

# 1 Running Cat's models

## 2 Specific leaf area

Table 1: Summary of the intercept only model for SLA across the two years of data (2019 and 2022) (n = 599) with species (n = 18) and population (n = 4).

	mean	25%	75%	n_eff	Rhat
alpha	21.35	20.69	22.11	578.31	1.01
mu_sp[1]	2.45	1.09	3.82	2464.13	1.00
mu_sp[2]	1.24	-0.33	2.85	2406.69	1.00
mu_sp[3]	-1.70	-2.46	-0.94	737.69	1.00
mu_sp[4]	-4.20	-5.24	-3.14	1341.23	1.00
mu_sp[5]	-4.22	-5.12	-3.34	1009.50	1.00
mu_sp[6]	-0.35	-1.17	0.42	823.56	1.00
mu_sp[7]	-2.28	-3.20	-1.37	1036.84	1.00
mu_sp[8]	-0.55	-1.35	0.25	775.20	1.00
mu_sp[9]	1.41	0.58	2.21	869.75	1.00
mu_sp[10]	1.48	0.61	2.30	918.40	1.00
mu_sp[11]	2.28	0.62	3.90	2537.62	1.00
mu_sp[12]	-1.14	-2.91	0.61	2773.19	1.00
mu_sp[13]	3.09	2.17	3.94	1024.59	1.00
mu_sp[14]	0.32	-0.75	1.40	1412.60	1.00
mu_sp[15]	8.01	7.24	8.76	713.47	1.00
mu_sp[16]	3.95	3.14	4.72	790.82	1.00
mu_sp[17]	-2.17	-3.66	-0.64	2454.05	1.00
mu_sp[18]	-5.02	-5.79	-4.26	813.01	1.00
sigma_a_sp	3.82	3.25	4.29	2331.61	1.00
sigma_a_pop	0.95	0.35	1.14	617.86	1.02
sigma_y	7.20	7.08	7.30	3529.72	1.00

