

**Supplementary Table 1.** Identification (ID), breed, parity, P4 concentration, numbers of CLs, and ovulation status of the three groups of surrogates: (A) term-delivered, (B) aborted, and (C) implantation failure

**A**

Number	ID	Breed	Parity	P4	CL	Status
1	321	Yorkshire	4	2.51	-	Post-ovulation
2	207	Yorkshire	4	1.33	7	Post-ovulation
3	329	Yorkshire	3	1.42	8	Ovulation
4	F34-5	Yorkshire	1	0.93	5	Post-ovulation
5	X27-3	Yorkshire	1	0.69	-	Pre-ovulation
6	Y29-3	Yorkshire	1	0.57	-	Pre-ovulation
7	R&F 25	Yorkshire	1	0.54	-	Post-ovulation
8	R&F 72	Yorkshire	1	1.23	8	Post-ovulation
9	R&F 147	Yorkshire	1	3.98	7	Post-ovulation
10	R&F 779	Yorkshire	1	1.88	7	Post-ovulation
11	R&F 155	Yorkshire	2	6.86	8	Post-ovulation

**B**

Number	ID	Breed	Parity	P4	CL	Status
1	308	Yorkshire	4	1.59	-	Post-ovulation
2	22-163	Yorkshire	4	2.67	5	Post-ovulation
3	471	Yorkshire	2	1.40	2	Post-ovulation
4	Y29-1	Yorkshire	1	0.24	6	Pre-Ovulation
5	R&F 15	Yorkshire	1	6.98	-	Post-ovulation
6	R&F 1007	Yorkshire	1	4.68	7	Pre-ovulation
7	R&F F100	Yorkshire	1	5.93	4	Post-ovulation
8	R&F F1055	Yorkshire	1	1.51	5	Post-ovulation
9	R&F F1073	Yorkshire	1	0.78	3	Ovulation
10	R&F 165	Yorkshire	1	4.21	6	Post-ovulation
11	R&F 197	Yorkshire	1	7.21	6	Post-ovulation
12	R&F 560	Yorkshire	1	9.52	8	Post-ovulation
13	R&F 266	Yorkshire	1	5.89	6	Post-ovulation
14	R&F 279	Yorkshire	1	0.94	4	Post-ovulation
15	R&F 620	Yorkshire	1	2.12	8	Post-ovulation
16	R&F 1064	Yorkshire	2	5.87	-	Post-ovulation
17	R&F 252	Yorkshire	2	7.16	7	Post-ovulation

**Supplementary Table 1. Contributed****C**

Number	ID	Breed	Parity	P4	CL	Status
1	R&F 23	Yorkshire	1	0.38	5	Pre-ovulation
2	R&F F65	Yorkshire	1	0.48	9	Post-ovulation
3	R&F 26	Yorkshire	1	2.42	7	Post-ovulation
4	R&F 57	Yorkshire	1	1.91	6	Post-ovulation
5	R&F F1003	Yorkshire	1	0.22	8	Pre-ovulation
6	R&F F1010	Yorkshire	1	18.16	5	Pre-ovulation
7	R&F F1011	Yorkshire	1	7.57	4	Post-ovulation
8	R&F F1021	Yorkshire	1	0.70	8	Post-ovulation
9	R&F F1022	Yorkshire	1	4.02	7	Post-ovulation
10	R&F F1054	Yorkshire	1	6.94	5	Post-ovulation
11	R&F F1071	Yorkshire	1	4.90	5	Post-ovulation
12	R&F 68	Yorkshire	1	5.78	9	Post-ovulation
13	R&F 110	Yorkshire	1	5.72	5	Post-ovulation
14	R&F 173	Yorkshire	1	16.45	6	Post-ovulation
15	R&F 293	Yorkshire	1	6.86	3	Post-ovulation
16	R&F 1035	Yorkshire	1	0.71	7	Post-ovulation
17	R&F 477	Yorkshire	1	3.28	6	Post-ovulation
18	R&F 167	Yorkshire	1	1.72	7	Post-ovulation
19	R&F 713	Yorkshire	1	2.88	7	Post-ovulation
20	R&F 484	Yorkshire	1	4.52	5	Post-ovulation
21	R&F 500	Yorkshire	1	6.69	7	Post-ovulation
22	R&F 280	Yorkshire	1	3.63	5	Post-ovulation
23	R&F 463	Yorkshire	1	4.00	5	Post-ovulation
24	R&F 608	Yorkshire	1	16.42	9	Post-ovulation
25	R&F 456	Yorkshire	1	2.79	8	Post-ovulation
26	R&F 479	Yorkshire	1	5.14	6	Post-ovulation
27	R&F F576	Yorkshire	1	2.35	8	Post-ovulation
28	R&F F457	Yorkshire	1	1.40	12	Post-ovulation
29	R&F F482	Yorkshire	1	0.21	9	Pre-ovulation
30	R&F 680	Yorkshire	1	5.66	9	Post-ovulation
31	R&F 594	Yorkshire	1	1.29	6	Post-ovulation
32	R&F 691	Yorkshire	1	11.66	9	Post-ovulation
33	R&F 683	Yorkshire	1	12.96	14	Post-ovulation
34	R&F 71	Yorkshire	1	7.74	13	Post-ovulation
35	R&F 679	Yorkshire	1	16.55	9	Post-ovulation
36	R&F 694	Yorkshire	1	2.92	10	Post-ovulation
37	R&F 1041	Yorkshire	1	4.73	7	Post-ovulation
38	R&F 707	Yorkshire	1	5.26	11	Post-ovulation
39	R&F 672	Yorkshire	1	2.97	7	Post-ovulation
40	R&F 602	Yorkshire	1	7.24	10	Pre-ovulation
41	R&F 605	Yorkshire	1	2.71	7	Post-ovulation
42	R&F 658	Yorkshire	1	7.77	6	Post-ovulation
43	R&F 733	Yorkshire	1	4.80	6	Post-ovulation
44	R&F 788	Yorkshire	1	4.20	6	Post-ovulation
45	R&F 766	Yorkshire	1	4.03	10	Post-ovulation
46	R&F 776	Yorkshire	1	11.94	5	Post-ovulation
47	R&F 111	Yorkshire	2	6.16	6	Post-ovulation
48	R&F 287	Yorkshire	2	5.73	9	Post-ovulation

