SUPPLEMANTAL TABLES

Supplemental Table S1. Final linear mixed model evaluating the association between days in the close-up group and predicted 305-d milk projection based on 2nd test day milk production of nulliparous cows (n = 7,985).

Variable	Estimate milk (kg)	SE	95% CI		*P*-value
			Lower CI	Upper CI	
Intercept	11584.3	341.3	10915.3	12253.3	<0.001
Year[1]					
2015	Referent				
2016	130.0	82.7	-32.0	292.1	0.116
2017	19.9	80.5	-137.8	177.6	0.805
2018	-17.0	74.4	-162.7	128.8	0.820
2019	572.6	75.8	424.1	721.1	<0.001
2020	980.2	76.5	830.2	1130.2	<0.001
Farm					
2	Referent				
1	711.0	45.1	622.6	799.4	<0.001
AFC[2]	-105.7	12.8	-130.8	-80.5	<0.001
Season[3]					
Spring	Referent				
Summer	201.9	50.9	102.3	301.6	<0.001
Autumn	844.2	47.6	750.8	937.5	<0.001
Winter	587.8	46.6	496.5	679.2	<0.001
Calving Ease[4]					
0	Referent				
1	240.1	67.3	108.3	372.0	<0.001
2	222.2	70.7	83.7	360.7	0.002
3	170.8	76.4	21.1	320.6	0.025
Stillbirth					
No	Referent				
Yes	-256.5	82.3	-417.8	-95.2	0.002
DINCU[5]	36.4	11.0	14.8	58.1	0.001
DINCU*DINCU[6]	-0.5	0.3	-1.0	0.0	0.049

[1]Year of calving.
[2]Age at first calving.
[3]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.
[4]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.
[5]Days in the close-up group.
[6]Interaction of DINCU by DINCU.

Supplemental Table S2. Final linear mixed model evaluating the association between days in the close-up group and predicted 305-d milk projection based on 2nd test day milk production of parous cows (n = 17,483).

Variable	Estimate milk (kg)	SE	95% CI		*P*-value
			Lower CI	Upper CI	
Intercept	6292.1	72.7	6149.7	6434.5	<0.001
Year[1]					
2015	Referent				
2016	106.8	34.0	40.1	173.5	0.002
2017	-89.2	34.6	-157.1	-21.3	0.010
2018	-483.3	36.2	-554.3	-412.3	<0.001
2019	-98.5	37.2	-171.4	-25.7	0.008
2020	119.8	36.4	48.5	191.2	0.001
Farm					
Farm 2	Referent				
Farm 1	642.7	23.7	596.2	689.2	<0.001
Season[2]					
Spring	Referent				
Summer	-24.5	28.1	-79.6	30.5	0.382
Autumn	211.4	26.3	159.8	262.9	<0.001
Winter	169.2	25.8	118.7	219.8	<0.001
Parity					
Lactation 2	0[b]				
Lactation 3	-777.1	23.5	-823.3	-730.9	<0.001
Lactation 4+	-1260.6	22.5	-1304.6	-1216.6	<0.001
Calving Ease[3]					
0	Referent				
1	439.0	30.7	378.8	499.1	<0.001
2	472.9	35.4	403.4	542.3	<0.001
3	409.2	39.1	332.5	485.9	<0.001
Stillbirth					
No	Referent				
Yes	-374.5	68.1	-507.9	-241.2	<0.001
Prev305[4]	0.4	0.0	0.3	0.4	<0.001
DINCU[5]	16.6	1.6	13.5	19.6	<0.001

[1]Year of calving.
[2]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.
[3]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.
[4]305-d milk production of previous lactation.
[5]Days in the close-up group.

