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Supplementary Material

The impact of tree removal on standing grass biomass, seedling establishment and growth of woody species

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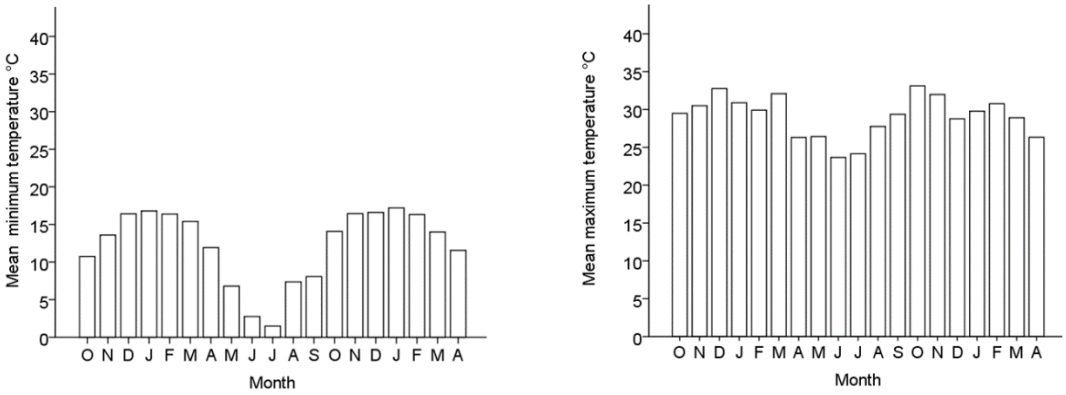

Fig. S1. Mean monthly temperatures (°C) recorded at the experimental farm during the two growing seasons (October-April) of the experimental period (2018/2019, 2019/2020).

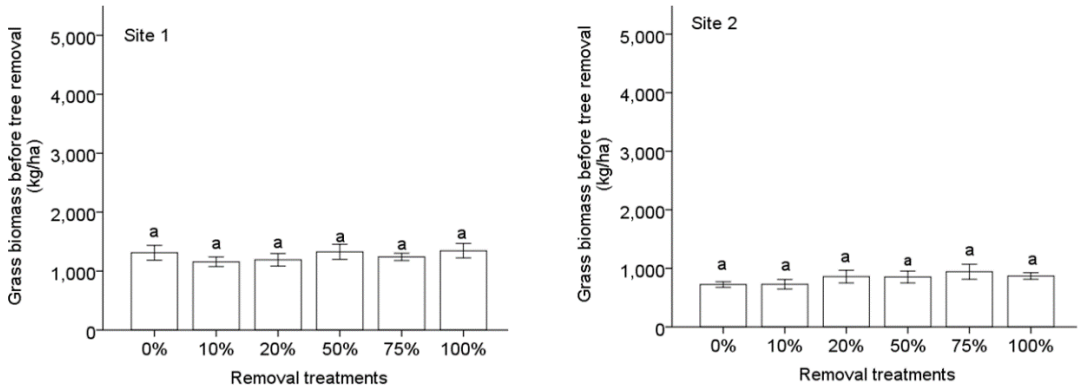

Fig. S2. Mean (± 1 S.E.) grass biomass production after tree removal in study Sites 1 (ST1) and 2 (ST2). The different superscripts letters represent significant differences from a Bonferroni *post hoc* test.

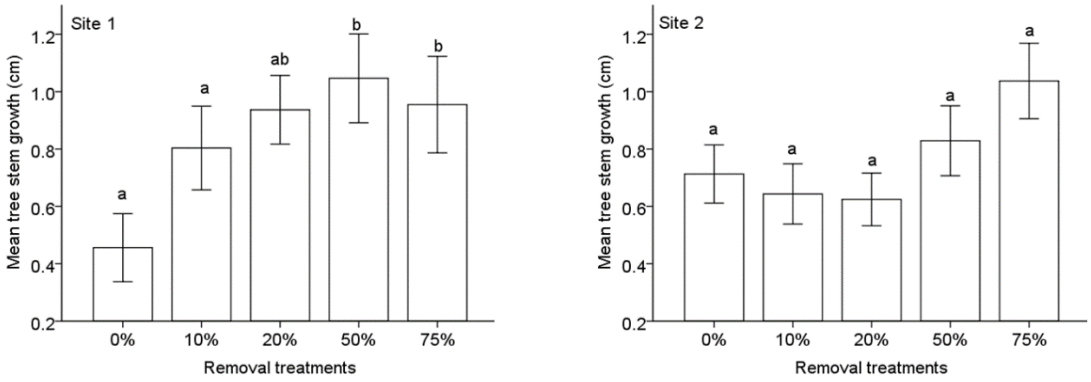

Fig. S3. Mean (± 1 S.E.) height- and canopy area growth of mature trees. Different superscript letters represent significant differences based on a Bonferroni *post hoc* test.