**Supplementary Table 1. Contributed****C**

Number	ID	Breed	Parity	P4	CL	Status
49	R&F 137	Yorkshire	2	0.82	6	Post-ovulation
50	R&F 296	Yorkshire	2	9.64	6	Post-ovulation
51	R&F 303	Yorkshire	2	12.68	6	Post-ovulation
52	R&F 154	Yorkshire	2	2.45	8	Post-ovulation
53	R&F 618	Yorkshire	1	1.65	6	Post-ovulation
54	R&F 593	Yorkshire	1	2.21	5	Post-ovulation
55	R&F 481	Yorkshire	2	6.64	9	Post-ovulation
56	R&F 495	Yorkshire	2	1.73	5	Post-ovulation
57	R&F 493	Yorkshire	2	4.88	9	Post-ovulation
58	R&F 34	Yorkshire	1	1.97	6	Post-ovulation
59	F6-2	Yorkshire	1	5.80	8	Post-ovulation
60	Y30-1	Yorkshire	1	1.98	6	Post-ovulation
61	Y42-3	Yorkshire	1	0.26	5	Pre-ovulation
62	Y20-1	Yorkshire	1	4.51	6	Post-ovulation
63	F39-2	Yorkshire	1	0.25	11	Pre-ovulation
64	Y11-7	Yorkshire	1	17.93	-	Post-ovulation
65	Y62-1	Yorkshire	1	0.16	10	Pre-ovulation
66	Y29-5	Yorkshire	1	0.33	5	Pre-ovulation
67	D39-5	Duroc	1	1.68	-	Pre-ovulation
68	D11-3	Duroc	1	7.16	3	Post-ovulation
69	Y02-4	Yorkshire	1	0.44	-	Pre-ovulation
70	L35-1	Landrace	1	9.49	4	Post-ovulation
71	D36-2	Duroc	1	4.43	9	Post-ovulation
72	D39-4	Duroc	1	6.55	6	Post-ovulation
73	L35-4	Landrace	1	0.25	6	Post-ovulation
74	D37-7	Duroc	2	1.43	-	Pre-ovulation
75	Y21-4	Yorkshire	1	0.61	5	Post-ovulation
76	F27-4	Yorkshire	1	2.37	6	Post-ovulation
77	D39-3	Duroc	1	10.46	-	Pre-ovulation
78	Y54-3	Yorkshire	1	3.37	6	Post-ovulation
79	D53-1	Duroc	1	2.70	5	Post-ovulation
80	Y50-6	Yorkshire	1	2.21	7	Post-ovulation
81	Y50-1	Yorkshire	1	1.21	6	Post-ovulation
82	Y52-1	Yorkshire	1	9.75	7	Post-ovulation
83	252	Yorkshire	4	4.74	-	Pre-ovulation
84	377	Yorkshire	2	9.68	-	Post-ovulation
85	325	Yorkshire	3	6.78	-	Ovulation
86	417	Yorkshire	1	6.28	-	Post-ovulation
87	428	Yorkshire	2	1.98	-	Pre-ovulation
88	446	Yorkshire	2	3.05	6	-
89	164	Yorkshire	4	2.69	5	-
90	440	Yorkshire	2	2.32	8	-
91	362	Yorkshire	2	5.90	8	Post-ovulation
92	181	Yorkshire	2	2.47	-	Pre-ovulation
93	151	Yorkshire	4	0.80	-	Pre-ovulation
94	340	Yorkshire	3	5.86	7	Post-ovulation
95	365	Yorkshire	2	1.21	8	Ovulation
96	50	Yorkshire	2	1.84	8	Ovulation
97	348	Yorkshire	3	1.95	6	Post-ovulation
98	486	Yorkshire	1	1.30	9	Post-ovulation