

Use of insemination data in fertility genetic evaluations

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Introduction

- Is calving interval really the best trait for a seasonal calving system?
- Can we determine genetic merit for calving interval without waiting >365 days?
- Is all this insemination data useful?
 - National evaluations
 - International evaluations

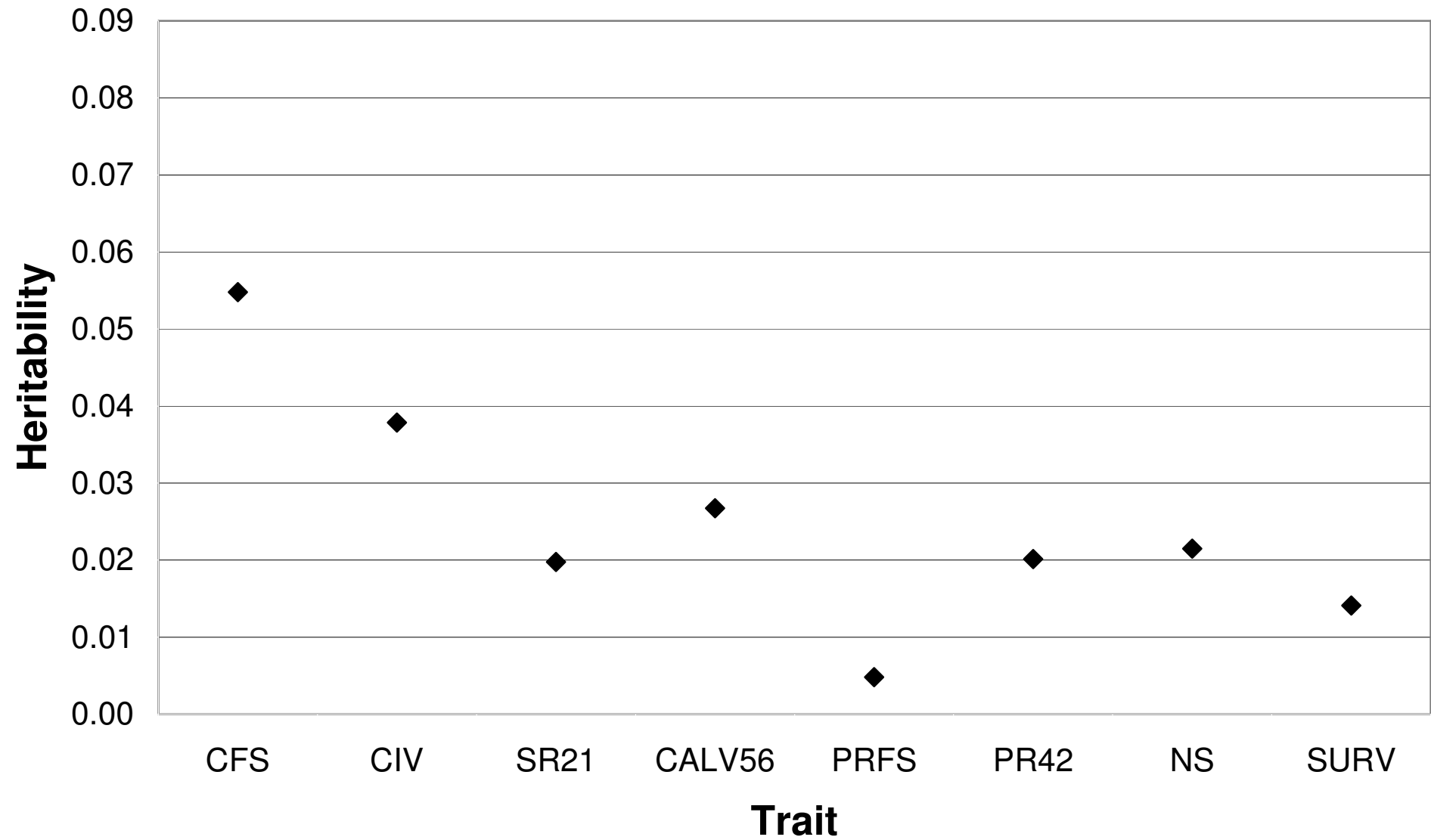
Objective

- To determine the usefulness of the insemination data to help in the editing of calving interval and generate “new” fertility traits either as goal traits or predictor traits