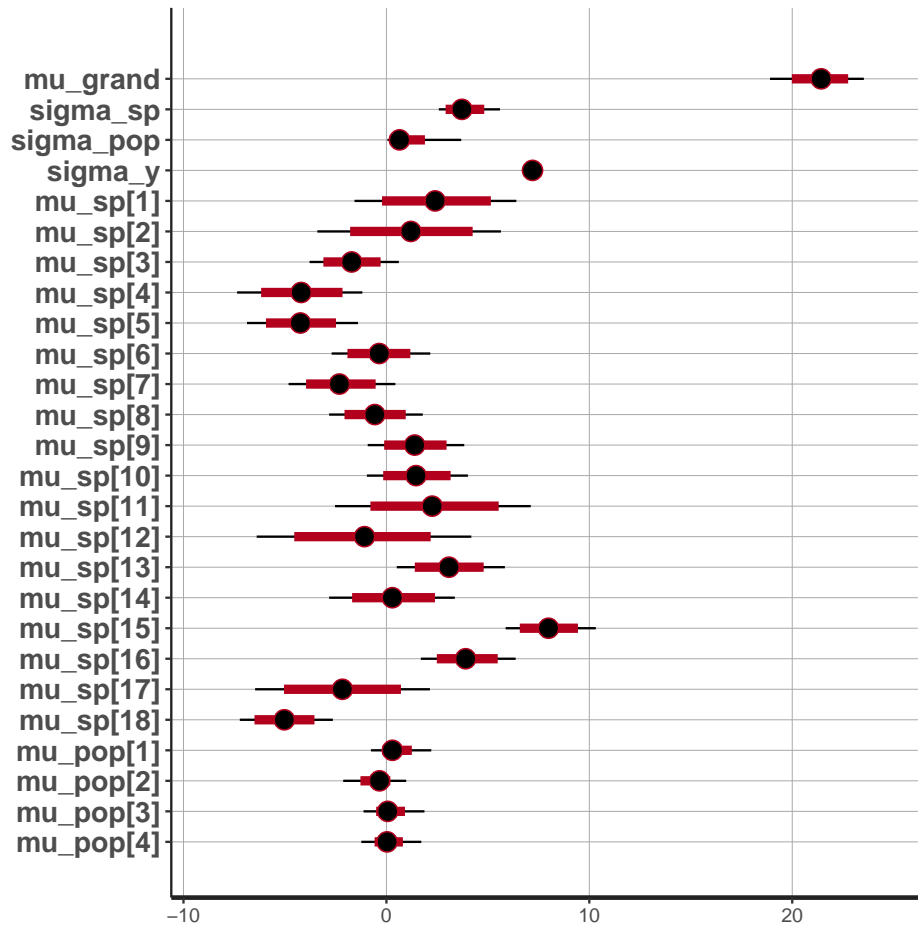
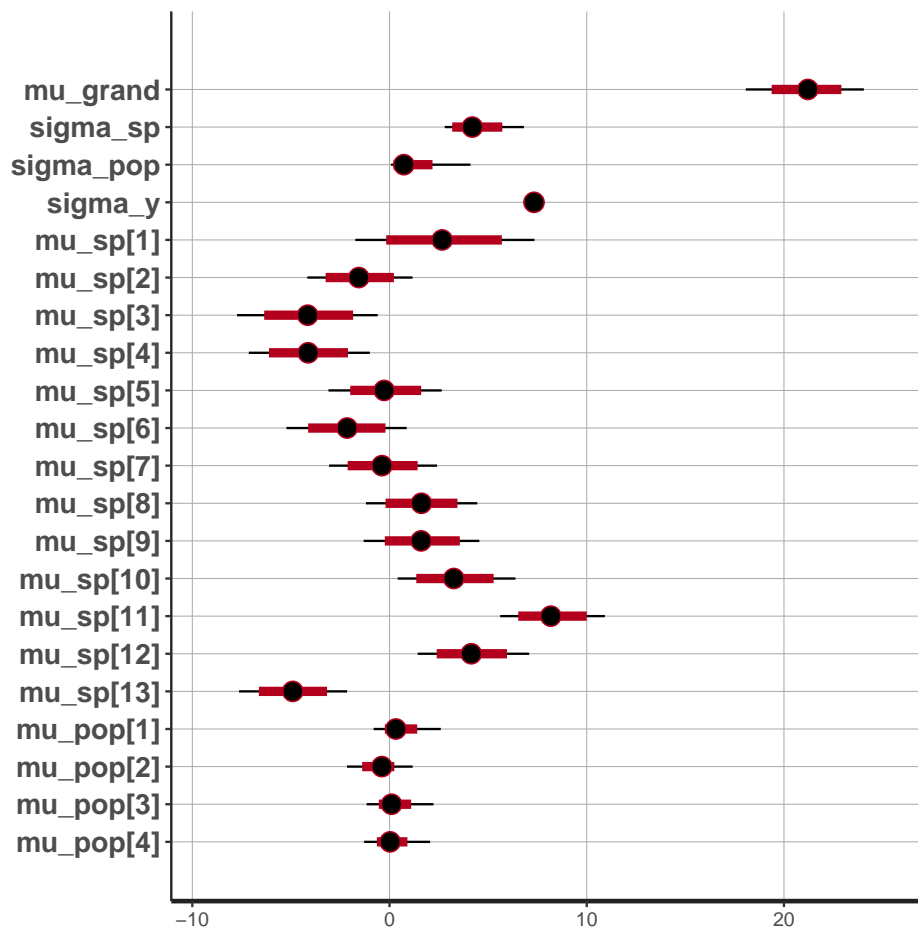


Table 2: Summary of the intercept only model for SLA in 2022 ( $n = 446$ ) with species ( $n = 13$ ) and population ( $n = 5$ ).