Table S1. Mean number (±S.E.) of tree seedlings established (per 0.09 ha) before (B) and after (A) tree removal in site 2. Tree-removal treatments range from 0% = no removal (control) to 100% removal (= total clearing of tree biomass).

Species	Family	Recruitment before (B)/ after (A)	Tree-removal treatments					
			0%	10%	20%	50%	75%	100%
Dichrostachys cinerea	Fabaceae	B	16 ± 2	21 ± 2	18 ± 2	19 ± 3	17 ± 3	13 ± 2
		A	10 ± 1	13 ± 1	10 ± 1	7 ± 1	10 ± 1	10 ± 1
Dombeya rotundifolia	Malvaceae	B	13 ± 2	12 ± 1	14 ± 1	8 ± 3	8 ± 3	8 ± 2
		A	15 ± 1	10 ± 2	11 ± 2	0	2 ± 1	2 ± 1
Euclea crispa	Ebenaceae	B	19 ± 3	37 ± 3	29 ± 3	41 ± 3	30 ± 3	24 ± 3
		A	14 ± 2	15 ± 1	14 ± 2	9 ± 1	10 ± 1	4 ± 1
Ehretia rigida	Boraginaceae	B	20 ± 3	12 ± 3	10 ± 2	12 ± 4	25 ± 3	19 ± 3
		A	15 ± 2	14 ± 1	10 ± 1	10 ± 1	10 ± 1	4 ± 1
Gymnosporia buxifolia	Celastraceae	B	26 ± 3	22 ± 2	22 ± 3	31 ± 3	29 ± 3	42 ± 3
		A	20 ± 1	20 ± 2	15 ± 1	10 ± 1	4 ± 1	4 ± 1
Pappea capensis	Sapindaceae	B	30 ± 2	25 ± 3	19 ± 2	15 ± 3	38 ± 3	23 ± 3
		A	20 ± 1	20 ± 1	23 ± 1	5 ± 1	7 ± 1	4 ± 1
Senegalia caffra	Fabaceae	B	11 ± 2	13 ± 2	17 ± 2	14 ± 3	15 ± 3	13 ± 3
		A	10 ± 1	10 ± 1	11 ± 1	3 ± 1	6 ± 1	5 ± 1
Searsia lancea	Anacardiaceae	B	10 ± 2	4 ± 3	10 ± 4	9 ± 3	2 ± 2	5 ± 2
		A	6 ± 1	8 ± 1	8 ± 2	7 ± 1	3 ± 1	4 ± 1
Searsia leptodictya	Anacardiaceae	B	12 ± 2	14 ± 4	12 ± 6	7 ± 3	9 ± 3	12 ± 1
		A	9 ± 1	7 ± 2	9 ± 1	3 ± 1	3 ± 1	3 ± 1
Scolopia zeyheri	Salicaceae	B	18 ± 3	21 ± 2	13 ± 1	31 ± 3	17 ± 3	38 ± 3
		A	11 ± 1	13 ± 1	8 ± 2	4 ± 1	5 ± 1	5 ± 1
Vachellia karroo	Fabaceae	B	29 ± 2	12 ± 3	10 ± 3	7 ± 4	20 ± 2	12 ± 2
		A	23 ± 1	13 ± 1	10 ± 1	6 ± 1	6 ± 1	6 ± 1
Vachellia nilotica	Fabaceae	B	15 ± 2	11 ± 2	14 ± 2	9 ± 3	20 ± 3	18 ± 3
		A	10 ± 1	10 ± 1	7 ± 1	2 ± 1	5 ± 1	5 ± 1
Vachellia robusta	Fabaceae	B	19 ± 2	32 ± 2	32 ± 2	34 ± 3	27 ± 3	26 ± 2
		A	21 ± 2	24 ± 1	19 ± 1	10 ± 1	12 ± 1	6 ± 1
Vachellia tortilis	Fabaceae	B	1 ± 2	2 ± 2	6 ± 3	3 ± 4	0	17 ± 4
		A	3 ± 2	4 ± 1	4 ± 2	6 ± 1	3 ± 1	5 ± 1
Ziziphus mucronata	Rhamnaceae	B	11 ± 2.5	13 ± 2.7	12 ± 2.4	11 ± 3.1	15 ± 2.8	12 ± 2.7
		A	8 ± 2	8 ± 1	9 ± 1	7 ± 1	6 ± 1	5 ± 1