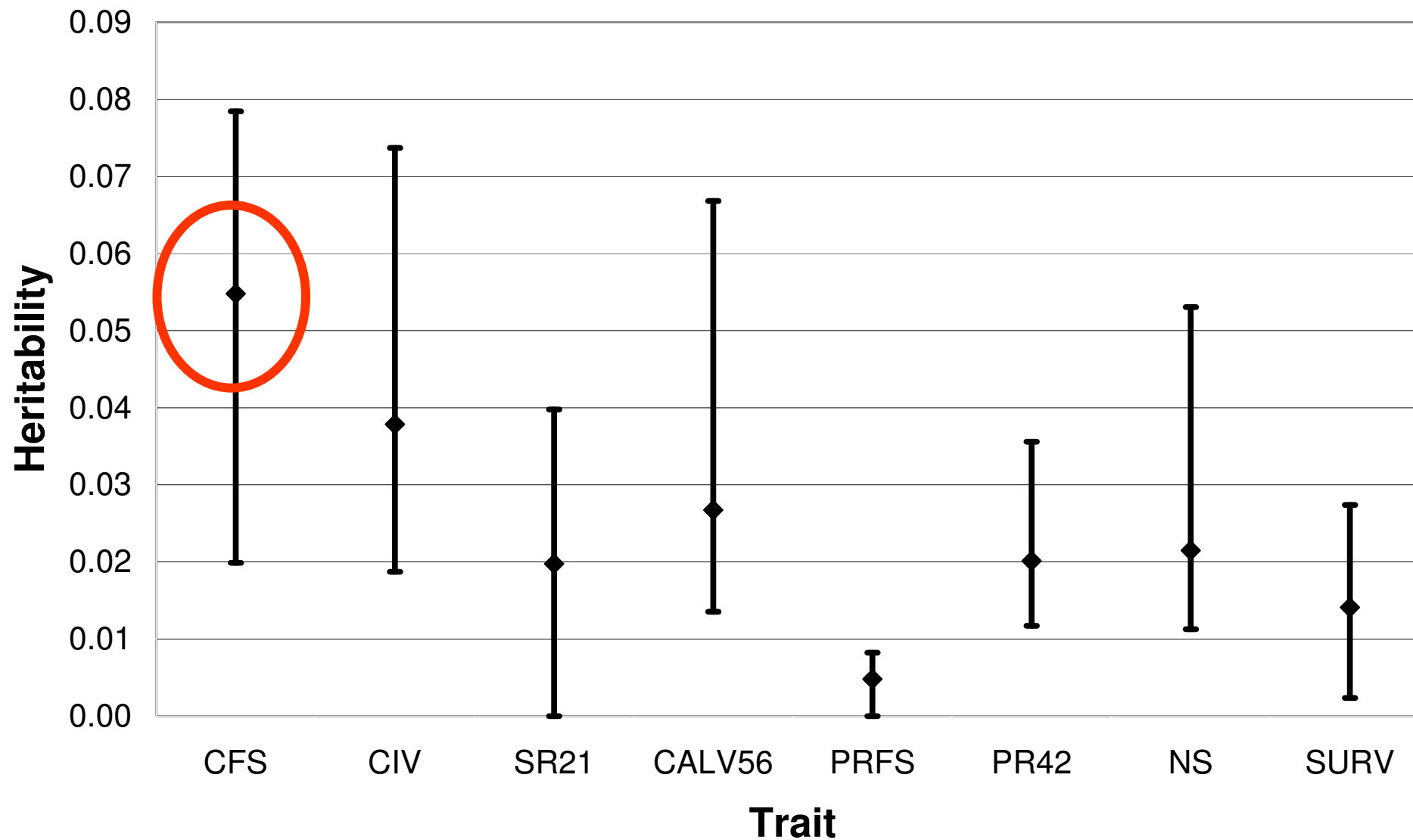
Data and traits

- **Years 2005 – 2007**
- **875,106 AI and natural services**
- **128,141 pregnancy diagnoses**
- **Interval traits (CIV, CFS)**
- **Binary traits (CALV42/56, PREG42/56, SR21/24/42/48, PRFS, NR56)**
- **Count traits (NS)**

