**Supplementary Table S1.** Biologically active substances *Eruca* and *Diplotaxis* in the open field and the greenhouse, mg/100 g (N=3)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| № | Catalog number | Name, origin | Place  | Ascorbic acid | Total chl. | Chl.*a* | Chl.*b* | Carotenoids | Carotenes | β-carotene | Anthocyanins | Total PC\*\* | Total flavonoids |
| **Diplotaxis** |
| 1 | 1 | S olivkovym listom, Russia | G\* | 30.8±1.4a | 144.2±3.7b | 112.0±1.3b | 32.2±0.7b | 48.0±2.5b | 8.9±1.1b | 6.6±1.0b | 2.3±0.1b | 88.4±21.6a | 33.6±3.5c |
| OF\* | 22.5±1.1b | 73.6±2.5a | 58.5±0.8a | 15.1±1.6b | 12.8±1.2b | 4.2±0.7a | 3.3±0.1a | 3.0±0.2a | 200.0±33.8a | 53.2±2.7a |
| 2 | 2 | Roket, Russia | G | 39.6±2.1c | 103.7±2.8a | 81.5±2.1a | 22.2±1.1a | 33.6±1.8a | 6.2±0.9a | 4.5±0.6a | 1.6±0.2a | 63.2±12.1a | 12.8±1.9a |
| OF | 22.7±0.9b | 75.1±1.6a | 59.6±1.6a | 15.5±1.8b | 11.8±0.8b | 3.9±0.3a | 3.3±0.3a | 3.8±0.5b | 210.6±40.9a | 61.1±1.5b |
| 3 | 3 | Pozitiv, Russia | G | 37.4±2.0b | 139.4±3.2b | 109.3±3.1b | 30.1±2.3b | 46.1±0.9b | 7.8±1.1a | 6.1±0.9b | 1.6±0.1a | 70.2±11.6a | 26.0±2.7b |
| OF | 16.5±0.6a | 78.2±1.5a | 63.1±1.6c | 15.1±0.7b | 13.5±1.2b | 9.4±1.4b | 3.6±0.1b | 7.5±0.9c | 287.0±50.2b | 95.8±3.1c |
| 4 | Vr.11 | Ital'yanka, Russia | G | 37.4±1.7b | 138.8±2.8b | 107.7±2.4b | 31.2±1.3b | 45.2±2.5b | 9.1±0.6b | 6.1±0.7b | 1.9±0.2a | 66.8±14.8a | 8.1±1.1a |
| OF | 15.5±0.3a | 74.9±0.5a | 60.1±0.7a | 14.8±0.9b | 6.9±1.1a | 3.5±0.3a | 3.4±0.3b | 3.8±0.2b | 244.2±31.4a | 60.3±2.2b |
| 5 | i: 630841 | Local, Armenia | G | 39.6±1.1c | 163.0±2.8c | 126.9±1.8c | 36.1±2.4c | 57.2±1.8c | 10.5±1.2b | 6.9±0.2b | 1.9±0.5a | 77.8±18.9a | 22.1±1.8b |
| OF | 14.4±0.3a | 67.1±2.1b | 54.7±2.0b | 12.3±1.1a | 9.8±0.7a | 4.5±0.7a | 3.0±0.3a | 2.9±0.3a | 268.9±30.1b | 84.4±3.0c |
| **Mean**  | **G** | **37.0±3.6** | **137.8±21.5** | **107.5±16.4** | **30.4±5.1** | **46.0±8.4** | **8.5±1.6** | **6.0±0.9** | **1.8±0.3** | **73.3±10.0** | **20.5±10.2** |
| **OF** | **18.3±3.9** | **73.8±4.1** | **59.7±3.0** | **14.6±1.3** | **11.0±2.6** | **5.1±2.4** | **3.3±0.2** | **4.2±1.9** | **242.2±37.1** | **71.1±18.1** |
| LSD05 | G | 2.3 | 5.2 | 4.4 | 2.7 | 3.1 | 0.4 | 0.2 | 0.1 | 11.6 | 2.4 |
