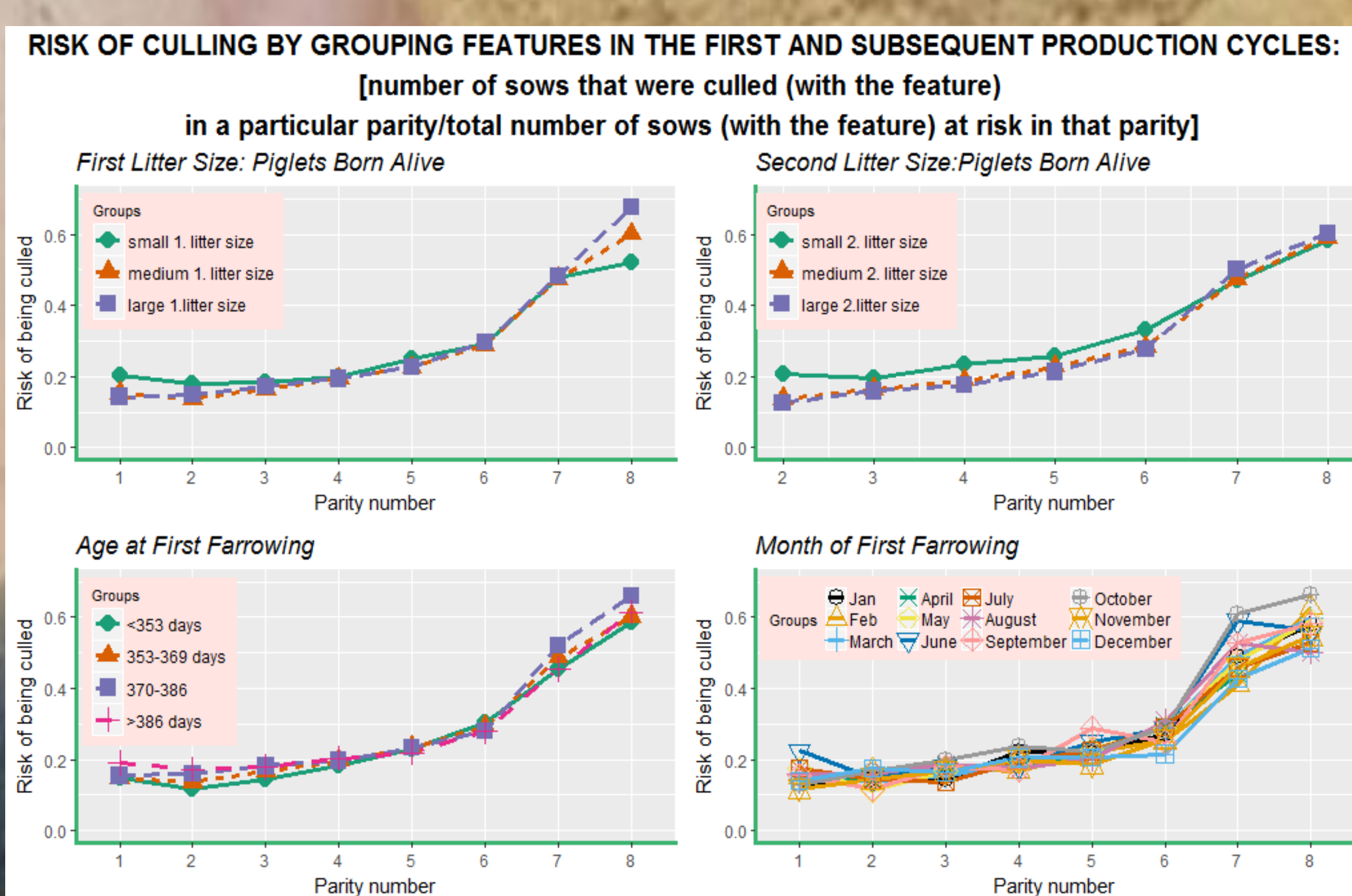