Heritability



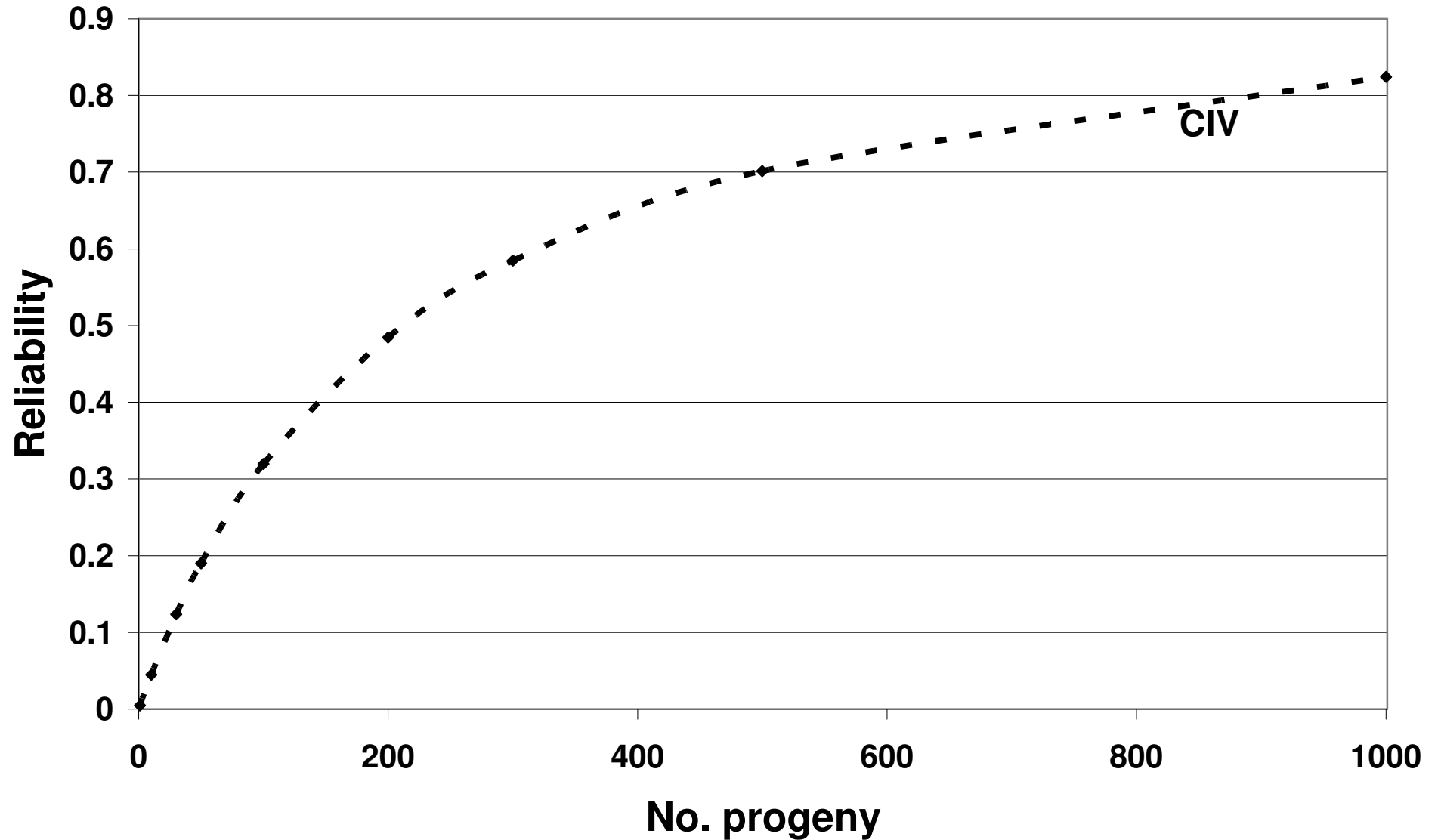
Heritability - variation



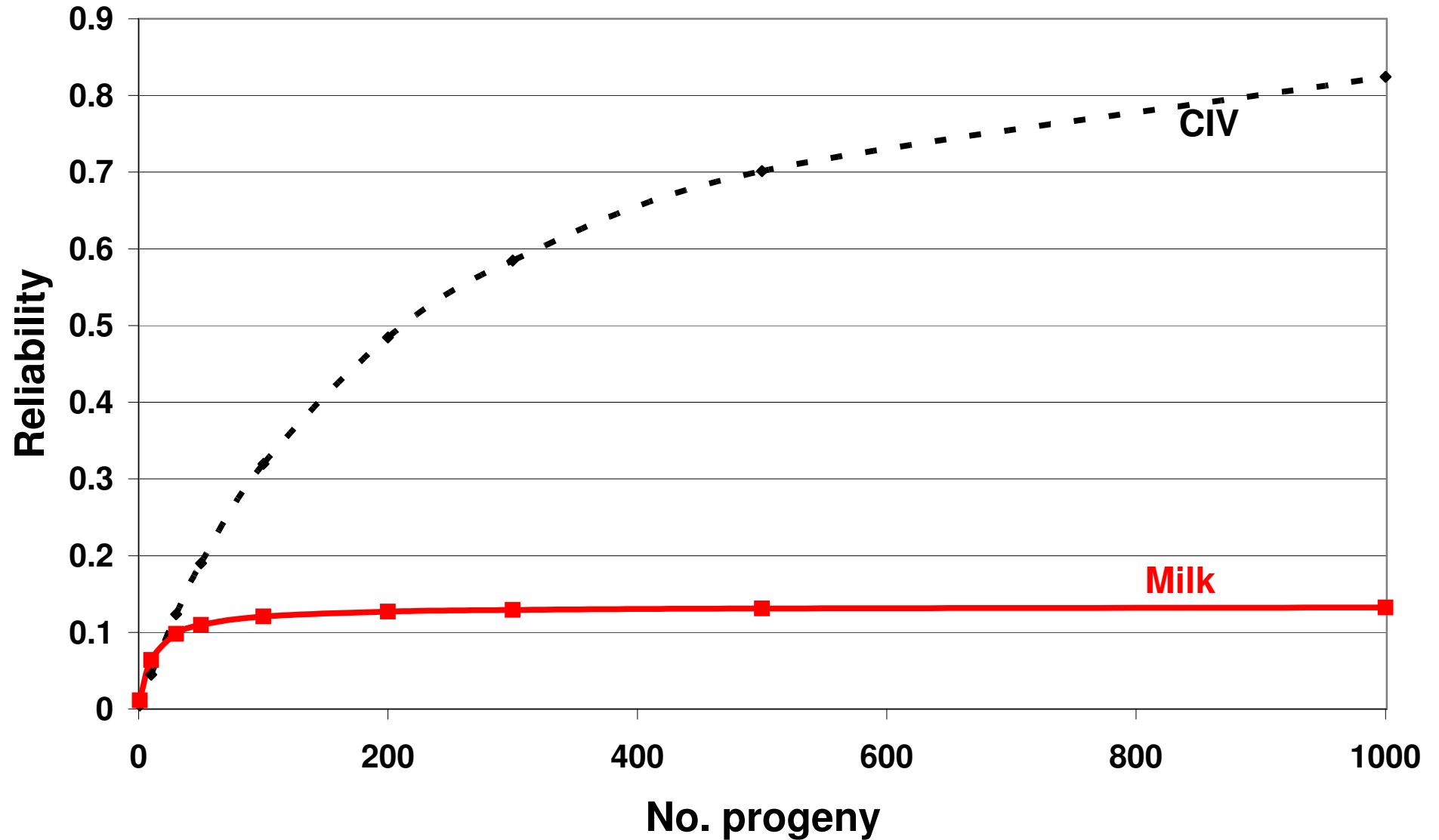
Genetic correlations

		CIV		