| OF | 2.0 | 1.5 | 1.8 | 1.1 | 1.7 | 0.9 | 0.1 | 0.7 | 10.9 | 2.8 |
| **Eruca** |
| 6 | 5 |  No name, UK | G | 15.4±0.6b | 131.4±2.6c | 98.5±2.8c | 32.9±0.7c | 41.9±3.2d | 6.3±1.1b | 5.8±0.3b | 3.6±0.5d | 66.5±11.4c | 5.9±1.1a |
| OF | 18.5±0.8с | 110.4±3.7c | 87.2±2.1c | 23.2±1.1c | 19.4±1.8c | 5.8±0.6b | 4.8±0.8b | 3.9±0.2a | 243.8±33.6b | 168.7±3.6c |
| 7 | 6 |  No name, UK | G | 16.5±0.2b | 150.4±1.8d | 107.1±3.8c | 43.3±2.6d | 49.8±2.4d | 6.7±0.3b | 6.5±1.1c | 2.3±0.4c | 63.5±13.9c | 24.4±2.3c |
| OF | 18.5±0.6с | 87.1±2.1b | 69.6±1.4b | 17.5±1.3a | 9.4±1.1a | 3.9±0.8a | 3.9±0.9a | 4.8±0.1b | 278.6±21.3c | 148.4±1.7b |
| 8 | 9 | Poker, Russia | G | 17.6±0.9b | 131.8±3.8c | 97.5±3.2c | 34.3±2.1c | 42.7±1.4d | 6.3±1.3b | 5.9±0.3b | 1.9±0.1b | 57.8±19.8b | 19.6±1.3b |
| OF | 15.5±1.0b | 124.9±3.3c | 95.7±2.8c | 29.3±0.5c | 13.5±1.9b | 8.0±1.1c | 5.6±0.5c | 13.9±1.2d | 142.8±31.5a | 251.4±3.5e |
| 9 | 11 | Rucola, Germany | G | 13.2±0.5b | 156.5±2.8d | 112.3±4.2d | 44.2±2.1d | 51.5±3.2e | 6.9±0.4b | 6.8±0.7c | 3.1±0.3c | 45.1±14.7a | 41.2±2.4d |
| OF | 14.4±0.3b | 104.9±2.9b | 83.4±3.5c | 21.5±1.7b | 14.3±2.5b | 9.3±1.9d | 4.8±0.9b | 5.1±0.5b | 294.3±32.3c | 168.2±1.6c |
| 10 | 12 | Pikantnaya, Russia | G | 16.5±0.8b | 144.2±3.1d | 106.5±2.9c | 37.7±3.3c | 46.6±3.3d | 6.6±1.1b | 6.3±1.0c | 2.3±0.2c | 45.9±17.6a | 73.1±1.9e |
| OF | 22.7±1.1d | 101.8±2.4b | 81.9±2.1c | 19.8±2.1b | 13.3±1.2b | 5.9±1.5b | 4.5±0.2b | 5.4±0.2b | 277.3±51.4c | 137.5±2.5b |
| 11 | 13 | Korsika, Russia | G | 13.2±0.6b | 155.5±3.8d | 108.3±4.3c | 47.3±2.8d | 52.2±3.2e | 7.3±0.4c | 6.8±0.5c | 3.2±0.1c | 43.3±16.8a | 42.8±2.1d |
| OF | 18.5±0.4c | 86.3±1.4b | 68.3±2.7b | 17.9±1.2a | 14.5±2.1b | 9.6±0.8d | 3.9±0.2a | 5.9±0.4b | 322.3±32.2d | 161.8±2.9c |
| 12 | 14 | Barokko, Russia | G | 26.4±1.2c | 167.5±2.5d | 117.4±3.2d | 50.1±4.1e | 54.9±2.8e | 7.6±0.2c | 7.2±0.4c | 2.7±0.2c | 62.5±11.7c | 115.6±1.3f |
| OF | 19.6±0.7c | 116.6±3.1c | 93.8±1.3c | 22.8±2.7b | 18.0±1.1c | 9.6±0.6d | 5.3±0.7c | 8.9±0.2c | 330.6±13.5e | 161.3±0.5c |
| 13 | 15 | Ampir, Russia | G | 4.2±0.2a | 179.9±4.2e | 123.7±3.6e | 56.2±3.1e | 61.3±4.1f | 8.7±1.2d | 7.8±0.9d | 3.1±0.1c | 64.3±12.9c | 34.3±1.1c |
