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Supplementary information for:

Effects of nutrient addition and soil drainage on germination of N-fixing and non-N-fixing tropical dry forest tree species

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Supplementary table S1. Log response ratios and associated 95% confidence intervals for changes in germination proportion (LGp) and energy (LGt) in undrained soils. Asterisks (*) and bold type face indicate log response ratios where 95% CIs do not overlap 0.

	Treatment	Germination proportion			Germination energy		
		LGp	Lower CI	Upper CI	LGt	Lower CI	Upper CI
N-fixers	NHPH	-2.0733*	-3.3915	-0.755	-0.0522	-0.8190	0.7147
	NHPL	-1.4137*	-2.707	-0.1204	-0.0123	-0.6869	0.6624
	NLPH	-0.9152*	-1.7642	-0.0662	-0.1018	-0.9683	0.7646
	NLPL	-0.7024*	-1.4	-0.0048	0.0430	-0.4987	0.5848
Non N-fixers	NHPH	-1.1441	-2.9735	0.6854	0.2553	-0.6033	0.7147
	NHPL	-0.5646	-1.8212	0.6919	0.0977	-0.3553	0.6624
	NLPH	-0.4227	-1.7952	0.9498	-0.0534	-0.7504	0.7646
	NLPL	-0.4103	-1.7318	0.9112	0.0758	-0.5999	0.5848
All species	NHPH	-1.7141*	-3.3664	-0.0618	-0.0522	-0.5944	0.4901
	NHPL	-0.9958	-2.4746	0.4829	-0.0123	-0.4893	0.4648
	NLPH	-0.6115	-1.9669	0.7439	-0.1018	-0.7145	0.5108
	NLPL	-0.573	-1.9507	0.8046	0.0430	-0.3401	0.4261

Supplementary table S2. Log response ratios and associated 95% confidence intervals for changes in germination proportion (LGp) and energy (LGt) in well-drained soils. Asterisks (*) and bold type face indicate log response ratios where 95% CIs do not overlap 0.

	Treatment	Germination proportion			Germination energy		
		LGp	Lower CI	Upper CI	LGt	Lower CI	Upper CI
N-fixers	NHPH	0.0354	-1.467	1.5378	0.1686	-0.2903	0.6276
	NHPL	-0.0069	-1.6947	1.681	0.4834	-0.1327	1.0995
	NHPO	0.0627	-1.4249	1.5503	0.1304	-0.1923	0.4532
	NLPH	-1.1761	-3.4296	1.0774	0.2026	-0.3914	0.7967
	NLPL	0.0303	-1.6103	1.6709	0.1381	-0.2075	0.4837
	NLPO	0.0063	-1.6783	1.6909	0.1958	-0.1320	0.5237
	NOPH	0.0245	-1.674	1.723	0.0948	-0.1620	0.3516
	NOPL	-0.0025	-1.9706	1.966	0.2796	-0.0927	0.6520
Non N-fixers	NHPH	0.0223	-1.9114	1.956	-0.0596	-0.1916	0.6276
	NHPL	0.0298	-1.4408	1.5004	0.0327	-0.0548	1.0995
	NHPO	-0.07	-1.4755	1.3355	0.1038	-0.0477	0.4532
	NLPH	-0.0282	-1.5938	1.5374	0.1482	-0.0720	0.7967
	NLPL	-0.0961	-1.99417	1.80197	0.0574	-0.0384	0.4837
	NLPO	0.0491	-1.9695	2.0677	0.1228*	0.0351	0.5237
	NOPH	-0.1999	-1.6256	1.2258	0.0369	-0.0666	0.3516
	NOPL	-0.0091	-1.3925	1.3743	0.0430	-0.0342	0.6520
All species	NHPH	0.0219	-2.2983	2.3421	0.0688	-0.1949	0.3325
	NHPL	0.1057	-2.1949	2.4063	0.2862	-0.0716	0.6440
	NHPO	0.0373	-2.0127	2.0873	0.1188	-0.0691	0.3067
	NLPH	-0.1763	-2.3533	2.0007	0.1788	-0.1596	0.5172
	NLPL	-0.0129	-2.4998	2.474	0.1028	-0.0917	0.2974
	NLPO	0.0107	-2.5385	2.5599	0.1639	-0.0203	0.3481
	NOPH	0.1286	-2.1895	2.4467	0.0695	-0.0784	0.2174
	NOPL	-0.0022	-2.4173	2.4129	0.1761	-0.0388	0.3909

Supplementary table S3. Species level a) mean germination proportions (Gp) and b) germination energy (Gt) observed in undrained soils across nutrient treatments.

a)	Species	Control	NHPH	NHPL	NLPH	NLPL
N-Fixers	<i>Acacia ferruginea</i>	0.4667	0	0.0667	0.0667	0.1333
	<i>Albizia amara</i>	0.15	0.0333	0.0667	0.1833	0.1833
	<i>Albizia lebbeck</i>	0.2	0.05	0.05	0.0667	0.0833
	<i>Dalbergia latifolia</i>	0.75	0.1333	0.15	0.3	0.3333
Non N-fixers	<i>Sapindus emarginatus</i>	0.05	0.0167	0.0333	0.0333	0.0667
	<i>Shorea robusta</i>	0.7833	0.5333	0.6167	0.6	0.6833
	<i>Terminalia arjuna</i>	0.25	0.0667	0.05	0.2	0.0833
	<i>Ziziphus jujuba</i>	0.2833	0.0167	0.1667	0.1833	0.1667
b)	Species	Control	NHPH	NHPL	NLPH	NLPL
N-Fixers	<i>Acacia ferruginea</i>	0.4667	0	0.0667	0.0667	0.1333
	<i>Albizia amara</i>	0.15	0.0333	0.0667	0.1833	0.1833
	<i>Albizia lebbeck</i>	0.2	0.05	0.05	0.0667	0.0833
	<i>Dalbergia latifolia</i>	0.75	0.1333	0.15	0.3	0.3333
Non N-fixers	<i>Sapindus emarginatus</i>	0.05	0.0167	0.0333	0.0333	0.0667
	<i>Shorea robusta</i>	0.7833	0.5333	0.6167	0.6	0.6833
	<i>Terminalia arjuna</i>	0.25	0.0667	0.05	0.2	0.0833
	<i>Ziziphus jujuba</i>	0.2833	0.0167	0.1667	0.1833	0.1667

