

Supplementary Material

Legume persistence for grasslands in tableland environments of south-eastern Australia

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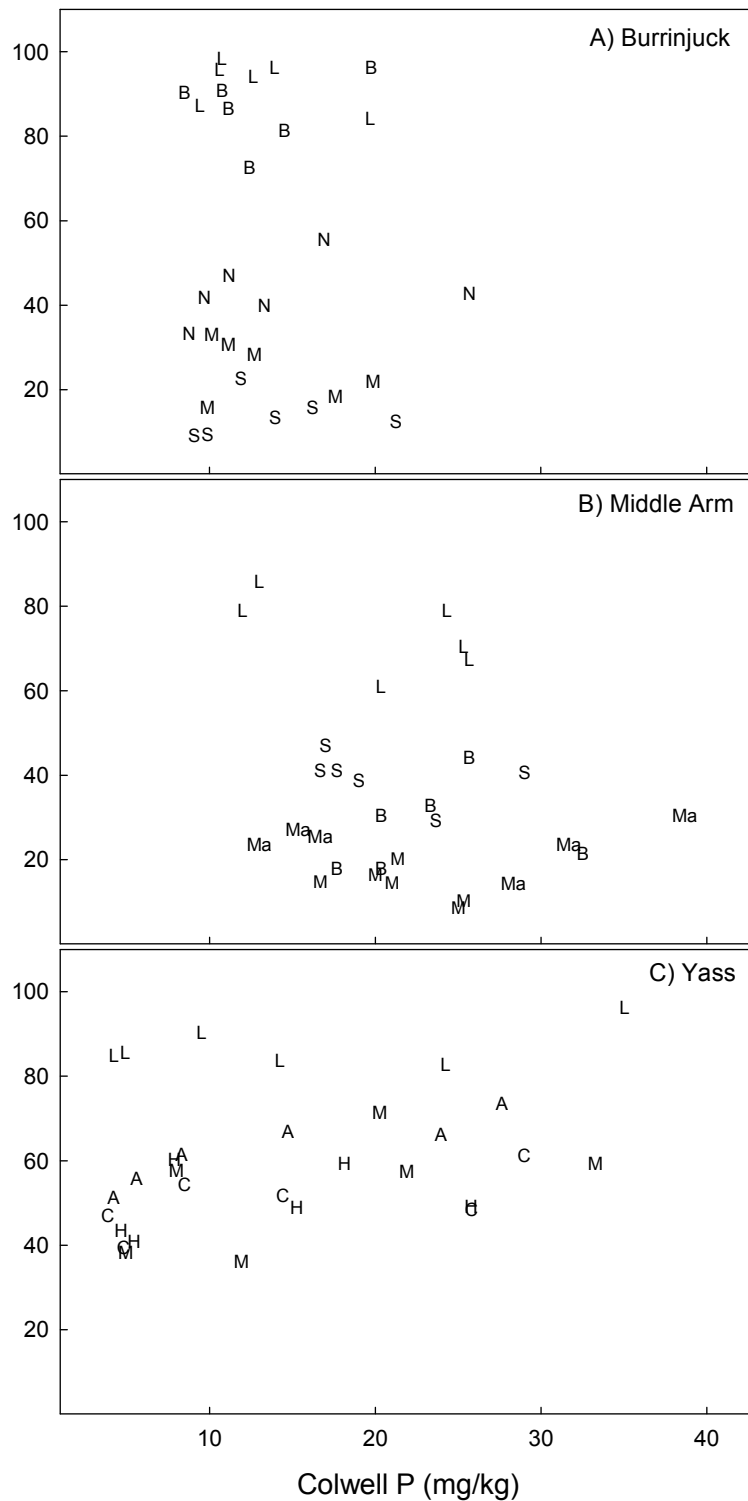
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Supplementary Table S1. Total monthly rainfall (mm) received at each site for the experimental period