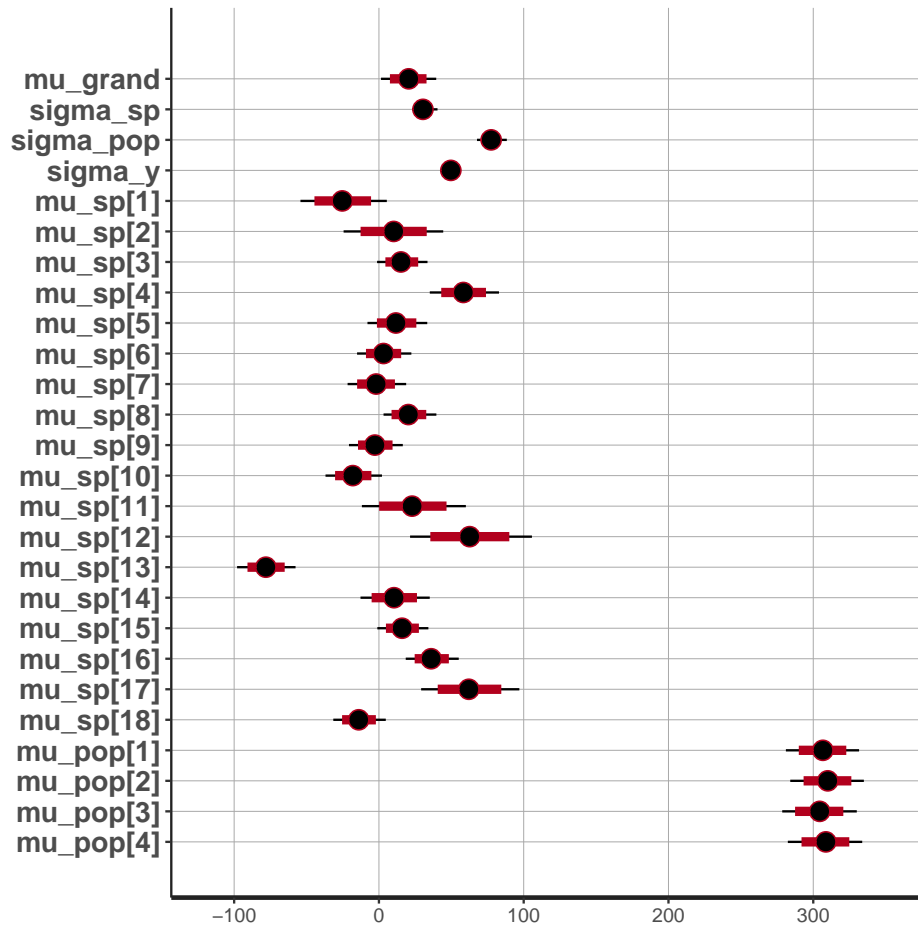
	mean	25%	75%	n_eff	Rhat
alpha	21.17	20.27	22.13	481.32	1.00
mu_sp[1]	2.71	1.17	4.25	1378.96	1.00
mu_sp[2]	-1.53	-2.44	-0.63	655.56	1.00
mu_sp[3]	-4.13	-5.28	-2.96	973.53	1.00
mu_sp[4]	-4.11	-5.15	-3.07	865.17	1.00
mu_sp[5]	-0.22	-1.19	0.75	686.36	1.00
mu_sp[6]	-2.16	-3.17	-1.13	788.64	1.00
mu_sp[7]	-0.37	-1.29	0.54	669.90	1.00
mu_sp[8]	1.62	0.61	2.56	703.71	1.00
mu_sp[9]	1.64	0.65	2.67	735.50	1.00
mu_sp[10]	3.29	2.24	4.29	810.81	1.00
mu_sp[11]	8.22	7.34	9.10	645.03	1.00
mu_sp[12]	4.16	3.21	5.06	683.53	1.00
mu_sp[13]	-4.90	-5.83	-3.99	697.15	1.00
sigma_a_sp	4.36	3.63	4.93	1801.74	1.00
sigma_a_pop	1.05	0.40	1.26	563.11	1.00
sigma_y	7.33	7.22	7.44	2647.75	1.00



## 5 Leaf dry matter content

Table 3: Summary of the intercept only model for LDMC in 2019 ( $n = 599$ ) with species ( $n = 18$ ) and population ( $n = 5$ ).