Supplementary table S4. Species level a) mean germination proportions (Gp) and b) germination energy (Gt) observed in well-drained soils across nutrient treatments.

a)	Species	Control	NHPH	NHPL	NHPO	NLPH	NLPL	NLPO	NOPH	NOPL
N-fixers	<i>Acacia catechu</i>	0.05	0.1	0.1333	0.1167	0.0167	0.0833	0.0667	0.05	0.0833
	<i>Acacia ferruginea</i>	0.4167	0.3667	0.2833	0.2833	0.3667	0.3833	0.2	0.2167	0.2667
	<i>Acacia nilotica</i>	0.3	0.3667	0.3833	0.2833	0.4	0.2833	0.3833	0.3833	0.25
	<i>Albizia amara</i>	0.1333	0.2167	0.1833	0.1833	0.1	0.15	0.1167	0.2	0.14
	<i>Acrocarpus fraxinifolius</i>	0.1333	0.05	0.1	0.0667	0.05	0.05	0.05	0.0833	0.0167
	<i>Bauhinia purpurea</i>	0.5667	0.6	0.55	0.5833	0.65	0.7833	0.6333	0.6833	0.4667
	<i>Butea monosprema</i>	1	1	1	0.9833	1	0.9833	0.9333	1	0.9833
	<i>Dalbergia latifolia</i>	0.8833	0.9833	0.95	0.9167	0.95	0.8833	0.95	0.9	0.9667
	<i>Pongamia pinnata</i>	0.35	0.25	0.2667	0.4333	0.3167	0.3	0.3833	0.4	0.4
Non N-fixers	<i>Hardwickia binata</i>	0.7222	0.6481	0.7407	0.6296	0.5926	0.6111	0.7222	0.7778	0.6111
	<i>Lagerstroemia indica</i>	0.0833	0.0667	0.2	0.1167	0.1833	0.2167	0.1333	0.1667	0.0857
	<i>Lagerstroemia speciosa</i>	0.0667	0.0333	0.0833	0.0833	0.05	0.0167	0.0333	0.0833	0
	<i>Phyllanthus emblica</i>	0.7833	0.75	0.7833	0.8167	0.65	0.5333	0.8667	0.75	0.7833
	<i>Terminalia arjuna</i>	0.5167	0.5833	0.5833	0.6167	0.5667	0.5667	0.5167	0.5833	0.6167
	<i>Wrightia tinctoria</i>	0.8	0.8	0.7833	0.6667	0.8	0.8667	0.75	0.7333	0.7833
	<i>Ziziphus jujuba</i>	0.5333	0.5667	0.5167	0.4333	0.6167	0.4167	0.6167	0.5667	0.6
b)	Species	Control	NHPH	NHPL	NHPO	NLPH	NLPL	NLPO	NOPH	NOPL
N-fixers	<i>Acacia catechu</i>	1.75	1.5	17.3333	2.5	2.5	4.5	2.5	2.5	1.8333
	<i>Acacia ferruginea</i>	5.8333	6.3333	6.5	6.375	6.3333	5.75	7.2857	7.4	7.25
	<i>Acacia nilotica</i>	17.3333	12.6667	15.25	12.75	13.5	13.8333	13.25	9.75	13.1
	<i>Albizia amara</i>	1.8	13.5	11.25	6.75	21.5	5.5	6.5	4.3333	6.25
	<i>Acrocarpus fraxinifolius</i>	10.5	9.5	7.5	7.5	4.75	6.75	6.5	9.5	37.5
	<i>Bauhinia purpurea</i>	7.2	6.9167	6.5625	7.25	7.4	6.8056	7.8571	7.4167	7.3636
	<i>Butea monosprema</i>	2.5833	2.6111	2.6667	2.6538	2.5	2.3095	4.125	2.9167	2.6875
	<i>Dalbergia latifolia</i>	2.4038	2.5303	4.7	2.6406	2.4423	2.6029	2.5833	2.2656	2.4063
	<i>Pongamia pinnata</i>	8.9167	8.625	8.6667	8.25	8.375	8.5	9.1	8.6	8.5
Non N-fixers	<i>Hardwickia binata</i>	2.7273	2.7308	3.375	2.7143	3.6	2.9444	2.8077	2.8462	3.0833
	<i>Lagerstroemia indica</i>	10.5	9.5	10.3333	9.5	10.5	12.5	12.3333	10.3333	10.3333
	<i>Lagerstroemia speciosa</i>	17.5	11.5	17.25	29.5	37.25	17.5	23.5	23.5	17.5
	<i>Phyllanthus emblica</i>	8.25	8.7727	8.45	9.75	8.3571	9.2	9.1667	9.2778	10.0625
	<i>Terminalia arjuna</i>	10.7	9.625	10.0833	11.875	9.3	8.7778	10.9	10.3889	11.25
	<i>Wrightia tinctoria</i>	7.3684	7.6	6.6875	7.1667	7.4091	7.8182	9.5	6.3333	6.5
	<i>Ziziphus jujuba</i>	6.8333	7.6667	8.1667	7.3	7.75	8.1875	6.8125	6.8333	7.3333