

Supplementary Table 1. Summary statistics of continuous variables tested as potential predictors for reproductive performance for lactating Holstein cows (n = 886) submitted to first service through a combination of AI at detected estrus and timed AI.

Variables	Mean	Median	Range ¹	SD ²
Prepartum RT ³	552.8	555.1	525.6	76.6
Prepartum RT CV ⁴	5.9	5.7	12.4	1.8
Days in close-up	23.6	23	131	8.7
Postpartum RT	579.9	576.9	844.1	85.4
Postpartum RT IR ⁵	0.3	0.2	2.8	0.3
Milk yield ⁶	4,242	4,300	5,370	964
gDPR ⁷	0.4	0.4	8.4	1.3

¹Range was defined as the difference between the maximum value and the minimum value observed.

²SD = standard deviation.

³RT = rumination time.

⁴CV = coefficient of variation.

⁵IR = increase rate in minutes defined as the difference between the value of RT at the plateau (average RT from 10 to 13 DIM) and the value at baseline (average RT from 2 to 4 DIM) divided by the baseline value.

⁶Accumulated milk yield in kilograms up to 50 DIM.

⁷gDPR: genomic prediction of genetic merit for daughter pregnancy rate.

Supplementary Table 2. Summary statistics of cows grouped based on levels of categorical variables tested as potential predictors for reproductive performance for lactating Holstein cows (n = 886) submitted to first service through a combination of AI at detected estrus and timed AI.

Predictor	Levels	n	% of cows	Parity	n	% of cows
Prepartum RT ¹ CV ²	Low	435	49.1	Primi	144	33.1
				Multi	291	66.9
	High	451	50.9	Primi	177	39.2
				Multi	274	60.8
Days in close-up	Not ideal	240	27.1	Primi	72	30.1
				Multi	168	69.9
	Ideal	646	72.9	Primi	260	40.3
				Multi	386	59.7
Season of calving	Cool	582	65.7	Primi	234	40.2
				Multi	348	59.8
	Warm	304	34.3	Primi	91	29.9
				Multi	213	70.1
Calving-related events	No	627	70.8	Primi	168	26.8
				Multi	459	73.2
	Yes	259	29.2	Primi	104	40.1
				Multi	155	59.9
Health disorder	No	733	82.3	Primi	248	33.8
				Multi	485	66.2
	Yes	153	17.3	Primi	57	37.1
				Multi	96	62.9
Postpartum RT increase rate	Low	293	33.1	Primi	106	36.3
				Multi	187	63.7
	Medium	305	34.4	Primi	116	38.1
				Multi	189	61.9
	High	288	32.5	Primi	106	36.9
				Multi	182	63.1
Milk yield	Low	273	30.8	Primi	95	34.8
				Multi	178	65.2
	Medium	307	34.7	Primi	117	38.1
				Multi	190	61.9
	High	306	34.5	Primi	110	35.9
				Multi	196	64.1
gDPR ³	Low	260	29.4	Primi	91	35.1
				Multi	169	64.9
	Medium	344	38.8	Primi	120	34.9
				Multi	224	65.1
	High	282	31.8	Primi	104	36.8
				Multi	178	63.2

Calculation or categorization of variables is described in material and methods.

¹RT = rumination time.

²CV = coefficient of variation.

³gDPR: genomic prediction of genetic merit for daughter pregnancy rate.