| OF | 15.5±0.9b | 144.1±1.4d | 112.0±2.5e | 32.1±3.0d | 13.6±2.0b | 7.4±1.0c | 6.3±1.0c | 7.2±0.1c | 213.9±21.1b | 308.8±3.0f |
| 14 | 25 | San Remo, Russia | G | 14.3±0.3b | 33.9±2.1a | 26.6±1.1a | 7.4±0.7a | 10.3±1.2b | 4.9±0.5a | 1.4±0.1a | 3.6±0.2d | 54.8±11.2b | 85.4±1.8e |
| OF | 20.6±1.1d | 101.9±3.5b | 81.9±2.3c | 20.0±1.5b | 14.8±1.7b | 5.2±0.3b | 4.7±0.3b | 5.9±0.4b | 313.6±30.5d | 188.4±2.2c |
| 15 | 26 | Sorrento, Russia | G | 13.2±0.5b | 44.3±1.7a | 34.4±1.7a | 9.9±1.1a | 14.7±1.3b | 7.5±0.7c | 1.9±0.2a | 1.6±0.1b | 45.1±12.7a | 15.6±1.4b |
| OF | 14.4±0.4b | 135.2±4.1d | 106.7±3.1d | 28.5±2.4c | 23.1±2.5c | 8.2±0.4c | 5.9±0.3c | 3.8±0.8a | 218.9±25.1b | 103.9±3.1a |
| 16 | 27 | Viktoriya, Russia | G | 6.6±0.2a | 136.8±3.8c | 101.9±3.8c | 34.9±3.8c | 43.2±3.7d | 6.7±1.0b | 6.5±1.0c | 2.4±0.5c | 71.7±13.9d | 44.9±0.5d |
| OF | 16.5±0.9b | 99.1±2.4b | 78.9±2.6b | 20.2±1.2b | 15.1±2.2b | 9.5±1.4d | 4.8±0.9b | 21.1±1.1e | 341.6±40.3e | 195.5±2.7c |
| 17 | 28 | Orekhovaya, Russia | G | 24.2±1.1c | 152.2±2.2d | 111.5±4.1d | 40.6±2.5d | 49.6±2.8d | 6.6±1.1b | 6.6±0.1c | 1.9±0.1b | 64.3±12.6c | 74.6±1.1e |
| OF | 14.4±0.7b | 98.6±1.8b | 78.7±2.2b | 19.9±0.5b | 15.2±1.4b | 10.2±0.4d | 4.5±0.3b | 12.4±0.3d | 354.3±14.9e | 190.2±2.8c |
| 18 | 29 | Sitsiliya, Russia | G | 15.4±0.2b | 161.4±3.2d | 112.4±2.8d | 48.9±2.1d | 53.9±4.0e | 7.3±0.7c | 6.9±0.5c | 2.8±0.1c | 50.8±11.3b | 85.1±3.1e |
| OF | 18.5±0.8c | 87.1±3.8b | 68.9±1.5b | 18.1±1.8a | 13.6±1.1b | 9.9±0.3d | 4.2±0.1a | 6.5±0.6c | 402.6±60.6f | 217.9±2.2d |
| 19 | 30 | Dikovina, Russia | G | 15.4±0.5b | 147.1±2.4d | 108.2±2.4c | 38.8±3.6c | 47.8±3.8d | 6.6±1.0b | 6.4±0.3c | 2.2±0.1c | 58.1±12.7b | 9.2±0.5a |
| OF | 12.4±0.2b | 124.3±2.8c | 99.7±3.1d | 24.6±2.2c | 29.1±2.5d | 8.1±1.5c | 5.6±0.2c | 4.8±0.1b | 289.5±22.3c | 233.1±0.9e |
| 20 | 31 |  No name, China | G | 15.4±0.9b | 155.9±3.5d | 111.7±2.7d | 44.3±2.7d | 51.8±3.1e | 7.2±1.3c | 6.7±0.8c | 2.7±0.1c | 76.9±12.7d | 46.7±2.1d |
| OF | 10.3±0.5a | 165.6±4.1e | 114.0±3.6e | 51.6±3.1e | 21.2±1.3c | 10.9±2.0e | 7.2±0.5d | 5.6±0.4b | 140.5±15.1a | 238.0±3.5e |
