

**Appendix 1. Full list of accessions and species tested with predicted mean leaf and stem dry mass (g per surviving plant) and predicted proportion of total biomass produced as leaf (leaf mass ratio) from an unbalanced general linear model (ANOVA) and percent survival at the conclusion of the experiment along with rankings among the 100 accessions tested and significance grouping<sup>a</sup> for each variable**

Species	Accession or cultivar <sup>b</sup>	26 September 2007 harvest				29 April 2008 harvest				Survival												
		Rank	Leaf production g/plant	Stem production g/plant	Leaf mass ratio	Rank	Leaf production g/plant	Stem production g/plant	Leaf mass ratio	Rank	%	Sig.										
<i>C. australasicum</i>	AustrCF320175	35	5.5	f-u, w	31	3.9	f-t	79	0.59	v-E	32	3.3	f-v	27	9.4	b-p	62	0.27	q-z	6	88	a-e
<i>C. australasicum</i>	SA4685	23	8.2	c-n	28	5.9	e-r	45	0.73	k-v	33	3.2	f-v	37	6.6	d-v	17	0.46	e-o	13	56	a-k
<i>C. australasicum</i>	SA4966	3	20	a, b	3	16	a-c	84	0.58	w-E	17	6.6	b-o	19	11	b-m	21	0.42	f-q	1	100	a
<i>C. australasicum</i>	SA41020	17	10	b-j	16	8.5	b-k	75	0.60	s-E	12	7.8	b-k	14	14	b-k	31	0.37	i-t	1	100	a
<i>C. australasicum</i>	SA41272	49	2.8	k-B, D	45	1.4	o-B	39	0.75	i-u	47	1.3	o-w	61	1.3	m-v	7	0.57	b-f	9	78	a-h
<i>C. australasicum</i>	SA42603	44	3.5	j-z, B, D	44	1.5	n-B	26	0.80	c-p	37	2.5	h-w	53	2.1	k-v	5	0.65	b-c	5	89	a-d
<i>C. australasicum</i>	SA42690	12	11	a-i	14	9.4	a-i	82	0.59	v-E	20	5.1	b-r	17	13	b-l	55	0.30	o-y	9	78	a-h
<i>C. australasicum</i>	SA42723	41	4.1	i-y, D	35	3.0	h-w, y, B	61	0.65	p-E	43	1.8	l-w	44	4.1	f-v	33	0.37	j-u	9	78	a-h
<i>C. australasicum</i>	SA42726	43	3.6	j-z, B, D	41	2.4	k-B	68	0.61	t-E	46	1.4	n-w	47	3.5	h-v	53	0.30	n-y	11	67	a-i
<i>C. australasicum</i>	SA42733	22	8.6	c-m	15	9.2	a-j	97	0.51	D, E	38	2.4	i-w	35	7.5	b-u	68	0.23	s-A	5	89	a-d
<i>C. australasicum</i>	SA42736	28	7.1	e-q	20	6.9	c-o	96	0.51	D, E	28	3.8	e-s	26	9.4	b-p	51	0.31	m-x	12	63	a-j
<i>C. australasicum</i>	SA42741	25	8.0	d-o	26	6.0	e-q	70	0.61	t-E	34	2.8	g-u	31	8.3	b-s	59	0.28	q-z	12	63	a-j
<i>C. australasicum</i>	SA42745	37	5.3	e-s, w	33	3.4	f-u, y	63	0.64	p-E	40	2.3	g-v	40	5.0	d-v	26	0.39	f-u	12	67	a-j
<i>C. australasicum</i>	SA42749	21	8.6	c-m	17	7.9	b-l	95	0.53	C-E	42	1.9	k-w	23	10	b-n	77	0.16	x-B	12	63	a-j
<i>C. australasicum</i>	SA42751	13	10.7	b-j	8	13	a-e	78	0.59	u-E	10	8.5	a-i	3	25	a-c	28	0.38	h-t	11	67	a-i
<i>C. australasicum</i>	SA42762	8	15.1	a-e	6	14	a-e	91	0.54	B-E	9	8.7	a-i	8	18	b-h	44	0.32	j-w	9	78	a-h
