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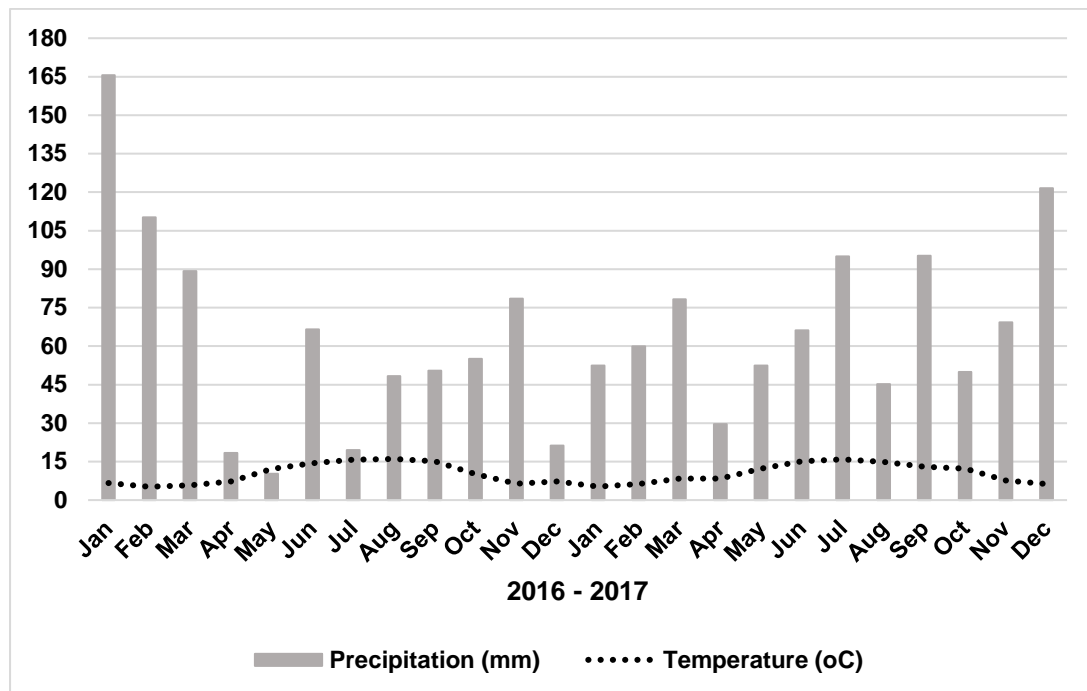
Performance and enteric methane emissions from housed beef cattle fed silage produced on pastures with different forage profiles

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animal journal

Supplementary material

Supplementary Figure S1

Performance and emissions of beef cattle fed with silage produced in farmlets with different types of forage, precipitation, and the average temperature in the two experimental years.



Supplementary Table S1

Performance and emissions of beef cattle fed with silage produced in farmlets with different types of forage, chemical

characteristics of silage produced in farmlets with different types of forage, effects of farmlet, year and interaction farmlet.year.

Response	Year 1			Year 2			Average SEM	Average LSD	P-value		
	RG-WC	PP	MRG	RG-WC	PP	MRG			Farmlet	Year	Farmlet.Year
DM (%)	33.9	37.1	28.5	28.8	29.2	27.3	1.006	2.006	<0.001	<0.001	0.005
CP (% of DM)	13.1	15.5	13.2	11.7	15.1	14.5	0.384	0.766	<0.001	0.666	0.004
WSC (% of DM) ¹	1.66 (5.28)	1.35 (3.84)	1.13 (3.08)	1.99 (7.28)	0.93 (2.53)	0.55 (1.73)	0.0769	0.1532	<0.001	0.023	<0.001
NDF (% of DM)	46.4	49.5	50.3	41.6	47.0	44.0	0.807	1.608	<0.001	<0.001	0.061
ADF (% of DM)	27.6	27.9	29.8	25.2	26.8	26.2	0.449	0.894	0.004	<0.001	0.024
MADF (% of DM)	29.8	29.3	31.5	28.2	30.1	29.2	0.363	0.723	0.002	<0.001	<0.001
ADL (% of DM) ¹	1.31 (3.69)	1.31 (3.69)	1.14 (3.14)	0.94 (2.56)	0.91 (2.49)	1.04 (2.82)	0.0566	0.1127	0.832	0.002	0.025
ME MJ per kg DM	10.8	10.9	10.6	11.1	10.8	10.9	0.0507	0.1010	0.002	<0.001	<0.001
Ash (% of DM) ¹	2.08 (7.97)	2.13 (8.40)	2.09 (8.07)	2.22 (9.16)	2.19 (8.92)	2.24 (9.38)	0.0278	0.0555	0.796	<0.001	0.221