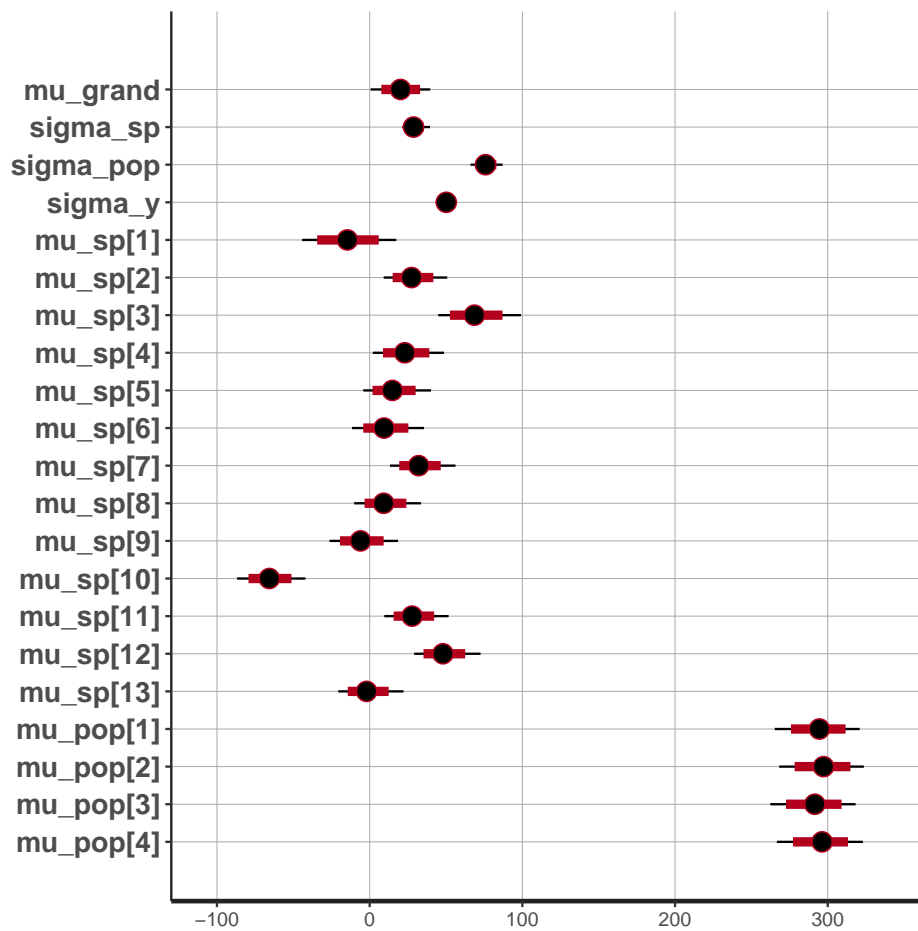
	mean	25%	75%	n_eff	Rhat
alpha	20.36	13.64	27.03	2325.01	1.00
mu_sp[1]	-25.12	-35.45	-14.87	3344.96	1.00
mu_sp[2]	10.14	-2.40	22.62	3759.11	1.00
mu_sp[3]	15.55	9.47	21.32	1083.29	1.00
mu_sp[4]	58.46	50.09	66.55	1711.55	1.00
mu_sp[5]	12.02	4.83	18.97	1475.46	1.00
mu_sp[6]	3.20	-3.25	9.33	1184.71	1.00
mu_sp[7]	-1.87	-8.70	4.92	1441.84	1.00
mu_sp[8]	20.59	14.35	26.63	1159.22	1.00
mu_sp[9]	-2.59	-8.88	3.53	1178.31	1.00
mu_sp[10]	-17.84	-24.42	-11.41	1345.81	1.00
mu_sp[11]	23.17	10.85	35.05	3095.56	1.00
mu_sp[12]	62.83	48.20	77.23	3277.29	1.00
mu_sp[13]	-78.06	-85.03	-71.30	1561.70	1.00
mu_sp[14]	10.58	2.20	18.67	2028.57	1.00
mu_sp[15]	16.14	10.15	21.95	1090.99	1.00
mu_sp[16]	36.38	30.08	42.58	1140.58	1.00
mu_sp[17]	62.42	50.76	73.79	2760.80	1.00
mu_sp[18]	-13.84	-19.93	-7.91	1165.10	1.00
sigma_a_sp	30.79	27.65	33.54	2722.96	1.00
sigma_a_pop	77.65	74.05	81.15	4562.14	1.00
sigma_y	49.69	48.96	50.40	5107.31	1.00