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bigga													
2017	53.3	22.3	77.8	42.1	30.2	3.8	27.7	85.0	36.9	53.4	91.0	166.2	689.7
2018	31.9	75.8	3.5	11.6	65.0	60.2	20.8	57.3	34.2	65.0	55.6	65.3	546.2
2019	87.9	54.0	71.9	1.0	54.9	40.2	38.6	42.3	36.9	21.8	34.4	15.5	499.4
2020	28.4	36.3	77.9	120.4	70.5	60.2	70.5	121.4	68.4	142.0	59.6	53.4	909.0
2021	81.4	108.9	142.8	0.0	76.2	98.8	167.0	88.8	72.5	82.0	245.9	126.8	1291.1
Bombala													
2017	27.2	34.4	70.8	22.2	50.4	22.0	9.7	32.2	13.9	44.5	86.1	70.6	484.0
2018	82.9	21.1	10.5	7.0	40.3	39.3	5.9	11.2	23.1	54.0	58.5	65.9	419.7
2019	57.2	55.2	88.0	6.9	40.3	21.9	11.1	8.9	16.6	26.4	20.3	2.6	355.4
2020	24.4	60.8	25.7	18.8	7.5	14.3	135.7	39.6	7.3	80.8	27.8	35.4	478.1
2021	71.9	86.4	94.5	16.6	91.0	68.6	9.6	67.6	63.5	61.0	132.4	102.0	865.1
Burrinjuck													
2013	20.6	51.5	30.0	11.9	24.4	116.3	80.0	72.0	63.5	25.1	70.8	23.3	589.4
2014	20.6	77.7	158.6	108.0	49.0	123.1	70.5	52.3	25.4	40.1	28.8	101.3	855.4
2015	138.4	38.6	20.5	86.0	39.8	109.9	95.4	101.9	22.8	33.6	95.2	11.2	793.3
2016	97.5	31.1	37.7	11.8	136.8	194.3	124.8	72.0	241.1	131.2	57.6	83.2	1219.1
Dry Plain													
2018	76.6	36.0	9.8	18.5	36.0	35.3	30.5	34.5	17.8	56.4	66.2	86.9	504.5
2019	43.7	31.8	90.0	21.0	57.4	31.7	24.7	28.7	32.0	38.7	32.0	8.4	440.1
2020	38.2	113.1	38.4	33.1	23.0	28.5	152.7	96.9	24.2	116.9	32.0	77.7	774.7
2021	40.6	71.7	96.7	8.6	78.8	78.2	44.6	63.4	59.1	47.1	164.3	86.9	840.0
Glen Innes													
2018	60.2	111.8	15.0	11.8	4.2	3.2	65.0	41.8	59.4	50.5	74.4	70.1	567.4
2019	58.6	3.4	61.6	7.9	11.9	9.8	5.9	10.8	8.0	24.0	36.2	39.6	277.7
2020	71.7	147.0	31.8	81.2	58.4	45.2	50.3	45.8	17.9	71.1	22.2	161.6	804.2
2021	13.6	69.9	201.3	34.2	44.0	62.1	122.5	82.0	36.5	97.8	212.8	112.9	1089.6
Guyra													
2018	64.2	98.7	20.1	21.2	2.2	21.1	48.6	37.9	53.8	54.4	84.2	86.6	593.0
2019	83.3	8.6	51.9	8.8	13.2	18.5	7.3	8.6	4.7	23.1	31.0	31.5	290.5
2020	177.4	131.9	87.4	58.0	44.5	56.0	48.7	48.3	34.5	75.8	12.4	192.2	967.1

2021	52.9	114.6	212.3	18.7	33.7	112.3	108.5	105.7	41.6	51.1	206.7	130.9	1189.0
Mandurama													
2018	30.9	27.9	8.3	27.3	62.0	48.9	15.8	57.8	35.5	58.4	88.0	86.2	547.0
2019	72.3	40.0	92.5	2.1	53.4	38.9	26.9	48.2	35.5	11.8	71.5	21.0	514.1
2020	30.9	133.0	86.0	149.3	80.7	77.5	85.6	110.7	44.5	96.9	52.3	74.2	1021.6
2021	100.8	115.6	155.9	0.5	45.6	102.3	141.4	82.5	84.2	70.3	213.9	63.1	1176.1
Merrill													
2017	20.0	44.7	61.8	59.0	22.0	9.0	27.4	65.0	23.2	61.0	87.6	134.2	614.9
2018	35.0	27.0	3.4	13.0	30.1	39.0	9.0	65.2	20.8	24.8	84.6	95.4	447.3
2019	42.2	42.0	113.2	5.4	40.0	52.5	22.2	42.2	52.9	11.4	23.5	6.7	454.2
2020	23.9	126.8	54.5	90.5	69.9	42.5	69.8	185.4	58.6	112.2	93.9	51.7	979.7
2021	61.2	50.6	141.3	1.3	74.9	105.3	159.1	91.1	71.6	64.2	200.4	138.1	1159.1
Middle Arm													
2012	57.0	197.6	229.4	40.4	24.8	66.0	33.8	37.0	60.4	34.4	24.0	46.8	851.6
2013	74.6	77.2	92.8	15.0	28.0	182.6	34.8	21.2	34.0	28.8	56.2	24.2	669.4
2014	13.0	113.8	114.8	57.6	42.2	51.8	17.4	145.8	40.0	50.0	18.2	154.4	819.0
2015	156.6	33.2	18.2	104.4	29.8	55.4	77.2	123.8	27.2	19.0	54.0	13.2	712.0
2016	87.6	13.4	53.8	17.4	33.4	173.1	86.0	56.0	101.0	83.6	32.2	61.2	798.7
2017	15.4	59.0	132.6	37.4	30.8	27.8	16.2	59.4	25.2	61.2	89.0	61.2	615.2
2018	37.2	118.2	11.8	11.4	20.0	33.2	12.8	37.8	31.0	48.8	91.0	92.0	545.2
2019	40.8	24.0	103.0	2.2	26.0	75.0	15.0	26.2	53.8	14.0	17.5	0.8	398.3
2020	36.4	288.8	56.2	55.8	45.6	21.4	91.6	176.6	40.4	101.6	86.0	44.6	1045.0
2021	72.6	80.8	222.4	2.8	75.6	58.8	62.0	83.4	46.6	62.2	192.2	108.6	1068.0
Orange													
2018	97.6	48.0	33.3	12.6	45.8	52.7	17.2	49.0	38.8	40.6	98.8	63.0	597.4
2019	67.6	46.0	45.0	0.2	82.5	40.6	22.4	43.1	56.8	18.0	24.6	17.4	464.2
2020	68.8	61.8	128.4	138.0	84.6	61.5	68.4	116.2	48.9	103.2	34.4	115.4	1029.6
2021	57.0	153.4	215.5	12.8	18.6	154.1	173.7	98.4	70.0	55.6	273.9	71.9	1354.9
Paling Yards													
2018	68.6	65.4	15.3	10.6	33.1	56.5	14.4	60.2	46.3	55.4	104.3	55.0	585.1
2019	114.5	36.3	89.1	2.1	44.4	37.9	19.0	41.1	75.9	26.4	24.6	32.3	543.6
2020	35.8	206.2	64.9	59.8	62.6	48.6	93.1	139.4	62.1	105.5	61.8	88.1	1027.9
2021	86.5	65.4	272.3	1.5	44.4	48.6	86.8	109.3	58.0	83.7	241.6	110.1	1208.2