Parity		1	2	3
CFS	1	0.66	0.48	0.35
	2	0.27	0.76	0.29
	3	0.79	0.88	0.49

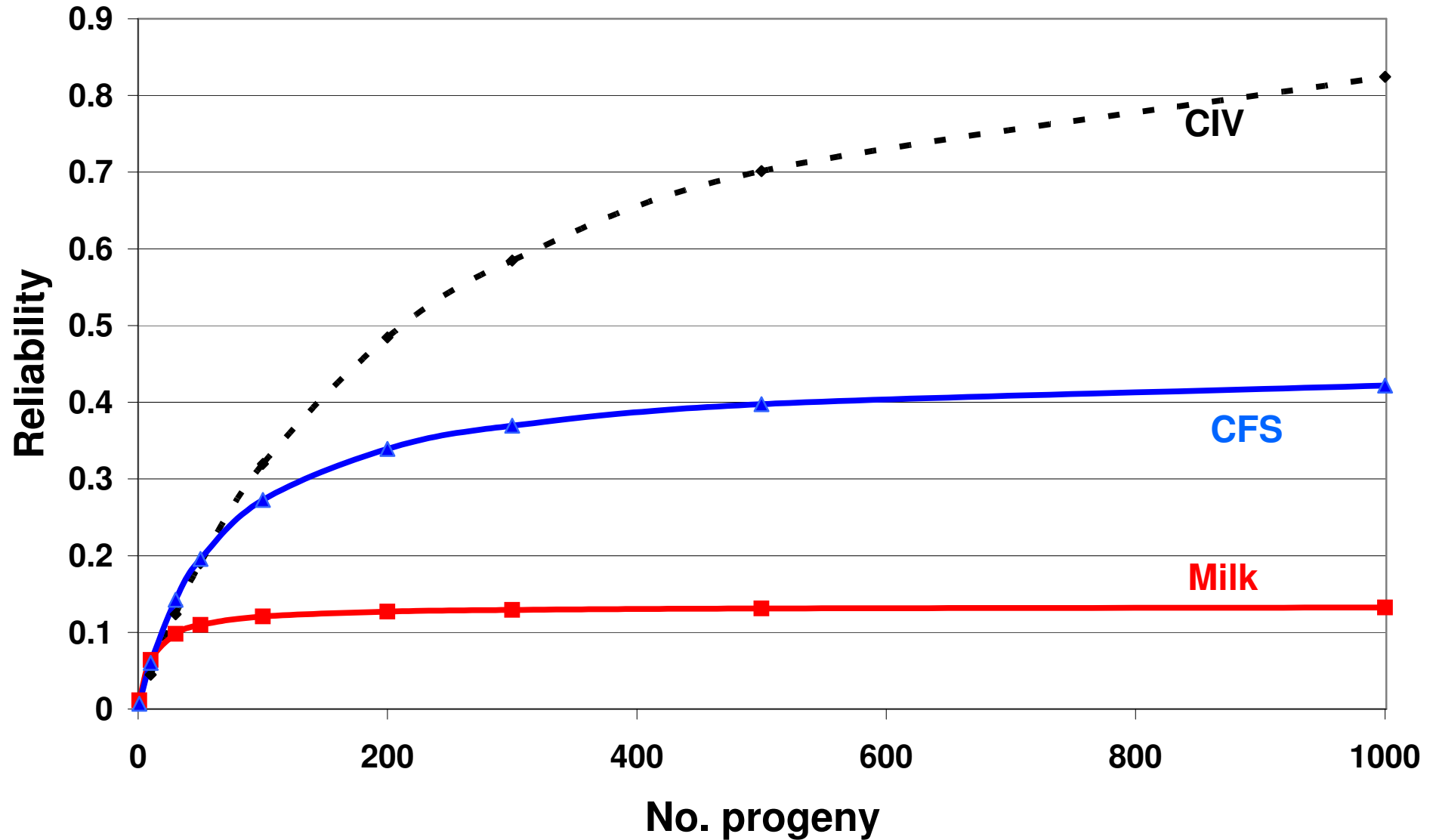
Reliability of calving interval