<i>C. australasicum</i>	SA42766	14	10	b-j	10	11	a-f	98	0.50	E	14	7.0	b-m	7	19	b-g	47	0.32	l-x	3	100	a-c
<i>C. australasicum</i>	SA42772	26	7.5	d-p	23	6.2	d-p	89	0.55	z-E	30	3.3	f-v	36	6.8	c-y	43	0.33	j-w	17	44	c-m
<i>C. australasicum</i>	SA42778	29	6.7	e-r	24	6.1	d-q	92	0.54	B-E	19	5.4	b-q	11	15	b-j	58	0.29	p-z	11	67	a-i
<i>C. australasicum</i>	SA42787	38	5.3	g-y	30	4.5	f-s	76	0.60	s-E	25	4.1	e-s	22	11	b-m	61	0.27	q-z	6	88	a-e
<i>C. australasicum</i>	SA42791	10	14	a-g	11	11	a-g	88	0.56	y-E	21	4.5	d-s	6	19	b-f	70	0.21	u-B	5	89	a-d
<i>C. australasicum</i>	SA42808	1	22	a	1	20	a	80	0.59	v-E	5	11	a-e	1	47	a	74	0.17	w-B	17	44	c-m
<i>C. australasicum</i>	SA42825	2	21	a, b	2	19	a, b	93	0.54	y-E	24	4.3	c-s	4	24	a-d	75	0.16	v-B	19	33	c-m
<i>C. australasicum</i>	SA42851	27	7.3	e-q	25	6.1	d-q	90	0.55	A-E	23	4.4	d-s	16	13	b-l	60	0.27	q-z	12	63	a-j
<i>C. australasicum</i>	SA42858	4	20	a, b	4	15	a-d	85	0.58	w-E	18	5.5	b-p	9	17	b-h	63	0.26	q-A	2	100	a, b
<i>C. australasicum</i>	SA42866	24	8.1	c-n	27	6.0	e-r	71	0.61	t-E	26	4.1	e-s	20	11	b-m	48	0.31	m-x	9	78	a-h
<i>C. australasicum</i>	SA42883	33	5.7	f-t, w	34	3.2	g-y	59	0.66	p-D	16	6.8	b-n	38	6.4	d-v	11	0.54	b-i	7	86	a-f
<i>C. australasicum</i>	SA42885	39	5.2	f-u, w, x	42	2.1	i-y, B	37	0.76	f-y	48	1.3	l-w	55	1.9	j-v	9	0.56	b-h	13	56	a-k
<i>C. australasicum</i>	SA44100	31	6.1	f-t, w	29	4.6	f-s	72	0.60	t-E	31	3.3	f-v	30	8.9	b-q	46	0.32	k-w	10	75	a-i
<i>C. australasicum</i>	SA44101	42	3.7	j-z, B, D	37	2.8	i-y, B	77	0.59	t-E	36	2.5	h-w	42	4.8	f-v	39	0.34	j-v	11	67	a-i
<i>C. australasicum</i>	SA44228	11	12	a-h	13	10	a-h	86	0.58	x-E	44	1.5	m-w	21	11	b-m	79	0.14	y-B	15	50	a-m
<i>C. australasicum</i>	SA44239	9	14	a-f	9	13	a-e	87	0.56	y-E	29	3.3	f-v	25	9.9	b-o	37	0.34	j-u	9	75	a-i
<i>C. australasicum</i>	SA44246	34	5.7	f-t, w	39	2.5	j-z, B	49	0.73	k-x	13	7.1	b-l	33	8.0	b-u	8	0.56	b-g	11	67	a-i
<i>C. australasicum</i>	SA44341	15	10	b-j	21	6.9	c-o	57	0.68	n-C	11	8.1	b-j	10	17	b-h	30	0.38	h-t	1	100	a
<i>C. australasicum</i>	SA44373	32	6.0	f-t, w	36	2.9	i-y, B	47	0.73	k-x	35	2.6	g-y	24	9.9	b-r	66	0.24	q-A	19	33	c-m
<i>C. australasicum</i>	SA44380	7	17	a-d	5	15	a-e	94	0.53	C-E	4	12	a-d	15	14	b-k	15	0.47	e-m	1	100	a
<i>C. australasicum</i>	SA44381	19	8.9	c-l	19	7.2	b-n	81	0.59	v-E	27	4.1	e-s	39	5.4	d-v	16	0.46	e-n	1	100	a
<i>C. australasicum</i>	SA44383	5	18	a-c	7	14	a-e	74	0.60	t-E	15	6.9	b-n	5	22	a-e	64	0.26	r-A	15	50	a-m
<i>C. australasicum</i>	SA44468	30	6.3	e-s	38	2.7	i-y, B	51	0.72	l-x	6	10	a-f	32	8.1	b-t	6	0.59	b-e	14	60	a-l

