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Animal Production Science

Supplementary Material

Long-term effects of extensive grazing on pasture productivity

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Supplements

Average Daily Live Weight Gain

The interaction of year and treatment significantly affected ADG ($F = 2.61$, $df = 30$, $p = 0.0003$). The estimated mean ADG showed some cyclic variation in all treatments from 2005 to 2020 (**Error! Reference source not found.**). Differences between treatments were not significant, except in year 2010, when ADG in VL was significantly greater than in M and L (**Error! Reference source not found.**). The overall treatment mean ADG was 0.78 ± 0.66 , 0.86 ± 0.71 , and 0.85 ± 0.82 kg/d for M, L, and VL, respectively (means \pm SD).

Table S1: Estimated mean \pm SE average daily live weight gain (ADG, kg/animal/day) in the three stocking treatments moderate (M), lenient (L), and very lenient (VL) during 2005 to 2020.

Year	M		L		VL	
	Mean	SE	Mean	SE	Mean	SE
2005	0.54	0.09	0.30	0.18	0.22	0.19
2006	0.65	0.06	0.74	0.10	0.65	0.11
2007	0.81	0.08	1.15	0.15	1.16	0.16
2008	0.70	0.05	0.91	0.07	0.99	0.07
2009	0.63	0.05	0.75	0.08	0.76	0.09
2010	0.59	0.07	0.97	0.12	1.32	0.13
2011	0.38	0.05	0.65	0.08	0.66	0.08
2012	0.85	0.06	0.80	0.11	0.80	0.12
2013	0.52	0.05	0.39	0.08	0.38	0.09

2014	0.99	0.08	1.24	0.15	1.05	0.16
2015	1.22	0.06	1.25	0.12	1.37	0.13
2016	1.35	0.14	1.33	0.30	1.17	0.33
2017	0.90	0.05	0.86	0.08	0.94	0.08
2018	0.72	0.07	0.59	0.14	0.71	0.16
2019	1.01	0.11	1.04	0.24	0.93	0.26
2020	1.19	0.13	1.49	0.27	1.65	0.30

Area-Live Weight Gain

The interaction of year and treatment significantly affected area-LWG ($F = 6.65$, $df = 30$, $p < 0.0001$). Usually, area-LWG in M and VL and occasionally M and L differed significantly, whereas the difference between L and VL was often not significant with greater area-LWG under more intensive stocking (**Error! Reference source not found.**). The average area-LWG showed some increase for the first years until 2007, followed by a decline until approximately 2011 and then an increase again for all treatments.

Table S2: Estimated mean \pm SE of area specific live weight gain (kg/ha/y) in the three stocking treatments moderate (M), lenient (L), and very lenient (VL) during 2005 to 2020. Lower case letters show pairwise comparisons between treatments within years (rows). Capital letters show pairwise comparisons between years within treatment (columns) ($p < 0.05$).

Year	M			L			VL		
	Mean	SE	Group	Mean	SE	Group	Mean	SE	Group
2005	277.8	44.7	b,BCDEFG	117.3	54.2	ab,ABCD	57.2	36.0	a,ABCDEF
2006	309.5	25.0	b,EFG	197.0	30.1	ab,BCD	113.5	20.5	a,CDEF

2007	347.3	19.4	b,FG	232.7	23.1	a,CD	175.0	16.1	a,F
2008	270.8	18.0	b,DEF	173.6	21.4	ab,BCD	134.0	15.0	a,DEF
2009	210.3	14.7	b,CD	139.0	17.3	ab,BC	94.2	12.5	a,CDE
2010	156.9	18.9	a,ABC	185.8	22.5	a,BCD	137.0	15.7	a,DEF
2011	121.8	13.0	a,AB	107.9	15.1	a,B	72.5	11.2	a,BC
2012	260.6	11.8	c,DE	156.8	13.6	b,BC	93.0	10.4	a,CD
2013	129.5	11.2	b,AB	46.3	12.7	a,A	36.1	9.9	a,AB
2014	390.8	23.9	b,G	292.0	28.7	b,D	165.6	19.6	a,EF
2015	310.5	12.6	b,EFG	163.4	14.5	a,BC	127.1	10.9	a,DEF
2016	321.3	37.3	b,DEFG	188.1	45.2	ab,ABCD	124.7	30.1	a,ABCDEF
2017	312.8	16.5	b,EFG	123.3	19.5	a,B	102.2	13.8	a,CDE
2018	99.3	10.1	b,A	44.7	11.3	a,A	34.6	9.1	a,A
2019	235.5	34.0	a,BCDEF	168.0	41.2	a,ABCD	100.1	27.5	a,ABCDEF
2020	227.6	24.3	b,CDE	166.7	29.2	ab,BCD	108.9	19.9	a,CDEF

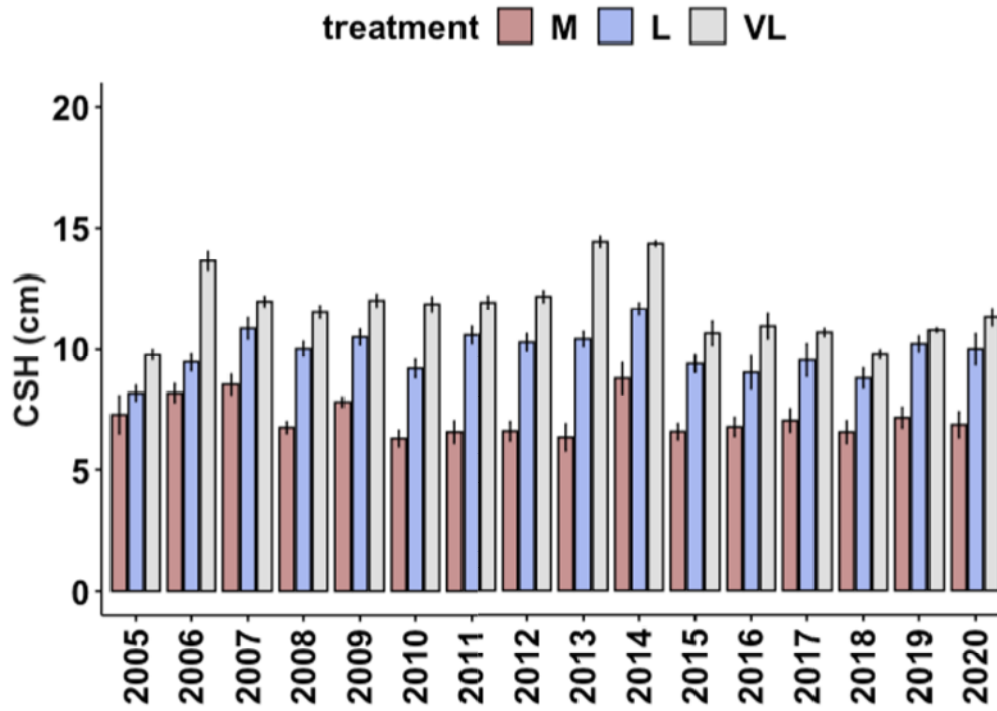


Figure S1. Seasonal arithmetic mean compressed sward heights (CSH) \pm SE for three stocking treatments across years; moderate (M), lenient (L), and very lenient (VL) grazing.