Supplemental Table S3. Final multivariable logistic regression model evaluating the association between days in the close-up group and predicted risk of clinical hypocalcemia of parous cows (n = 19,641).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-5.81	0.00	0.27	-6.34	-5.28	<0.001
Year[1]						
2015	Referent					
2016	0.05	1.05	0.14	-0.22	0.32	0.735
2017	-0.19	0.83	0.15	-0.48	0.10	0.199
2018	-0.42	0.66	0.15	-0.71	-0.12	0.006
2019	-0.20	0.82	0.14	-0.48	0.08	0.157
2020	-0.34	0.71	0.15	-0.63	-0.06	0.018
Farm						
2	Referent					
1	0.16	1.18	0.09	-0.01	0.34	0.060
Season[2]						
Spring	Referent					
Summer	-0.25	0.78	0.12	-0.48	-0.02	0.030
Autumn	-0.55	0.58	0.11	-0.77	-0.33	<0.001
Winter	-0.60	0.55	0.11	-0.82	-0.39	<0.001
Parity						
Lactation 2	Referent					
Lactation 3	1.24	3.45	0.23	0.79	1.69	<0.001
Lactation 4+	3.20	24.52	0.20	2.81	3.58	<0.001
DINCU[3]	0.03	1.03	0.01	0.02	0.04	<0.001

[1]Year of calving.

[2]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.

[3]Days in the close-up group.

Supplemental Table S4. Final multivariable logistic regression model evaluating the association between days in the close-up group and the predicted risk of hyperketonemia (ß-hydroxybutyrate ≥ 1.2 mmol/L using a cow-side blood BHB test) of nulliparous cows (n = 8,798).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-6.07	0.00	0.60	-7.24	-4.91	<0.001
Year[1]						
2015	Referent					
2016	0.24	1.27	0.17	-0.10	0.57	0.167
2017	-1.20	0.30	0.20	-1.60	-0.80	<0.001
2018	-1.50	0.22	0.20	-1.89	-1.12	<0.001
2019	-1.93	0.14	0.20	-2.33	-1.54	<0.001
2020	-2.88	0.06	0.21	-3.30	-2.47	<0.001
Farm						
2	Referent					
1	-2.88	0.06	0.16	-3.19	-2.57	<0.001
Calving ease[2]						
0	Referent					
1	1.95	7.01	0.19	1.57	2.32	<0.001
2	2.07	7.90	0.20	1.68	2.45	<0.001
3	2.34	10.35	0.21	1.93	2.74	<0.001
AFC[3]	0.19	1.21	0.02	0.14	0.23	<0.001
DINCU[4]	0.02	1.02	0.01	0.01	0.03	<0.001

[1]Year of calving.
[2]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.
[3]Age at first calving.
[4]Days in the close-up group.

Supplemental Table S5. Final multivariable logistic regression model evaluating the association between days in the close-up group and the predicted risk of hyperketonemia (ß-hydroxybutyrate ≥ 1.2 mmol/L using a cow-side blood BHB test) of parous cows (n = 19,641).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-1.255	0.126	0.285	-1.503	-1.007	<0.001
Year[1]						
2015	Referent					
2016	0.134	0.060	1.144	0.016	0.252	0.025
2017	-0.489	0.065	0.613	-0.616	-0.363	<0.001
2018	-0.372	0.064	0.689	-0.498	-0.247	<0.001
2019	-0.429	0.066	0.651	-0.558	-0.300	<0.001
2020	-0.126	0.063	0.881	-0.250	-0.003	0.045
Farm						
2	Referent					
1	-0.281	0.042	0.755	-0.363	-0.199	<0.001
Season[2]						
Spring	Referent					
Summer	0.154	0.048	1.167	0.060	0.249	0.001
Autumn	0.135	0.045	1.145	0.047	0.223	0.003
Winter	-0.322	0.046	0.724	-0.413	-0.232	<0.001
Parity						
Lactation 2	Referent					
Lactation 3	0.680	0.042	1.974	0.597	0.762	<0.001
Lactation 4+	0.710	0.040	2.035	0.633	0.788	<0.001
Calving ease[3]						
0	Referent					
1	1.084	0.059	2.956	0.969	1.199	<0.001
2	1.232	0.064	3.429	1.106	1.359	<0.001
3	1.483	0.069	4.407	1.348	1.619	<0.001
Twins						
No	Referent					
Yes	0.408	0.082	1.504	0.247	0.568	<0.001
prev305[4]	-0.001	0.001	1.000	-0.001	0.000	<0.001
DINCU[5]	0.013	0.003	1.014	0.008	0.019	<0.001

[1]Year of calving.

