

Developmental changes in the germinability, desiccation tolerance, hardseededness, and longevity of individual seeds of Trifolium ambiguum

Article

Accepted Version

Table 2

Hay, F. R., Smith, R. D., Ellis, R. H. ORCID: <https://orcid.org/0000-0002-3695-6894> and Butler, L. H. (2010) Developmental changes in the germinability, desiccation tolerance, hardseededness, and longevity of individual seeds of *Trifolium ambiguum*. *Annals of Botany*, 105 (6). p. 1035. ISSN 0305-7364 doi: <https://doi.org/10.1093/aob/mcq037> Available at <https://centaur.reading.ac.uk/7688/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

Published version at: <http://dx.doi.org/10.1093/aob/mcq037>

To link to this article DOI: <http://dx.doi.org/10.1093/aob/mcq037>

Publisher: Oxford University Press

Publisher statement: This is a pre-copy-editing, author-produced PDF of an article accepted for publication in *Annals of Botany* following peer review. The definitive publisher-authenticated version Ann Bot (2010) 105 (6): 1035-1052. doi: 10.1093/aob/mcq037 is available online at: <http://dx.doi.org/10.1093/aob/mcq037>

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in

the [End User Agreement](#).

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading
Reading's research outputs online

Table 2. Accumulated analysis of variation (unbalanced design therefore fitted through GenStat regression) for FW and DW of seeds of *Trifolium ambiguum* harvested between 33 and 64 DAP (experiment 1) or between 36 and 63 DAP (experiment 2).

| Change [†] | Experiment 1 (pollinated 8 Dec. 2004) | | | | | | | | | | Experiment 2 (pollinated 11 Jan. 2006) | | | | | | | | | |
|---------------------------|---------------------------------------|--------|------|-----------|------|------------|------|----------|------|--------|--|----------|------|------|------|------------|------|------|------|------|
| | Fresh weight | | | | | Dry weight | | | | | Fresh weight | | | | | Dry weight | | | | |
| | d.f. | s.s. | m.s. | v.r. | d.f. | s.s. | m.s. | v.r. | d.f. | s.s. | m.s. | v.r. | d.f. | s.s. | m.s. | v.r. | d.f. | s.s. | m.s. | v.r. |
| + DAP | 9 | 118.80 | 3.20 | 200.46*** | 7 | 3.35 | 0.48 | 24.28*** | 7 | 86.82 | 12.40 | 65.06*** | 7 | 0.26 | 0.04 | 1.34 | | | | |
| + Mat. | 1 | 0.34 | 0.34 | 5.13* | 1 | 0.31 | 0.31 | 15.65*** | 1 | 0.06 | 0.06 | 0.29 | 1 | 1.18 | 1.18 | 41.88*** | | | | |
| + No. | 1 | 2.23 | 2.23 | 33.81*** | 1 | 0.46 | 0.46 | 23.13*** | 1 | 1.92 | 1.92 | 10.07** | 1 | 0.59 | 0.59 | 21.11*** | | | | |
| + PosI | 2 | 1.74 | 0.87 | 13.20*** | 2 | 0.05 | 0.02 | 1.16 | 2 | 6.64 | 3.32 | 17.42*** | 2 | 0.20 | 0.10 | 3.48* | | | | |
| + DAP × Mat. | 5 | 0.84 | 0.17 | 2.54* | 4 | 0.68 | 0.17 | 8.63*** | 7 | 5.51 | 0.79 | 4.13*** | 7 | 0.47 | 0.07 | 2.39* | | | | |
| + DAP × No. | 8 | 0.93 | 0.12 | 1.76 | 7 | 0.38 | 0.05 | 2.78* | 7 | 1.42 | 0.20 | 1.07 | 7 | 0.26 | 0.04 | 1.32 | | | | |
| + Mat. × No. | 1 | 0.06 | 0.06 | 0.98 | 1 | 0.00 | 0.00 | 0.18 | 1 | 0.01 | 0.01 | 0.08 | 1 | 0.05 | 0.05 | 1.95 | | | | |
| + DAP × PosI | 14 | 3.48 | 0.25 | 3.77*** | 12 | 0.82 | 0.07 | 3.48*** | 13 | 3.68 | 0.28 | 1.48 | 13 | 0.42 | 0.03 | 1.16 | | | | |
| + Mat. × PosI | 2 | 0.25 | 0.13 | 1.93 | 2 | 0.01 | 0.00 | 0.16 | 2 | 0.63 | 0.32 | 1.66 | 2 | 0.11 | 0.06 | 1.98 | | | | |
| + No. × PosI | 2 | 0.10 | 0.05 | 0.73 | 2 | 0.14 | 0.07 | 3.61* | 2 | 0.20 | 0.10 | 0.53 | 2 | 0.02 | 0.01 | 0.37 | | | | |
| + DAP × Mat. × No. | 3 | 0.05 | 0.02 | 0.25 | 2 | 0.04 | 0.02 | 1.04 | 6 | 0.57 | 0.09 | 0.49 | 6 | 0.36 | 0.06 | 2.12 | | | | |
| + DAP × Mat. × PosI | 3 | 0.30 | 0.10 | 1.53 | 2 | 0.06 | 0.03 | 1.44 | 7 | 1.65 | 0.24 | 1.24 | 7 | 0.12 | 0.02 | 0.60 | | | | |
| + DAP × No. × PosI | 3 | 1.01 | 0.34 | 5.14** | 2 | 0.47 | 0.24 | 11.92*** | 7 | 0.62 | 0.09 | 0.46 | 7 | 0.13 | 0.02 | 0.67 | | | | |
| + Mat. × No. × PosI | 1 | 0.31 | 0.31 | 4.78* | 1 | 0.18 | 0.18 | 9.36** | 1 | 1.15 | 1.15 | 6.03 | 1 | 0.00 | 0.00 | 0.13 | | | | |
| + DAP × Mat. × No. × PosI | 1 | 0.02 | 0.02 | 0.35 | 0 | 0.00 | 0.00 | | 0 | 0 | | | 0 | 0 | 0 | | | | | |
| Residual | 128 | 8.43 | 0.07 | | 105 | 2.07 | 0.02 | | 92 | 17.54 | 0.19 | | 92 | 2.59 | 0.03 | | | | | |
| Total | 184 | 138.89 | 0.75 | | 151 | 9.03 | 0.06 | | 156 | 128.42 | 0.82 | | 156 | 6.77 | 0.04 | | | | | |

[†]DAP = days after pollination; Mat. = maternity (M1 or M2); No. = seed number; PosI = position in inflorescence (top, middle, or bottom). *P < 0.05;

P < 0.01; *P < 0.001. Position in the pod was not always recorded for single-seeded pods and therefore this factor was not included in the analysis. Changing the order of factors did alter the significance of some second-order interaction terms, but not of main effects or first order interactions.