Tirrannaville													
2018	92.0	120.0	8.0	12.0	16.0	31.9	6.0	30.0	22.0	56.0	78.0	66.0	537.9
2019	88.8	46.0	79.6	0.0	21.4	53.2	17.0	21.0	36.0	13.0	14.0	0.0	390.0
2020	22.0	141.0	67.0	78.0	42.4	23.0	35.0	173.0	43.0	96.0	85.0	41.0	846.4
2021	63.0	63.0	222.0	0.0	58.0	77.0	41.0	50.0	44.0	44.0	216.0	98.0	976.0
Wandsworth													
2018	53.6	117.4	20.6	17.4	0.0	18.6	50.0	41.2	43.2	35.4	85.7	88.4	571.5
2019	85.5	8.7	65.6	4.3	16.0	20.8	6.8	7.8	4.0	23.8	28.3	29.9	301.5
2020	199.4	116.0	77.3	59.5	48.1	54.5	44.7	50.7	34.0	75.9	14.1	182.3	956.5
2021	71.5	107.8	211.3	21.1	32.7	121.4	99.1	103.7	44.5	57.0	213.4	118.9	1202.4
Yass													
2012	40.5	121.7	155.2	19.5	49.0	53.4	36.7	49.9	42.7	33.7	57.3	48.3	707.9
2013	36.3	54.9	41.2	8.4	15.8	97.2	62.6	41.8	46.0	25.6	81.4	21.5	532.7
2014	16.6	45.8	112.5	83.3	33.3	80.9	51.9	50.0	36.4	36.7	30.9	114.9	693.2
2015	89.8	26.9	12.7	54.4	29.8	121.7	62.6	64.9	21.0	30.9	90.4	18.9	624.0
2016	70.9	13.4	29.5	12.2	104.4	91.5	102.1	68.1	144.6	103.1	61.1	61.0	861.9
2017	19.3	45.8	60.4	40.5	53.5	3.5	34.0	65.0	17.0	42.9	90.3	148.4	620.6
2018	44.9	114.3	8.9	19.5	33.2	45.7	18.6	41.7	36.4	12.5	81.5	75.3	532.5
2019	83.2	54.8	84.0	1.0	49.0	42.2	16.9	34.1	39.5	6.2	22.9	5.6	439.4
2020	14.1	75.8	97.6	111.7	49.0	61.8	58.9	187.3	49.4	118.0	81.4	56.5	961.5
2021	83.3	107.4	137.1	3.1	49.0	103.0	87.7	64.9	97.5	53.1	174.9	80.5	1041.5



Supplementary Figure S1. Relationship ($P > 0.05$) between Colwell P and legume frequency in the Series 1 experiments during spring 2016 at A) Burrinjuck, B) Middle Arm and C) Yass for Leura (L) and Narrakup (N) subterranean clover, Margurita French serradella (M), Bolta balansa clover (B), Casbah (C) and Mauro (Ma) biserrula, Avila (A) and Santorini (S) yellow serradella and Hykon rose clover (H). Plotted values are the average of all replicates for each of the six P fertility x legume treatments at each site.