[2]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.

[3]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.

[4]305-d milk production of previous lactation.
[5]Days in the close-up group.

Supplemental Table S6. Final multivariable logistic regression model evaluating the association between days in the close-up group (DINCU) and the predicted risk for left displaced abomasum using least square estimates (mean ± SEM) from the generalized linear mixed model of parous cows (n = 19,641).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-5.930	0.003	0.296	-6.511	-5.350	<0.001
Year[1]						
2015	Referent					
2016	0.587	1.799	0.200	0.196	0.979	0.003
2017	0.329	1.390	0.208	-0.079	0.738	0.114
2018	0.495	1.641	0.200	0.102	0.888	0.013
2019	0.173	1.189	0.212	-0.242	0.588	0.414
2020	0.453	1.572	0.199	0.062	0.843	0.023
Farm						
2	Referent					
1	0.513	1.670	0.126	0.266	0.760	<0.001
Season[2]						
Spring	Referent					
Summer	-0.182	0.833	0.142	-0.460	0.096	0.199
Autumn	-0.283	0.753	0.134	-0.546	-0.020	0.035
Winter	-0.430	0.651	0.137	-0.698	-0.161	0.002
Parity						
Lactation 2	Referent					
Lactation 3	0.870	2.386	0.141	0.593	1.147	<0.001
Lactation 4+	0.930	2.534	0.134	0.668	1.192	<0.001
Calving ease[3]						
0	Referent					
1	0.624	1.867	0.187	0.257	0.992	0.001
2	0.985	2.679	0.197	0.599	1.372	<0.001
3	0.982	2.671	0.205	0.580	1.385	<0.001
Twins						
No	Referent					
Yes	0.842	2.322	0.181	0.488	1.197	<0.001
DINCU[4]	0.018	1.018	0.008	0.002	0.034	0.027

[1]Year of calving.

[2]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.

[3]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.

[4]Days in the close-up group.

Supplemental Table S7. Final multivariable logistic regression model evaluating the association between days in the close-up group and the predicted risk of retained placenta of nulliparous cows (n = 8,798).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-1.132	0.322	0.357	-1.833	-0.432	0.002
Year[1]						
2015	Referent					
2016	-0.174	0.840	0.247	-0.658	0.310	0.481
2017	-0.773	0.461	0.266	-1.295	-0.252	0.004
2018	-0.008	0.992	0.219	-0.437	0.420	0.970
2019	0.195	1.215	0.221	-0.239	0.629	0.378
2020	-0.532	0.587	0.246	-1.015	-0.049	0.031
Farm						
2	Referent					
1	-0.187	0.829	0.129	-0.441	0.066	0.147
Season[2]						
Spring	Referent					
Summer	0.287	1.332	0.160	-0.028	0.601	0.074
Autumn	0.284	1.328	0.150	-0.010	0.577	0.058
Winter	-0.191	0.826	0.160	-0.504	0.123	0.233
Calving ease[3]						
0	Referent					
1	-0.960	0.383	0.197	-1.346	-0.575	<0.001
2	-0.897	0.408	0.208	-1.305	-0.488	<0.001
3	-0.467	0.627	0.211	-0.880	-0.054	0.027
Stillbirth						
No	Referent					
Yes	1.076	2.933	0.165	0.753	1.399	<0.001
Sex						
Female	Referent					
Male	0.397	1.487	0.116	0.170	0.623	<0.001
DINCU[4]	-0.133	0.876	0.028	-0.189	-0.077	<0.001
DINCU*DINCU[5]	0.003	1.003	0.001	0.001	0.004	<0.001

[1]Year of calving.

[3]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.

[3]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.

[4]Days in the close-up group.

[5]Interaction of DINCU by DINCU.