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Table 4: Summary of the intercept only model for LDMC in 2019 and 2022 ( $n = 446$ ) with species ( $n = 13$ ) and population ( $n = 4$ ).

	mean	25%	75%	n_eff	Rhat
alpha	20.34	13.80	27.09	2412.17	1.00
mu_sp[1]	-14.31	-25.25	-3.82	2480.55	1.00
mu_sp[2]	28.07	20.76	34.48	907.15	1.00
mu_sp[3]	69.34	60.05	77.72	1246.09	1.00
mu_sp[4]	23.61	15.36	31.29	1221.27	1.00
mu_sp[5]	15.56	7.90	22.28	993.63	1.00
mu_sp[6]	10.03	1.96	17.22	1090.83	1.00
mu_sp[7]	32.77	25.33	39.39	926.16	1.00
mu_sp[8]	9.82	2.46	16.52	1004.06	1.00
mu_sp[9]	-5.50	-13.23	1.42	998.32	1.00
mu_sp[10]	-65.42	-73.05	-58.30	1202.43	1.00
mu_sp[11]	28.60	21.39	34.91	878.64	1.01
mu_sp[12]	48.67	41.24	55.38	928.25	1.01
mu_sp[13]	-1.34	-8.67	5.11	975.03	1.00
sigma_a_sp	29.15	25.84	31.93	2020.55	1.00
sigma_a_pop	76.06	72.44	79.53	3939.35	1.00
sigma_y	50.22	49.46	50.96	6180.32	1.00



8 **Height**Table 5: Summary of the intercept only model for plant height in 2019 ( $n = 302$ ) with species ( $n = 18$ ) and population ( $n = 5$ ).

	mean	25%	75%	n_eff	Rhat
alpha	1.39	1.19	1.59	416.99	1.01
mu_sp[1]	-0.11	-0.38	0.15	1167.32	1.01
mu_sp[2]	-0.48	-0.85	-0.14	2007.49	1.00
mu_sp[3]	1.75	1.57	1.92	505.74	1.01
mu_sp[4]	0.03	-0.20	0.25	763.69	1.01
mu_sp[5]	-0.66	-0.86	-0.47	639.97	1.01
mu_sp[6]	1.10	0.91	1.28	519.50	1.01
mu_sp[7]	1.00	0.81	1.19	623.85	1.01
mu_sp[8]	2.22	2.03	2.40	550.62	1.01
mu_sp[9]	-0.70	-0.88	-0.52	542.73	1.01
mu_sp[10]	-0.69	-0.87	-0.50	596.41	1.01
mu_sp[11]	-0.79	-1.11	-0.45	1591.65	1.00
mu_sp[12]	-0.20	-0.53	0.12	1717.92	1.00
mu_sp[13]	0.41	0.22	0.60	632.69	1.01
mu_sp[14]	-0.73	-0.96	-0.50	776.30	1.01
mu_sp[15]	-0.18	-0.36	-0.01	502.77	1.01
mu_sp[16]	-0.64	-0.83	-0.47	533.17	1.01
mu_sp[17]	-0.91	-1.22	-0.58	1647.09	1.00
mu_sp[18]	-0.39	-0.57	-0.21	541.49	1.01
sigma_a_sp	1.04	0.90	1.15	2612.49	1.00
sigma_a_pop	0.35	0.17	0.39	567.54	1.01
sigma_y	0.94	0.92	0.96	3498.92	1.00

