Table S1: Reproductive events of sampled jersey cows in this study. No major health events (abortion, mastitis, respiratory infections) were observed from two months before to four months after the sampling period. All animals were housed in the same pen, which had a total of 165 jersey cows of 30 – 200 days in milk (DIM).

Animal number	Lactation cycle	DIM on sampling day 1	*Listeria* shedding events	DIM at insemination	Insemination attempts	Estimate DIM at pregnancy	Calving (days from previous calving)	Selling/ Death
1	1	42	2	83	1	83	354	
2	1	43	2	92, 127, 148	3	148	430	
3	1	45	1	94	1	94	376	
4	2	45	4	80, 105	2	157		sold
5	3	44	3	79	1	79	365	
6	3	42	5	83	1	83	370	
7	4	45	2	80	1	80		sold
8	1	57	2	85, 106, 141	3	141	428	
9	1	52	3	94	1			sold
10	2	55	0	90, 114, 153	3			sold
11	2	54	0	82, 117	2			sold
12	3	54	1	89, 124, 159	3	214	497	
13	4	58	2	79	1	72	358	
14	4	10	1	80, 100	2	100	388	
15	1	78	3	82, 104, 105, 145	4	153	436	
16	1	66	5	87, 122, 157, 206	4	228	509	died 2 days after calving
17	2	62	1	83, 118	2	118	402	
18	2	66	4	94, 129, 164, 199	4			sold
19	2	65	1	86	1	86	370	
20	4	72	2	86	1	86		sold

Table S2: Differentiation of *L. monocytogenes* strains by GFP-CBD binding assays. Differentiation of *L. monocytogenes* strains by GFP-CBD binding assays. Serotypes were determined based on binding patterns of reference strains as previously reported (Schmelcher et al., 2010).

		Binding of CBD						Binding of CBD			
Cow	**Day**	**006**	**035**	**500**	**Serotype**	**Cow**	**Day**	**006**	**035**	**500**	**Serotype**
1	15	+	+ +	+ +	4a	12	15	+	+ +	–	1/2a, 1/2b, or 1/2c
	25	–	–	+ +	4b	13	15	+	+ +	+ +	4a
2	15	+	+ +	–	1/2a, 1/2b, or 1/2c		25	–	+ +	+ +	4c
	20	–	–	+ +	4b	14	29	–	–	+ +	4b
3	1	+	+ +	–	1/2a, 1/2b, or 1/2c	15	15	+	+ +	–	1/2a, 1/2b, or 1/2c
4	15	+	+ +	+ +	4a		25	–	+ +	+ +	4c
	23	+	+ +	–	1/2a, 1/2b, or 1/2c		26	+	+ +	+ +	4a
	26	+	+ +	+ +	4a	16	15	+	+ +	–	1/2a, 1/2b, or 1/2c
	29	–	+ +	+ +	4c		23	+	+ +	–	1/2a, 1/2b, or 1/2c
5	15	+	+ +	–	1/2a, 1/2b, or 1/2c		25	+	+ +	+ +	4a
	25	+	+ +	–	1/2a, 1/2b, or 1/2c		26	+	+ +	+ +	4a
	26	–	+ +	+ +	4c		29	+	+ +	–	1/2a, 1/2b, or 1/2c
6	15	+	+ +	–	1/2a, 1/2b, or 1/2c	17	15	+	+ +	+ +	4a
	19	+	+ +	–	1/2a, 1/2b, or 1/2c	18	22	+	+ +	–	1/2a, 1/2b, or 1/2c
	20	+	+ +	+ +	4a		26	+	+ +	+ +	4a
	25	+	+ +	+ +	4a		28	+	+ +	+ +	4a
	26	+	+ +	+ +	4a		29	+	+ +	+ +	4a
7	26	–	–	+ +	4b	19	15	+	+ +	+ +	4a
	28	+	+ +	+ +	4a	20	15	+	+ +	–	1/2a, 1/2b, or 1/2c
8	19	+	+ +	–	1/2a, 1/2b, or 1/2c		19	+	+ +	–	1/2a, 1/2b, or 1/2c
	26	+	+ +	+ +	4a	Silage	14	+	+ +	–	1/2a, 1/2b, or 1/2c
9	20	–	+ +	+ +	4c		15	+	+ +	+ +	4a
	25	+	+ +	+ +	4a		23	–	–	+ +	4b
	26	–	–	+ +	4b		28	+	+ +	+ +	4a

Table S3: Minimal inhibitory concentrations (MIC) of tested antibiotics for each bovine *L. monocytogenes* fecal isolate. For *L. monocytogenes*, clinical breakpoints are 1 μg/mL for ampicillin and 0.06 μg/mL for trimethoprim/sulfamethoxazole (EUCAST, 2020). For gentamicin, *Staphylococcus aureus* breakpoint (1 μg/mL) was used because *L. monocytogenes* breakpoint is not available (Noll et al., 2018, EUCAST, 2020). Data represents MIC ranges determined from three to ten independent experiments for each isolate. MIC values above breakpoints are shown in blue.