Supplemental Table S8. Final multivariable logistic regression model evaluating the association between days in the close-up group and the predicted risk of retained placenta of parous cows (n = 19,641).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-1.503	0.222	0.216	-1.926	-1.080	<0.001
Year[1]						
2015	Referent					
2016	0.605	1.831	0.098	0.412	0.797	<0.001
2017	0.241	1.273	0.107	0.032	0.451	0.024
2018	0.242	1.274	0.117	0.013	0.471	0.038
2019	0.523	1.688	0.118	0.293	0.754	<0.001
2020	0.233	1.263	0.118	0.002	0.464	0.048
Farm						
2	Referent					
1	-0.372	0.689	0.070	-0.510	-0.235	<0.001
Season[2]						
Spring	Referent					
Summer	0.254	1.289	0.084	0.089	0.419	0.003
Autumn	0.109	1.115	0.080	-0.048	0.265	0.174
Winter	0.043	1.044	0.081	-0.114	0.201	0.589
Parity						
Lactation 2	Referent					
Lactation 3	0.251	1.285	0.073	0.107	0.395	0.001
Lactation 4+	0.438	1.550	0.068	0.305	0.572	<0.001
Calving ease[3]						
0	Referent					
1	-0.571	0.565	0.096	-0.759	-0.382	<0.001
2	-0.398	0.671	0.108	-0.611	-0.186	<0.001
3	-0.038	0.962	0.111	-0.257	0.180	0.731
Stillbirth						
no	Referent					
yes	0.756	2.130	0.132	0.497	1.015	<0.001
Sex						
Female	Referent					
Male	0.154	1.167	0.061	0.034	0.274	<0.001
DINCU[4]	-0.124	0.883	0.018	-0.160	-0.088	<0.001
DINCU*DINCU[5]	0.002	1.002	0.001	0.002	0.003	<0.001

[1]Year of calving.

[3]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.

[3]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.
[4]Days in the close-up group.
[5]Interaction of DINCU by DINCU.

Supplemental Table S9. Final multivariable logistic regression model evaluating the association between days in the close-up group and the predicted risk of acute puerperal metritis of nulliparous cows (n = 8,798).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-0.934	0.393	0.190	-1.307	-0.562	<0.001
Year[1]						
2015	Referent					
2016	0.071	1.073	0.153	-0.229	0.371	0.643
2017	-0.391	0.677	0.160	-0.704	-0.077	0.015
2018	-0.163	0.850	0.144	-0.445	0.119	0.257
2019	-0.446	0.640	0.150	-0.739	-0.152	0.003
2020	-0.555	0.574	0.152	-0.852	-0.257	<0.001
Farm						
2	Referent					
1	-0.892	0.410	0.085	-1.059	-0.726	<0.001
Calving ease[2]						
0	Referent					
1	-0.540	0.583	0.131	-0.797	-0.283	<0.001
2	0.004	1.004	0.133	-0.257	0.266	0.974
3	0.699	2.011	0.139	0.426	0.971	<0.001
Stillbirth						
No	Referent					
Yes	0.729	2.073	0.120	0.493	0.965	<0.001
Sex						
Female	Referent					
Male	0.243	1.276	0.073	0.101	0.386	<0.001
DINCU[3]	-0.012	0.988	0.005	-0.023	-0.002	0.020

[1]Year of calving.

[2]Season was defined as Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November, Winter from 1st of December to 28th of February, and Spring from 1st of March to 31st of May.

[3]Days in the close-up group.

