

**Autoregressive repeatability model for genetic evaluation of longitudinal reproductive traits in dairy cattle**

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**SUPPLEMENTARY FILE**

**Table S1.** Means ( $\pm$  SE) of genetic correlations between calving orders for interval between calving to first service (ICF), days open (DO), calving interval (CI) and daughter pregnancy rate (DPR) estimated using multiple-trait analyses

Calving orders	Traits			
	ICF	DO	CI	DPR
1,2	0.81 $\pm$ 0.04	0.88 $\pm$ 0.02	0.90 $\pm$ 0.01	0.90 $\pm$ 0.02
1,3	0.81 $\pm$ 0.05	0.80 $\pm$ 0.03	0.81 $\pm$ 0.07	0.80 $\pm$ 0.03
2,3	0.88 $\pm$ 0.03	0.87 $\pm$ 0.04	0.91 $\pm$ 0.03	0.82 $\pm$ 0.07

**Table S2.** Number of records and cows in the six sub-data sets used to estimate variance components and autocorrelations of interval between calving to first service (ICF), days open (DO), calving interval (CI) and daughter pregnancy rate (DPR) considering two different year intervals for bulls and cows

Samples	ICF		DO		CI		DPR	
	Records	Cows	Records	Cows	Records	Cows	Records	Cows
1	19,691	11,236	30,000	17,252	32,001	16,217	24,537	13,593
2	19,669	10,865	24,056	13,416	28,720	14,891	29,252	16,202
3	18,862	10,756	32,647	17,916	28,459	14,258	27,983	15,270
4	20,409	11,618	31,678	16,824	28,563	14,487	26,195	14,095
5	17,009	9,878	27,711	14,818	31,753	16,161	26,237	14,388
6	21,536	12,407	22,292	12,192	36,575	18,601	31,948	16,914