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*Functional Plant Biology*

### Supplementary Material

#### **Survival analysis of germination data in response to temperature for *Ornithopus* species and other temperate pasture legumes**

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**Supplementary Table S1.** Shoot DM over a 21-day experimental period for species groups from yellow serradella, French serradella, and reference species in response to temperature treatment. Different letters denote significant species group differences within each temperature treatment (one-way ANOVA with Games-Howell post-hoc test). Data supports Experiment 1, Figure 5.

Temperature treatment (max/min)	Shoot DM (g)			
	10/5°C	15/10°C	20/15°C	25/20°C
<b>Species group</b>				
<b>Yellow serradella</b>				
Group A	0.09bc	0.21ab	0.63cd	0.43cd
Group B	0.11b	0.26ab	0.79b	0.55c
Cool reference	0.12b	0.27ab	0.59cd	0.45cd
Warm reference	0.08c	0.16b	0.47d	0.21d
<b>French serradella</b>				
Group A	0.12b	0.24ab	0.74bc	0.70bc
Group B	0.11b	0.23ab	0.69bc	0.45cd
Portuguese	0.09bc	0.22ab	0.74bc	0.53c
<b>Reference</b>				
Burr medic	0.16ab	0.32ab	1.30a	1.20ab
Lucerne	0.09bc	0.31ab	1.38a	1.60a
Subterranean clover	0.24a	0.43a	1.29a	1.19ab
Model significance	$P<0.001$	$P<0.001$	$P<0.001$	$P<0.001$

**Supplementary Table S2.** Shoot dry mass (DM) of six cultivars from yellow serradella ('Avila' and 'Santorini'), French serradella ('Margurita' and 'Serratas'), lucerne ('SARDI 10'), and subterranean clover ('Woogenellup') grown in two temperature treatments (15/10°C and 23/18°C (max/min)). Plants were harvested weekly from 21–49 days after sowing. Values represent the mean (n=3) for each harvest time. Fishers LSD is presented where a significant ( $P<0.05$ ) effect of cultivar occurred within each harvest time. Data supports Experiment 2, Figure 6.

Harvest time (days)	15/10°C					23/18°C				
	21	28	35	42	49	21	28	35	42	49
Cultivar										
Avila	0.39	1.05	2.08	3.23	4.61	0.57	1.25	2.90	4.35	5.66
Santorini	0.49	1.04	1.90	3.09	4.71	0.43	1.36	2.74	4.14	5.53
Margurita	0.40	1.01	1.76	3.25	4.32	0.49	1.36	2.72	4.18	5.56
Serratas	0.34	0.89	1.93	3.20	4.59	0.32	1.04	2.29	3.75	5.40
Woogenellup	0.64	1.37	2.42	3.58	4.84	0.81	1.75	2.92	4.07	5.03
SARDI 10	0.37	1.31	2.25	3.55	5.98	0.48	1.52	3.97	6.49	9.82
Cultivar mean	0.44	1.11	2.06	3.32	4.84	0.51	1.38	2.92	4.49	6.16
LSD ( $P=0.05$ )	0.09	0.23	0.39	n.s	0.48	0.12	0.27	0.27	0.47	0.94

**Supplementary Table S3.** Summary of heat map data (Steel-Dwass-Critchlow-Fligner test) relating to seed germination and emergence as it applies to the experimental hypotheses. 'Yes' means the hypothesis is accurate at  $P < 0.05$ , 'No' means the hypothesis is disproved at  $P < 0.05$ , and n.s means the species groups do not significantly differ ( $P > 0.05$ )

	Temperature treatment (max/min (°C))	Germination				Emergence			
		10/5	15/10	20/15	25/20	10/5	15/10	20/15	25/20
Hypothesis									
Yellow serradella	Group B are more rapid than Group A cultivars	Yes	n.s.	n.s.	Yes	Yes	Yes	Yes	Yes
	Group B are more rapid than subterranean clover	Yes	n.s.	Yes	Yes	Yes	Yes	n.s.	No
	Group B are more rapid than lucerne	n.s.	Yes	n.s.	n.s.	No	No	No	No
	Group B are more rapid than burr medic	Yes	Yes	Yes	Yes	n.s.	n.s.	No	No
	The cool temperature reference is more rapid than the warm temperature reference	n.s.	n.s.	n.s.	Yes	n.s.	n.s.	n.s.	n.s.
French serradella	Group B are more rapid than Group A	Yes	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
	Group B are more rapid than subterranean clover	n.s.	n.s.	Yes	n.s.	Yes	Yes	Yes	No
	Group B are more rapid than lucerne	n.s.	n.s.	n.s.	No	No	No	No	No
	Group B are more rapid than burr medic	n.s.	Yes	Yes	Yes	No	Yes	No	No
	Group B are more rapid than Portuguese cultivars	Yes	Yes	Yes	Yes	n.s.	n.s.	n.s.	n.s.
Group B yellow serradella cultivars are more rapid than Group B French serradella cultivars		n.s.	n.s.	Yes	Yes	n.s.	No	No	n.s.