Table 1. Mean values of total biomass of plants (mg dw/plant produced during the experimental treatment for perennial ryegrass (PRG) and timothy, both northern and southern-adapted populations. Confidence intervals (95%) are presented in brackets (lower, upper).

|  |  |  |  |
| --- | --- | --- | --- |
| Populations | Temp.°C | autumn period |  |
|  |  | Early | Intermediate | Late |
| PRG southern | 6 |  93  | (75, 111) |  53  | (39, 67) |  20  | (8, 32) |
| 9/3\* | 145  | (114, 176) |  94  | (78, 110) |  17  | (5, 29) |
| 12 | 307  | (262, 352) |  80  | (60, 100) |  30  | (16, 44) |
| PRG northern | 6 | 166  | (137, 195) |  55  | (37, 73) |  16  | (4, 28) |
| 9/3\* | 147  | (125, 169) |  91  | (64, 118) |  32  | (14, 50) |
| 12 | 259  | (216, 302) | 129  | (104, 154) |  33  | (13, 53) |
| Timothy southern | 6 |  55  | (43, 67) |  49  | (37, 61) |  16  | (8, 24) |
| 9/3\* | 108  | (90, 126) |  77  | (65, 89) |  14  | (6, 22) |
| 12 | 172  | (135, 209) |  88  | (70, 106) |  21  | (11, 31) |
| Timothynorthern | 6 |  76  | (56, 96) |  41  | (29, 53) |  17  | (7, 27) |
| 9/3\* |  84  | (70, 98) |  67  | (57, 77) |  19  | (11, 21) |
| 12 | 237  | (188, 296) |  87  | (71, 103) |  22  | (18, 26) |

\*day/night

Table 2. Freezing tolerance as LT50 value (temperature with 50% plant survival) of perennial ryegrass (PRG) and timothy after different temperature and autumn period treatments. Confidence intervals (95%) are presented in brackets (lower, upper).

|  |  |  |
| --- | --- | --- |
|  |  | Autumn period |
| Population | Temp. °C | Early | Intermediate | Late |
|  | LT50 | LT50 | LT50 |
| PRG southern | 6 | -14.0 | (-14.4, -13.6)  | -14.6 | (-15.1, -14.1)  | -11.6 | (-12.2, -11.0) |
| 9/3\* | -14.2 | (-14.6, -13.8) | -13.8 | (-14.3, -13.3)  | -10.7 | (-11.2, -10.2) |
| 12 | -12.2 | (-12.6, -11.8) | -10.3 | (-10.8, -9.8)  | -7.0 | (-7.6, -6.3) |
| PRG northern | 6 | -15.8 | (-15.2, -16.4) | -17.3 | (-18.0, -16.5) | -13.6 | (-14.2, -13.0) |
| 9/3\* | -15.4 | (-16.0, -14.9) | -15.8 | (-16.3, -15.4) | -12.9 | (-13.5, -12.3) |
| 12 | -13.9 | (-14.4, -13.5) | -11.7 | (-12.3, -11.1) | -7.0 | (-7.6, -6.4) |
| Timothy southern | 6 | -15.1 | (-15.7, -14.4)  | -14.9 | (-15.8, -14.1) | -10.5 | (-11.1, -9.8) |
| 9/3\* | -14.2 | (-14.9, -13.6) | -16.8 | (-17.7, -16.0) | -9.9 | (-9.2, -10.5) |
| 12 | -11.1 | (-11.7, -10.6) | -11.4 | (-11.9, -10.9) | -7.7 | (-8.3, -7.1) |
| Timothy northern | 6 | -17.7 | (-18.5, -16.9) | -17.4 | (-18.3, -16.5) | -11.8 | (-12.5, -11.1) |
| 9/3\* | -16.0 | (-16.6, -15.3) | -17.1 | (-17.6, -16.6) | -12.2 | (-12.9, -11.5) |
| 12 | -12.7 | (-13.3, -12.1) | -12.3 | (-13.0, -11.7) | -8.2 | (-8.9, -7.6) |

\*day/night