Supplemental Table S10. Final multivariable logistic regression model evaluating the association between days in the close-up group and the predicted risk of acute puerperal metritis of parous cows (n = 19,641).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-1.396	0.247	0.189	-1.766	-1.027	<0.001
Year[1]						
2015	Referent					
2016	-0.098	0.907	0.076	-0.247	0.052	0.202
2017	-0.465	0.628	0.085	-0.632	-0.299	<0.001
2018	-0.644	0.525	0.102	-0.845	-0.444	<0.001
2019	-0.550	0.577	0.106	-0.757	-0.343	<0.001
2020	-0.680	0.507	0.102	-0.881	-0.479	<0.001
Farm						
2	Referent					
1	-1.222	0.295	0.072	-1.364	-1.081	<0.001
Season[2]						
Spring	Referent					
Summer	0.162	1.176	0.072	0.021	0.303	0.024
Autumn	0.020	1.020	0.068	-0.113	0.153	0.766
Winter	-0.109	0.896	0.069	-0.245	0.026	0.113
Parity						
Lactation 2	Referent					
Lactation 3	-0.063	0.939	0.062	-0.185	0.059	0.310
Lactation 4+	0.089	1.094	0.058	-0.024	0.203	0.124
Calving Ease[3]						
0	Referent					
1	-0.388	0.678	0.093	-0.571	-0.205	<0.001
2	0.025	1.025	0.100	-0.171	0.221	0.805
3	0.578	1.783	0.104	0.374	0.782	<0.001
Stillbirth						
No	Referent					
Yes	0.977	2.655	0.113	0.756	1.198	<0.001
Sex						
Female	Referent					
Male	0.189	1.208	0.052	0.087	0.292	<0.001
Prev305[4]	0.001	1.001	0.001	-0.001	0.001	0.066
DINCU[5]	-0.017	0.984	0.004	-0.025	-0.009	<0.001

[1]Year of calving.

[2] Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.

[3]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.
[4]305-d milk production of previous lactation.
[5]Days in the close-up group.

Supplemental Table S11. Final multivariable logistic regression model evaluating the association between days in the close-up group and the predicted risk for mastitis within 30 DIM of parous cows (n = 19,641).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-0.251	0.778	0.227	-0.696	0.194	0.269
Year[1]						
2015	Referent					
2016	-0.060	0.942	0.075	-0.207	0.087	0.426
2017	-0.406	0.666	0.083	-0.568	-0.243	<0.001
2018	-0.719	0.487	0.100	-0.915	-0.523	<0.001
2019	-0.543	0.581	0.103	-0.746	-0.340	<0.001
2020	-0.653	0.520	0.101	-0.850	-0.456	<0.001
Farm						
2	Referent					
1	-1.206	0.299	0.071	-1.344	-1.068	<0.001
Parity						
Lactation 2	Referent					
Lactation 3	-0.036	0.965	0.061	-0.155	0.084	0.561
Lactation 4+	0.133	1.143	0.057	0.022	0.244	0.019
Calving ease[2]						
0	Referent					
1	-0.396	0.673	0.091	-0.575	-0.217	<0.001
2	0.273	1.314	0.095	0.087	0.460	0.004
3	0.638	1.893	0.102	0.439	0.838	<0.001
Stillbirth						
No	Referent					
Yes	1.027	2.792	0.112	0.808	1.246	<0.001
Prev305[3]	0.001	1.001	0.001	-0.001	0.001	0.078
DINCU[4]	-0.105	0.901	0.016	-0.136	-0.073	<0.001
DINCU*DINCU[5]	0.002	1.002	0.001	0.001	0.003	<0.001

[1]Year of calving.
[2]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.
[3]305-d milk production of previous lactation.
[4]Days in the close-up group.
[5]Interaction of DINCU by DINCU.

Supplemental Table S12. Final multivariable logistic regression model evaluating the association between days in the close-up group and first service pregnancy risk of parous cows (n = 19,641).

Variable	Estimate	Odds ratio	SE	95% CI		*P*-value
				Lower CI	Upper CI	
Intercept	-0.616	0.540	1.687	-3.923	2.691	0.715
Year[1]						
2015	Referent					
2016	0.214	1.239	0.068	0.081	0.347	0.002
2017	0.245	1.278	0.069	0.111	0.380	<0.001
2018	0.403	1.496	0.069	0.267	0.538	<0.001
2019	0.517	1.676	0.073	0.373	0.660	<0.001
2020	0.535	1.707	0.071	0.395	0.674	<0.001
Farm						
2	Referent					
1	0.177	1.193	2.378	-4.485	4.839	0.941
Season[2]						
Spring	Referent					
Summer	-0.542	0.581	0.048	-0.637	-0.448	<0.001
Autumn	-0.160	0.852	0.044	-0.247	-0.073	<0.001
Winter	0.037	1.038	0.045	-0.051	0.125	0.411
Parity						
Lactation 2	Referent					
Lactation 3	-0.109	0.896	0.039	-0.187	-0.032	0.005
Lactation 4+	-0.396	0.673	0.039	-0.472	-0.321	<0.001
Stillbirth						
No	Referent					
Yes	-0.309	0.734	0.115	-0.534	-0.084	0.007
Calving ease[3]						
0	Referent					
1	-0.205	0.815	0.053	-0.309	-0.100	<0.001
2	-0.450	0.638	0.061	-0.570	-0.331	<0.001
3	-0.533	0.587	0.066	-0.661	-0.404	<0.001
DINCU[4]	0.036	1.036	0.012	0.012	0.059	0.003
DINCU*DINCU[5]	-0.001	0.999	0.001	-0.001	0.001	0.001

