle Egypt (El-Minia governorate). In this study, twenty one colored- and white-skin garlic genotypes from different locations of the Middle Egypt were collected and evaluated for their performance under laboratory and organic farm conditions in newly reclaimed sandy soil. For the first experiment, under laboratory conditions, cloves of all the 21 genotypes were planted in foam trays filled with beat moss and vermiculite (without chemical fertilizers) in complete randomized design (CRD) with 9 replications. Data were recorded after 45 days from cloves plantation. Simple correlation coefficients values among various growth, biomass after 45 days under laboratory conditions and yield per plant under field conditions for the ten colored and eleven white genotypes were detected. Yield per plant was positively correlated with root weight ($r=0.439$), shoot weight ($r=0.648$) and biomass weight ($r=0.653$) when the average data were used for statistical analysis.

The second study was conducted to screen these genotypes under organic farming conditions at the Experimental Farm of Central Laboratory of Organic Agriculture "CLOA", El-Minia, during 2012/2013 and 2013/2014 winter seasons. Split plot design with 3 replicates was used. Compost sources were randomly arranged in the main plots and the genotypes occupied the sub-plot. Various growth and yield characteristics were evaluated. The obtained results showed that genotypes Clone 5 and El-Wady scored the highest values (4.135 and 4.496 ton/feddán, respectively) for fresh yield, genotypes Clone 22 colored, Clone 5, Egaseed 1 and El-Wady scored the

highest values (2.425, 2.561, 2.597 and 2.748, respectively) for cured yield. However, the fresh and cured yield of the tested genotypes under various compost treatments was ranged from 0.9803 to 5.036 ton/feddan and from 0.633 to 3.445 ton/feddan, respectively. A complete economic value and net return study was done to evaluate the organic cultivation of these garlic genotypes. However, the fresh and cured yield of 8 out of 21 genotypes and 6 out of 21 genotypes in the open field was very acceptable and profitable, respectively. In conclusion, genotypes Egaseed 1 and El-Wady white clone fertilized with the high dose of organic compost (equal of 120 kg of total nitrogen) can be used in organic garlic cultivations under the Middle Egypt conditions and similar environments.