Isolates		**MIC (μg/mL)**					**MIC (μg/mL)**		
		Ampicillin	Gentamicin	TMP/SMZ	**Cow**	**Day**	Ampicillin	Gentamicin	TMP/SMZ
10403S		1.0	0.063-0.25	0.031	9	D20	1.0-2.0	0.5-1.0	0.031
Cow	**Day**					D25	0.5-1.0	0.5-1.5	0.031
1	D15	1.0-2.5	0.125	0.063		D26	1.5-2.0	0.5-1.0	0.031
	D25	1.5-2.5	0.5-1.5	0.031-0.063	12	D15	1.0-1.5	1.0	0.031
2	D15	1.0-1.5	1.0	0.031-0.063	13	D15	1.0-1.5	0.5-1.5	0.031-0.063
	D20	1.5-2.5	1 - 1.5	0.031-0.063		D25	1.0-1.5	0.25-1.0	0.031
3	D1	1.0-1.5	0.5	0.031	14	D29	1.5-2.0	0.5-1.5	0.031-0.063
4	D15	1.0	0.5	0.031-0.063	15	D15	1.0-1.5	0.25-0.5	0.031
	D23	1.0-1.5	0.25-1.0	0.031		D25	1.5	1.0	0.031
	D26	1.5	0.5-1.0	0.031		D26	1.5-2.0	0.5	0.031
	D29	1.5-2.0	1 - 1.5	0.031	16	D15	1.0-1.5	0.5-1.0	0.031
5	D15	1.0-1.5	0.5	0.063		D23	1.0-1.5	0.5-1.5	0.031
	D25	1.0-1.5	1.0	0.031-0.063		D25	1.5	0.25-0.5	0.031
	D26	1.5-2.0	0.5-1.0	0.031-0.063		D26	1.0-2.0	1.0-2.0	0.031
6	D15	1.0-2.0	1.0-1.5	0.031-0.063		D29	1.0	1.0	0.031
	D19	1.0-1.5	0.5-1.0	0.031-0.063	17	D15	1.0-1.5	1-1.5	0.063
	D20	1.5-2.0	1-2	0.031	18	D22	1.0	0.5-1.5	0.031-0.063
	D25	1.5-2.0	0.5-2.0	0.031		D26	1.0-2.5	0.25	0.031
	D26	1.5-2.0	0.5-1.0	0.031		D28	1.0	0.5-1.5	0.031
7	D26	1.5-2.0	0.25-0.5	0.031		D29	1.5-2.0	1.0-2.0	0.031
	D28	1.5-2.0	1.0-1.5	0.031-0.063	19	D15	1.0-1.5	1.0	0.031
8	D19	1.0	0.5-1.0	0.031	20	D15	1.0-1.5	1.0-1.5	0.031
	D26	0.5-1.0	0.5-1.0	0.031		D19	1.0-1.5	0.5-1.0	0.031

Table S4: Relative abundances of the top 5 bacterial phyla from each fecal sample.

Sampling Day	15	29	15	29	15	29	15	29	15	29	15	29
L. monocytogenes	+	+	+	+	+	–	–	+	–	–	–	–
Cow	4		16		15		18		10		11	
Phylum	Relative Abundance (%)											
Bacteroidetes	47.5	57.8	42.3	46.9	46.7	51.5	46.5	48.2	42.2	48.1	42.6	54.0
Firmicutes	45.5	35.2	48.4	44.2	42.6	42.5	44.3	45.5	46.8	43.0	42.4	37.5
Spirochaetes	0.5	0.1	1.6	1.1	4.2	0.5	0.9	0.3	3.3	0.5	7.4	1.5
Tenericutes	3.3	3.0	2.3	3.4	3.0	2.4	3.7	2.7	1.6	3.9	3.1	3.3
Verrucomicrobia	1.4	0.9	1.4	1.3	0.7	0.6	1.9	1.3	1.3	1.5	1.1	1.1

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