[1]Year of calving.

[2]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.

[3]Calving ease was defined as 0 = not observed, 1 = unassisted calving, 2 = calving assisted by 1 person, and 3 = calving assisted by more than 1 person.

[4]Days in the close-up group.
[5]Interaction of DINCU by DINCU.

Supplemental Table S13. Final Cox proportional hazards model evaluating the association between days in the close-up group and predicted probability of culling until 300 DIM in nulliparous cows (n = 8,798).

Variable	Hazard ratio	SE	95% CI		*P*-value
			Lower CI	Upper CI	
Year[1]					
2015	Referent				
2016	1.158	0.140	0.880	1.523	0.296
2017	1.113	0.137	0.851	1.456	0.434
2018	1.479	0.122	1.164	1.879	0.001
2019	1.883	0.121	1.487	2.384	<0.001
2020	2.143	0.119	1.696	2.709	<0.001
Farm					
2	Referent				
1	1.205	0.061	1.069	1.357	0.002
Season[2]					
Spring	Referent				
Summer	0.807	0.073	0.699	0.932	0.004
Autumn	0.802	0.073	0.695	0.925	0.002
Winter	0.856	0.074	0.741	0.988	0.034
AFC[3]	1.043	0.019	1.005	1.081	0.025
DINCU[4]	0.946	0.015	0.918	0.974	<0.001
DINCU*DINCU[5]	1.001	0.001	1.001	1.002	<0.001

[1]Year of calving.
[2]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.
[3]Age at first calving.
[4]Days in the close-up group.
[5]Interaction of DINCU by DINCU.

Supplemental Table S14. Final Cox proportional hazards model evaluating the association between days in the close-up group and predicted probability of culling until 300 DIM in parous cows (n = 19,641).

Variable	Hazard ratio	SE	95% CI		*P*-value
			Lower CI	Upper CI	
Year[1]					
2015	Referent				
2016	1.068	0.048	0.973	1.173	0.163
2017	1.134	0.048	1.032	1.246	0.009
2018	1.149	0.046	1.051	1.256	0.002
2019	1.058	0.048	0.964	1.162	0.233
2020	1.297	0.045	1.187	1.416	<0.001
Farm					
1	Referent				
2	0.807	0.029	0.763	0.853	<0.001
Season[2]					
Spring	Referent				
Summer	1.016	0.038	0.943	1.094	0.677
Autumn	0.892	0.039	0.827	0.962	0.003
Winter	0.952	0.038	0.883	1.027	0.202
Parity					
Lactation 2	Referent				
Lactation 3	1.585	0.035	1.479	1.698	<0.001
Lactation 4+	2.258	0.031	2.123	2.401	<0.001
prev305[3]	1.000	0.001	1.000	1.001	<0.001
DINCU[4]	0.936	0.008	0.921	0.951	<0.001
DINCU*DINCU[5]	1.001	0.001	1.001	1.002	<0.001

[1]Year of calving.
[2]Season was defined as Spring from 1st of March to 31st of May, Summer from 1st of June to 31st of August, Autumn from 1st of September to 30th of November and Winter from 1st of December to 28th of February.
[3]305-d milk production of previous lactation.
[4]Days in the close-up group.
[5]Interaction of DINCU by DINCU.