| 21 | 32 | Spartak, Russia | G | 16.5±1.0b | 153.7±3.8d | 111.1±2.8d | 42.6±1.4d | 51.2±2.6e | 7.2±0.4c | 6.7±0.3c | 2.2±0.2c | 61.8±13.9c | 79.0±1.8e |
| OF | 13.5±0.4b | 140.4±3.4d | 105.6±1.3d | 34.8±2.0d | 20.4±1.9c | 6.2±0.9b | 5.3±0.6c | 3.8±0.1a | 120.0±14.0a | 195.3±0.4c |
| 22 | 34 | Rimskiye kanikuly, Russia | G | 16.5±0.9b | 97.6±1.4b | 75.1±2.0b | 22.5±1.6b | 29.9±2.1c | 5.3±0.1a | 4.2±0.2b | 2.0±0.2b | 48.8±12.6b | 27.8±1.1c |
| OF | 18.5±0.3c | 84.9±2.1a | 68.7±1.1b | 16.2±0.3a | 14.1±1.7b | 5.6±0.4b | 3.7±0.1a | 3.9±0.7a | 270.1±60.1c | 216.7±3.1d |
| 23 | 36 | Aromat, Russia | G | 35.2±1.2d | 124.7±3.5c | 97.2±1.7c | 27.5±2.7c | 6.9±1.1a | 6.9±0.2b | 5.2±0.7b | 1.3±0.1b | 68.6±13.3c | 37.0±0.5d |
| OF | 16.5±0.7b | 103.6±2.8b | 84.6±3.6c | 18.9±1.2b | 11.9±1.5a | 9.9±0.8d | 4.6±0.3b | 4.0±0.7a | 313.4±80.2d | 147.2±2.8b |
| 24 | 37 | Evrika, Russia | G | 22.0±0.4c | 126.8±3.1c | 97.8±2.2c | 28.9±1.9c | 6.9±0.5a | 6.9±0.6b | 5.5±0.6b | 0.6±0.1a | 65.8±25.3c | 38.7±1.1d |
| OF | 12.4±0.9b | 77.9±2.4a | 62.6±1.7b | 15.3±0.4a | 11.2±2.1a | 9.8±1.0d | 3.6±0.1a | 10.4±0.5d | 357.4±91.5e | 136.4±3.5b |
| 25 | 640875 | Local, Russia | G | 24.2±1.1c | 161.2±3.9d | 117.1±3.3d | 44.1±3.5d | 53.6±3.3e | 7.2±0.5c | 7.0±0.1c | 1.9±0.3b | 58.2±18.3b | 120.9±2.9f |
| OF | 18.5±1.0c | 71.8±2.1a | 57.0±1.9a | 14.8±1.1a | 12.1±1.5a | 8.5±0.7c | 3.4±0.3a | 29.5±1.4e | 274.3±32.4c | 145.6±1.4b |
| **Mean**  | **G** | **17.1±6.8** | **135.6±37.6** | **98.8±25.5** | **36.8±12.6** | **41.0±17.3** | **6.8±0.8** | **5.9±1.7** | **2.4±0.8** | **58.7±9.6** | **51.1±33.5** |
| **OF** | **16.5±3.1** | **108.3±24.5** | **84.9±17.7** | **23.4±8.6** | **15.9±4.7** | **8.1±2.0** | **4.8±0.9** | **8.3±6.6** | **274.9±76.1** | **185.7±48.3** |
| LSD05 | G | 2.7 | 5.3 | 10.1 | 3.6 | 7.2 | 0.4 | 0.8 | 0.2 | 11.3 | 4.6 |
| OF | 1.3 | 7.8 | 6.7 | 4.0 | 2.8 | 0.6 | 0.4 | 0.6 | 32.1 | 8.1 |

\* G – greenhouse, OF - open field

\*\* Total phenolic compounds, mg GAE/100g.

All data are presented as Mean ± SD

 a-f Values with different superscript were significantly different (p < 0.05) in each growing condition (Tukey's HSD test).

LSD05—Fisher’s Least Significant Difference.

N – replicates number