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<i>C. tenax</i>	AusTRCF322511	64	0.87	u-D	65	0.36	t-B	36	0.77	g-q	79	0.05	v, w	70	0.39	q-v	80	0.13	z-B	17	44	c-m
<i>C. tenax</i>	AusTRCF322512	69	0.66	w-D	73	0.17	u-B	25	0.81	c-p	77	0.06	t-w	76	0.18	p-v	36	0.34	j-w	19	29	e-m
<i>C. tenax</i>	NS-18739	92	0.12	z-D	91	0.03	B	1	1.00	a,b	78	0.05	t-w	80	0.07	r-v	57	0.29	m-z	16	43	b-m
<i>C. tenax</i>	SA35778	76	0.49	x-D	84	0.06	y-B	7	0.93	a-f	73	0.10	t-w	73	0.26	n-v	42	0.33	g-A	19	29	e-m
<i>C. tenax</i>	SA40357	94	0.08	B-D	95	0.01	A, B	15	0.90	a-k	66	0.31	o-w	69	0.52	i-v	45	0.32	h-A	25	11	j-m
<i>C. tenax</i>	SA41327	72	0.56	w-D	71	0.18	u-B	32	0.78	e-q	84	0.00	v, w	84	0.00	v	73	0.19	r-B	18	33	d-m
<i>C. tenax</i>	SA41512	89	0.15	A-D	100	0.00	B	4	1.00	a	76	0.07	t-w	82	0.02	t-v	4	0.66	b-d	19	29	e-m
<i>C. tenax</i>	SA42909	91	0.12	u-D	77	0.13	r-B	n.a.	n.a.	-	n.a.	n.a.	-	n.a.	n.a.	-	n.a.	n.a.	-	26	0	l, m
<i>C. tenax</i>	SA42910	70	0.61	w-D	74	0.16	v-B	18	0.87	a-l	72	0.12	p-w	66	0.76	h-v	69	0.21	q-B	25	11	j-m
<i>C. tenax</i>	SA44107	45	3.2	i-y, B, D	60	0.50	s-B	11	0.92	a-i	45	1.5	k-w	49	3.5	f-v	27	0.38	g-u	22	22	h-m
<i>L. australis</i>	SA33610	36	5.4	g-y	47	1.0	q-B	19	0.86	a-l	62	0.42	s-w	74	0.21	o-v	14	0.50	c-k	18	38	d-m
<i>L. corniculatus</i>	San Gabriel	51	2.3	h-y, D	62	0.47	m-B	27	0.80	a-v	75	0.08	t-w	45	4.1	b-v	83	0.00	B	25	11	j-m
Lucerne	SARDI 10	6	17	a-d	12	10	a-g	65	0.64	q-E	2	14	a, b	2	26	a, b	40	0.33	j-v	8	72	a-g
Lucerne	Sceptre	20	8.8	c-l	32	3.5	f-u	44	0.74	j-v	7	9.3	a-g	18	13	b-l	20	0.44	e-p	10	67	a-l

<sup>A</sup>Within the dry mass of separate biomass components and the leaf mass ratio, numbers followed by the same letter in the same case were not significantly different at  $P = 0.05$ . Lowercase letters are significantly different to, and come before, uppercase letters. Long lists of consecutive letters within significance groupings are contracted using a dash between the two letters at either end of the list of consecutive letters i.e. 'w-D' is a contraction representing w, x, y, z, A, B, C and D.

<sup>B</sup>Accession names beginning with 'SA' were sourced from the Australian Medicago Genetic Resource Centre (AMGRC) (Waite, South Australia), accessions beginning with 'AusTRCF' were sourced from the Australian Tropical Crops and Forages Genetic Resource Centre (Biloela, Queensland), accessions beginning with 'NS' were sourced from Nindethana seeds (Albany, WA) and remaining accessions were sourced from the Australian Trifolium Genetic Resource Centre (South Perth, Western Australia). Please contact the authors for additional information.