Supplementary Materials

Supplementary Table S1. Results of testing whether parameter values in Equation 1 differed between the five barnyardgrass populations (Table 2). *P*-values equal or less than 0.05/10 (i.e., number of hypotheses) = 0.005 were considered significant (Bonferroni’s method).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Population  vs.  Population | vs. | | vs. | | vs. | |
|  | *p*–value |  | *p*–value |  | *p*–value |
| Poland vs. East1 | 13.98 | 0.0002 | 5.17 | 0.0235 | 4.64 | 0.0318 |
| Poland vs. East2 | 8.55 | 0.0037 | 18.53 | < 0.0001 | 0.84 | 0.3609 |
| Poland vs. West1 | 841.78 | < 0.0001 | 0.62 | 0.4302 | 10.60 | 0.0012 |
| Poland vs. West2 | 154.79 | < 0.0001 | 4.23 | 0.0403 | 0.30 | 0.5826 |
| East1 vs. East2 | 52.89 | < 0.0001 | 7.97 | 0.0050 | 1.40 | 0.2368 |
| East1 vs. West1 | 1597.61 | < 0.0001 | 5.80 | 0.0165 | 7.85 | 0.0053 |
| East1 vs. West2 | 313.04 | < 0.0001 | 0.30 | 0.5858 | 1.31 | 0.2539 |
| East2 vs. West1 | 734.16 | < 0.0001 | 15.19 | 0.0001 | 9.29 | 0.0025 |
| East2 vs. West2 | 100.55 | < 0.0001 | 1.71 | 0.1912 | 0.04 | 0.8475 |
| West1 vs. West2 | 182.51 | < 0.0001 | 5.54 | 0.0191 | 9.37 | 0.0024 |

Supplementary Table S2. Results of testing whether parameter values of *LT*50 and *LT*90 differed between the five barnyardgrass populations(Table 3). P-values equal or less than 0.05/10 (i.e., number of hypotheses) = 0.005 were considered significant (Bonferroni’s method). Superscripts in H0 mean: 1 = Poland; 2 = East1; 3 = East2; 4 = West1; 5 = West2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null hypothesis, H0 | *j* = 50 [] | | *j* = 90 [] | |
|  | *p*–value |  | *p*–value |
|  | 5.17 | 0.0235 | 44.53 | < 0.0001 |
|  | 18.53 | < 0.0001 | 66.35 | < 0.0001 |
|  | 0.62 | 0.4302 | 58.54 | < 0.0001 |
|  | 4.23 | 0.0403 | 19.48 | < 0.0001 |
|  | 7.97 | 0.0050 | 4.91 | 0.0273 |
|  | 5.80 | 0.0165 | 8.40 | 0.0040 |
|  | 0.30 | 0.5858 | 0.63 | 0.4283 |
|  | 15.19 | 0.0001 | 1.32 | 0.2517 |
|  | 1.71 | 0.1912 | 5.86 | 0.0159 |
|  | 5.54 | 0.0191 | 9.28 | 0.0025 |

Supplementary Table S3. Results of testing whether pre-treatment of the dry barnyardgrass seeds affected the parameter estimates of *LT*50 and *LT*90 in the population from Poland and two from East Norway (Table 4). P-values equal or less than 0.05/6 (i.e., number of hypotheses) = 0.0083 were considered significant (Bonferroni’s method). Superscripts in H0 are *k* = 0, 12, 24, and 48 hours pre-moistening in water at room temperature before subject to steaming.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Population | Null hypothesis, H0 | *j* = 50 [] | | *j* = 90 [] | |
|  |  |  | *p*–value |  | *p*–value |
| Poland |  | 13.40 | 0.0004 | 3.72 | 0.0567 |
|  |  | 0.22 | 0.6431 | 3.26 | 0.0740 |
|  |  | 13.83 | 0.0003 | 0.45 | 0.5019 |
|  |  | 19.80 | <.0001 | 15.35 | 0.0002 |
|  |  | 0.12 | 0.7343 | 2.13 | 0.1481 |
|  |  | 21.62 | <.0001 | 7.69 | 0.0067 |
| East1 |  | 73.91 | <.0001 | 28.77 | <.0001 |
|  |  | 22.34 | <.0001 | 0.94 | 0.3349 |
|  |  | 6.37 | 0.0133 | 0.60 | 0.4390 |
|  |  | 44.87 | <.0001 | 30.01 | <.0001 |
|  |  | 82.18 | <.0001 | 53.78 | <.0001 |
|  |  | 10.24 | 0.0019 | 4.59 | 0.0346 |
| East2 |  | 40.30 | <.0001 | 5.28 | 0.0238 |
|  |  | 12.80 | 0.0005 | 46.94 | <.0001 |
|  |  | 12.48 | 0.0006 | 48.07 | <.0001 |
|  |  | 46.46 | <.0001 | 40.59 | <.0001 |
|  |  | 43.99 | <.0001 | 41.49 | <.0001 |
|  |  | 0.00 | 0.9545 | 0.08 | 0.7771 |