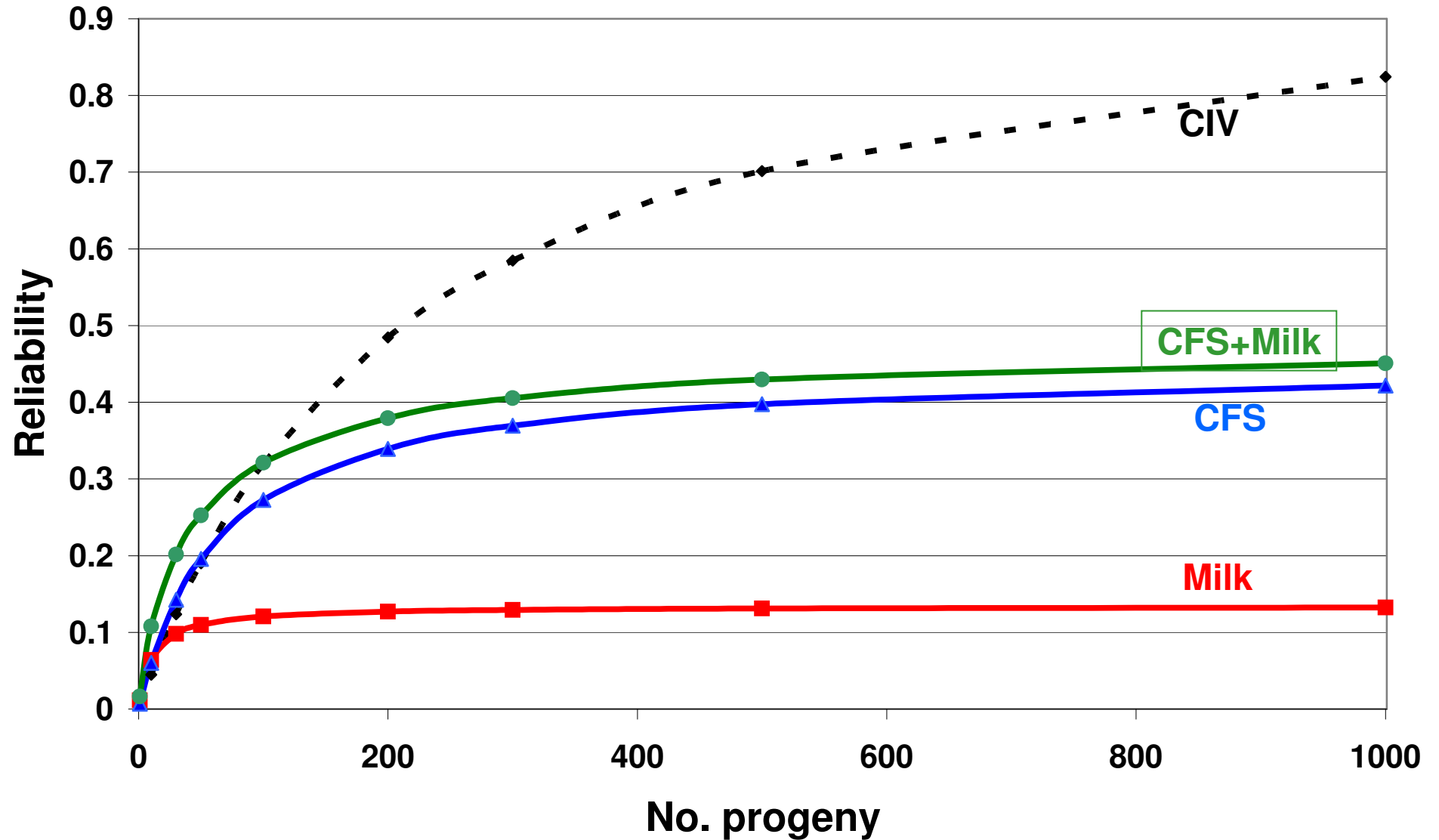
Reliability of calving interval



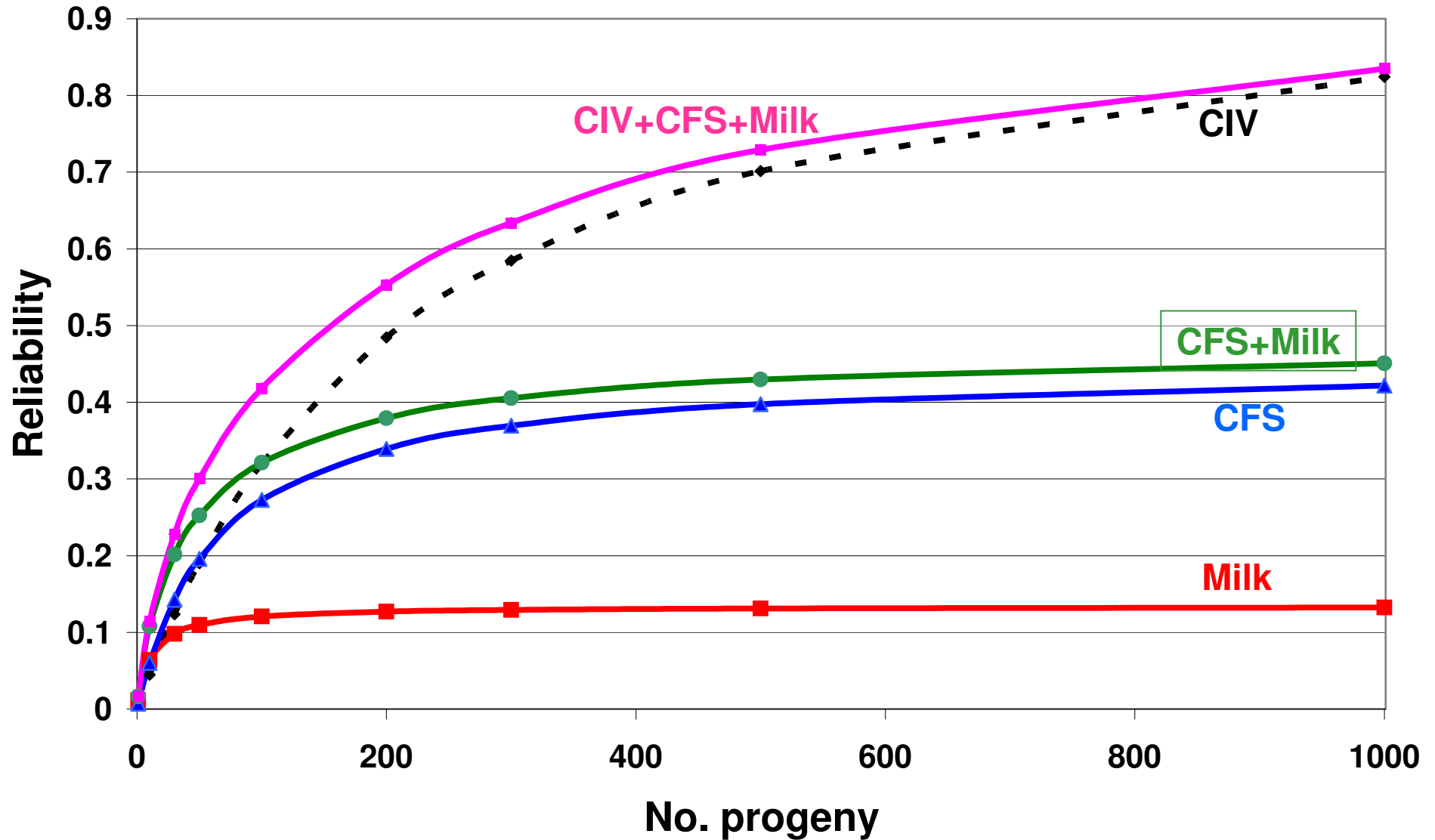
Reliability of calving interval



Reliability of calving interval



Reliability of calving interval



Conclusions

- **Difficult to derive some fertility traits such as CALV56 or PR42**
- **Some fertility traits are heritable and correlated with calving interval**
- **Seems to be a benefit of using CFS as an early predictor of calving interval**
 - **Must look at across parities**