Abbreviations: RG-WC = Mixed sward; PP = Permanent pasture; MRG = Reseeded monoculture ryegrass; WSC = Water-soluble carbohydrates; MADF = Modified acid detergent; ME = Metabolizable energy.

¹ Log_e numbers in brackets are the back-transformed means.

Supplementary Table S2

Performance and emissions of beef cattle fed with silage produced in farmlets with different types of forage, effects of farmlet, year and the interaction farmlet.year.

Response	Year 1			Year 2			Average SEM	Average LSD	P-value		
	RG-WC	PP	MRG	RG-WC	PP	MRG			Farmlet	Year	Farmlet.Year
ILW (kg)	301	297	301	332	329	328	16.19	27.56	0.927	0.003	0.964
FLW (kg)	408	406	393	452	456	455	16.97	32.13	0.739	<0.001	0.677
ADG (g/day)	0.68	0.69	0.58	0.74	0.79	0.76	0.037	0.07895	0.041	<0.001	0.059
CO ₂ (g/day)	5526	5853	5822	5710	5210	5617	162.5	302.3	0.151	0.047	<0.001
CH ₄ (g/day)	167	176	173	174	164	176	4.54	9.495	0.326	0.847	0.011
CH ₄ /ADG (g/kg) ¹	5.54 (254)	5.55 (257)	5.73 (309)	5.49 (242)	5.37 (216)	5.46 (236)	0.040	0.1011	<0.001	<0.001	0.007
CH ₄ /LW (g/kg)	0.48	0.51	0.51	0.45	0.43	0.45	0.016	0.02619	0.115	<0.001	0.007

Abbreviations: RG-WC = Mixed sward; PP = Permanent pasture; MRG = Reseeded monoculture ryegrass; ILW = Initial liveweight; FLW = Final liveweight; ADG = Average daily gain; LW = liveweight.

¹ Log_e numbers in brackets are the back-transformed means.

Supplementary Table S3

Performance and emissions of beef cattle fed with silage produced in farmlets with different types of forage, chemical characteristics of the standing pasture and the silage produced in farmlets with different types of forage (averages of two years).

	RG-WC		PP		MRG	
	Pasture	Silage	Pasture	Silage	Pasture	Silage
DM (%)	22.0	31.3	21.6	33.1	21.7	27.9
CP (% of DM)	18.7	12.4	21.6	15.3	19.0	13.8
WSC (% of DM)	16.4	6.2	13.9	3.1	17.7	2.3
NDF (% of DM)	39.6	44.0	41.0	48.2	40.5	47.2
ADF (% of DM)	21.0	26.4	20.9	27.4	20.8	28.0
MADF (% of DM)	23.2	29.0	23.1	29.7	22.8	30.4
ADL (% of DM)	3.3	3.0	3.2	3.0	3.1	3.0
ME MJ per kg DM	11.9	10.9	11.9	10.8	12.0	10.8
Ash (% of DM)	8.7	8.4	8.4	8.6	8.4	8.7

Abbreviations: RG-WC = Mixed sward; PP = Permanent pasture; MRG = Reseeded monoculture ryegrass; WSC = Water-soluble carbohydrates; MADF = Modified acid detergent; ME = Metabolizable energy.