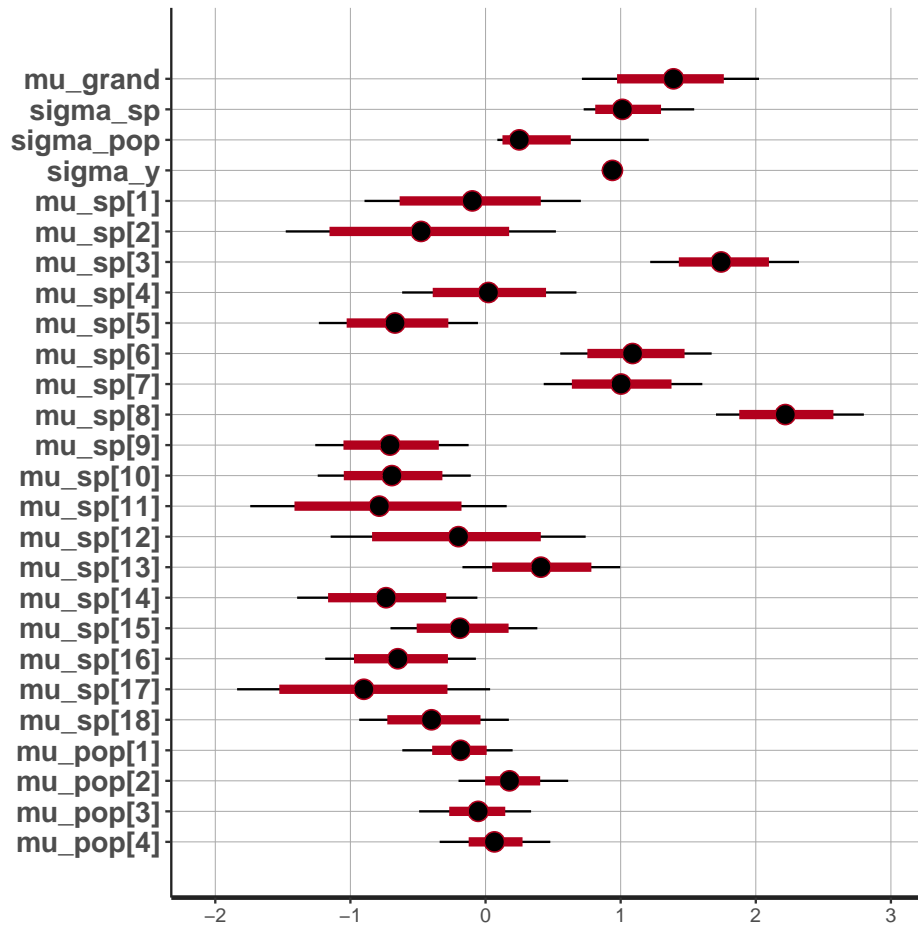
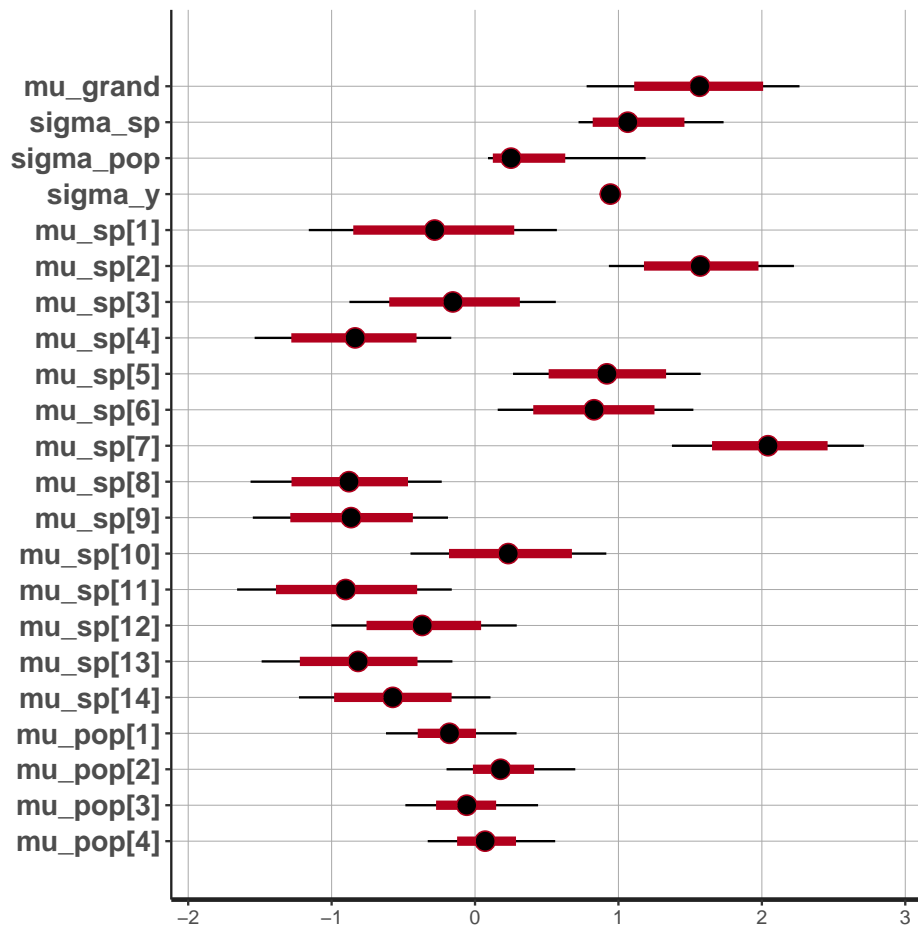




