**Table S2.** The results of fitting models; viability equation (Ellis and Roberts, 1980) with/without the mortality parameter (Mead and Grey, 1999) or the combined loss in dormancy and loss in viability (Kebreab and Murdoch, 1999) to quantify changes in ability to germinate during hermetic storage at 45°C and 60% relative humidity for accession 76072. Seeds grown in each of the four regeneration environments (glasshouse, big igloo, green igloo and cage) were harvested at different stages during development, between 21 and 130 days after 50% anthesis (DAA) before being dried to equilibrium in a dryroom maintained at 15°C and 15% relative humidity. The parameters shown are for the simplest model (fewest parameters) that could be fitted without a significant increase in the residual deviance compared to the best-fit model (*P*>0.05). The equilibrium relative humidity (eRH) of the seeds was measured using an HC2-AW-USB water activity station (Rotronic, Bassersdorf, Germany) at ambient temperature (21.5°C). The estimated moisture content (eMC) was determined, from the equilibrium relative humidity (eRH) status of the seeds, and using Cromarty’s equation executed in the Seed Information Database (Royal Botanic Gardens Kew, 2021).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | **Loss in dormancy** | **Loss in viability** |  |
| **Maturity** | **Model** | **eMC** | ***K*d (s.e.)** | ***Β*1 (s.e.)** | ***K*i (s.e.)** | **σ-1 (s.e.)** | ***p*50** |
| **(DAA)** |  | **(%)** | **(NED)** | **(days)** | **(NED)** | **(days)** | **(days)** |
|  |  |  |  |  |  |  |  |
| **Glasshouse** |
| 63 | *K*d, *Β*1, *K*i, σ-1 constrained within 63, 70, 84, 91 and 105DAA& *K*d, *Β*1, *K*i, σ-1 constrained within 112, 124 and 130DAA | 13.1 | 0.932 (0.091) | 0.020 (0.007) | 2.659 (0.361) | 0.015 (0.003) | 178.3 |
| 70 | 12.8 | 0.932 (0.091) | 0.020 (0.007) | 2.659 (0.361) | 0.015 (0.003) | 178.3 |
| 84 | 13.4 | 0.932 (0.091) | 0.020 (0.007) | 2.659 (0.361) | 0.015 (0.003) | 178.3 |
| 91 | 13.3 | 0.932 (0.091) | 0.020 (0.007) | 2.659 (0.361) | 0.015 (0.003) | 178.3 |
| 105 | 13.2 | 0.932 (0.091) | 0.020 (0.007) | 2.659 (0.361) | 0.015 (0.003) | 178.3 |
| 112 | 13.4 | 0.836 (0.24) | 0.139 (0.068) | 2.610 (0.329) | 0.019(0.003) | 136.3 |
| 124 | 13.2 | 0.836 (0.24) | 0.139 (0.068) | 2.610 (0.329) | 0.019(0.003) | 136.3 |
| 130 | 13.5 | 0.836 (0.24) | 0.139 (0.068) | 2.610 (0.329) | 0.019(0.003) | 136.3 |
| **Big igloo** |
| 63 | *K*d, *Β*1, *K*i, σ-1 constrained within 63 and 70DAA&*K*i, σ-1 constrained within 84 and 118DAA&*K*i, σ-1 constrained within 91 and 105DAA&*K*i, σ-1 constrained within 112 and 121DAA | 13.1 | 0.816 (0.178) | 0.346 (0.146) | 2.420 (0.214) | 0.012 (0.001) | 196 |
| 70 | 13.1 | 0.816 (0.178) | 0.346 (0.146) | 2.420 (0.214) | 0.012 (0.001) | 196 |
| 84 | 13.6 | - | - | 2.022 (0.128) | 0.011 (0.001) | 209.7 |
| 91 | 12.9 | - | - | 1.936 (0.126) | 0.006 (0.001) | 335.1 |
| 105 | 12.9 | - | - | 1.936 (0.126) | 0.006 (0.001) | 335.1 |
| 112 | 13.0 | - | - | 1.785 (0.118) | 0.002 (0.001) | 777.6 |
| 118 | 13.2 | - | - | 2.022 (0.128) | 0.011 (0.001) | 209.7 |
| 121 | 13.1 | - | - | 1.785 (0.118) | 0.002 (0.001) | 777.6 |
| **Green igloo** |
| 63 | *K*i, σ-1 constrained within 63, 70, 84 and 91DAA&σ-1 constrained within 105 and 112DAA | 13.1 | - | - | 1.453 (0.070) | 0.004 (0.001) | 341.2 |
| 70 | 13.5 | - | - | 1.453 (0.070) | 0.004 (0.001) | 341.2 |
| 84 | 13.4 | - | - | 1.453 (0.070) | 0.004 (0.001) | 341.2 |
| 91 | 13.4 | - | - | 1.453 (0.070)\* | 0.004 (0.001) | 341.2 |
| 105 | 12.9 | - | - | 7.260 (2.150)\* | 0.088 (0.028) | 82.1 |
| 112 | 13.2 | - | - | 11.440 (3.600) | 0.088 (0.028 | 129.4 |
| **Cage** |
| 63 | *K*i, σ-1 constrained within 63, 70 and 84DAA&*K*i, σ-1 constrained within 105 and 112DAA | 13.1 | - | - | 1.847 (0.102) | 0.004 (0.001) | 432.2 |
| 70 | 13.3 | - | - | 1.847 (0.102) | 0.004 (0.001) | 432.2 |
| 84 | 13.3 | - | - | 1.847 (0.102) | 0.004 (0.001) | 432.2 |
| 91 | 13.0 | 1.573 (0.177) | 0.002 (0.007) | 4.520 (1.380) | 0.030 (0.009) | 149.7 |
| 105 | 13.9 | - | - | 1.630 (0.102) | 0.022 (0.002) | 75.4 |
| 112 | 13.4 | - | - | 1.630 (0.102) | 0.022 (0.002) | 75.4 |

**\***  Immunity value generated by GenStat was 0.1581 (0.0251) and 0.1101 (0.0186) for seed lots 91 and 105DAA grown in the green igloo.