Table 6: Summary of the intercept only model for plant height in 2021 ( $n = 257$ ) with species ( $n = 16$ ) and population ( $n = 5$ ).

	mean	25%	75%	n_eff	Rhat
alpha	1.55	1.33	1.79	443.03	1.01
mu_sp[1]	-0.28	-0.57	0.00	933.49	1.00
mu_sp[2]	1.57	1.37	1.78	484.54	1.01
mu_sp[3]	-0.15	-0.38	0.08	612.93	1.00
mu_sp[4]	-0.84	-1.06	-0.62	546.02	1.01
mu_sp[5]	0.92	0.71	1.13	543.67	1.01
mu_sp[6]	0.83	0.61	1.05	556.20	1.01
mu_sp[7]	2.05	1.84	2.26	521.68	1.01
mu_sp[8]	-0.88	-1.08	-0.67	475.20	1.01
mu_sp[9]	-0.86	-1.08	-0.65	539.82	1.01
mu_sp[10]	0.24	0.01	0.45	569.39	1.01
mu_sp[11]	-0.90	-1.15	-0.65	708.72	1.00
mu_sp[12]	-0.36	-0.57	-0.16	500.25	1.01
mu_sp[13]	-0.82	-1.02	-0.61	504.99	1.01
mu_sp[14]	-0.57	-0.77	-0.36	501.06	1.01
sigma_a_sp	1.11	0.92	1.25	1559.69	1.00
sigma_a_pop	0.34	0.17	0.39	624.94	1.00
sigma_y	0.94	0.93	0.96	2193.02	1.00



## 11 Stem specific density

Table 7: Summary of the intercept only model for plant SSD in 2022 ( $n = 240$ ) with species ( $n = 14$ ) and population ( $n = 5$ ).

	mean	25%	75%	n_eff	Rhat
alpha	0.44	0.42	0.46	488.32	1.00
mu_sp[1]	-0.02	-0.04	-0.00	466.95	1.00
mu_sp[2]	0.08	0.05	0.10	765.43	1.00
mu_sp[3]	0.07	0.05	0.09	601.95	1.01
mu_sp[4]	0.03	0.01	0.05	504.70	1.00
mu_sp[5]	0.04	0.02	0.06	679.79	1.00
mu_sp[6]	0.06	0.04	0.08	502.14	1.01
mu_sp[7]	-0.12	-0.14	-0.10	533.46	1.00
mu_sp[8]	-0.07	-0.09	-0.05	561.30	1.00
mu_sp[9]	-0.14	-0.16	-0.12	557.53	1.01
mu_sp[10]	-0.00	-0.02	0.02	479.65	1.00
mu_sp[11]	0.02	0.00	0.04	497.20	1.00
mu_sp[12]	0.06	0.04	0.08	493.33	1.00
sigma_a_sp	0.09	0.07	0.10	1431.89	1.01
sigma_a_pop	0.01	0.00	0.01	217.49	1.02
sigma_y	0.06	0.06	0.06	1959.80	1.00

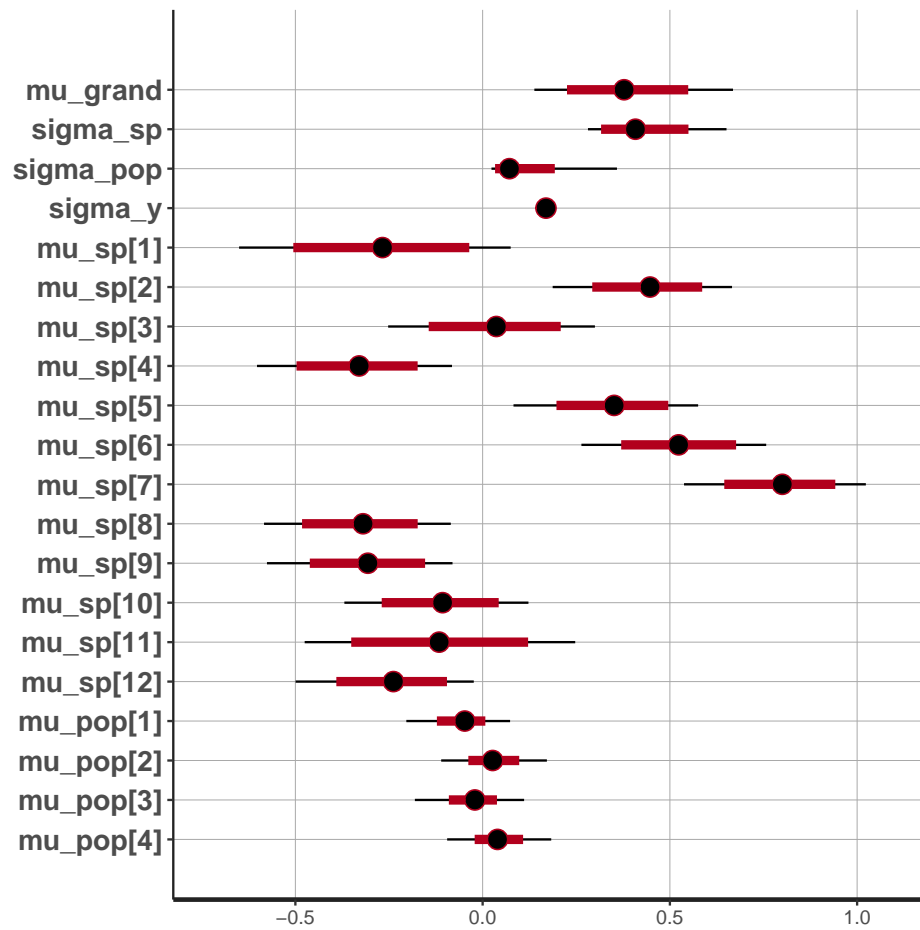


Table 8: Summary of the intercept only model for plant relative growth rate averaged over 3 years ( $n = 222$ ) with species ( $n = 14$ ) and population ( $n = 4$ ).

	mean	25%	75%	n_eff	Rhat
alpha	0.38	0.30	0.47	565.01	1.01
mu_sp[1]	-0.27	-0.39	-0.14	1245.20	1.00
mu_sp[2]	0.44	0.37	0.52	637.41	1.01
mu_sp[3]	0.03	-0.06	0.12	840.24	1.01
mu_sp[4]	-0.33	-0.41	-0.25	715.29	1.01
mu_sp[5]	0.35	0.27	0.43	648.92	1.01
mu_sp[6]	0.52	0.44	0.60	692.55	1.01
mu_sp[7]	0.80	0.72	0.88	644.22	1.01
mu_sp[8]	-0.32	-0.40	-0.24	677.06	1.01
mu_sp[9]	-0.31	-0.39	-0.22	673.49	1.01
mu_sp[10]	-0.11	-0.19	-0.03	697.58	1.01
mu_sp[11]	-0.11	-0.24	0.02	1326.93	1.00
mu_sp[12]	-0.24	-0.31	-0.16	622.07	1.01
mu_sp[13]	-0.29	-0.37	-0.21	656.81	1.01
mu_sp[14]	-0.24	-0.31	-0.16	645.10	1.01
sigma_a_sp	0.42	0.36	0.47	2254.62	1.00
sigma_a_pop	0.10	0.05	0.11	681.82	1.00
sigma_y	0.17	0.16	0.18	2568.16	1.00

### 13 Relative Growth Rate