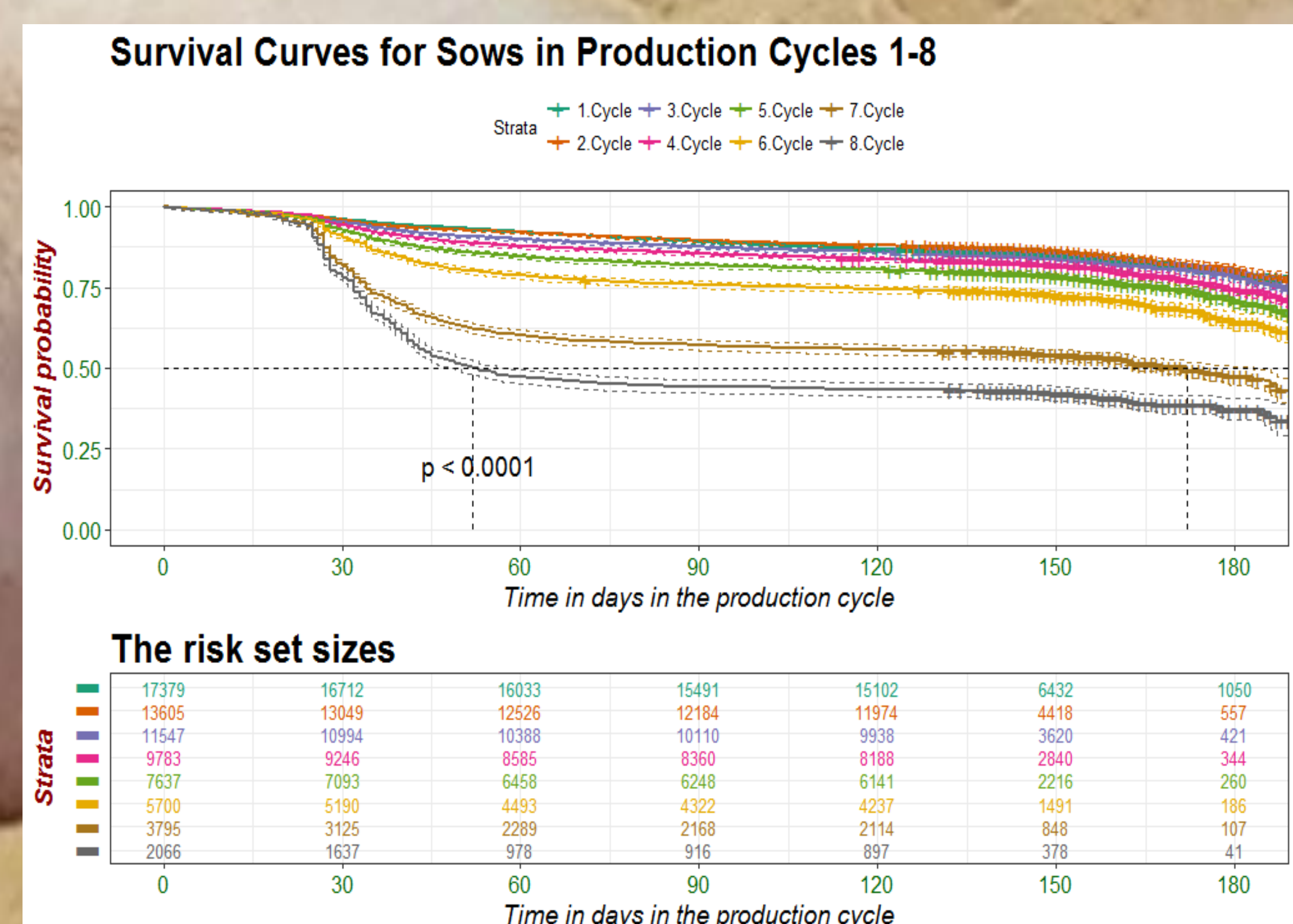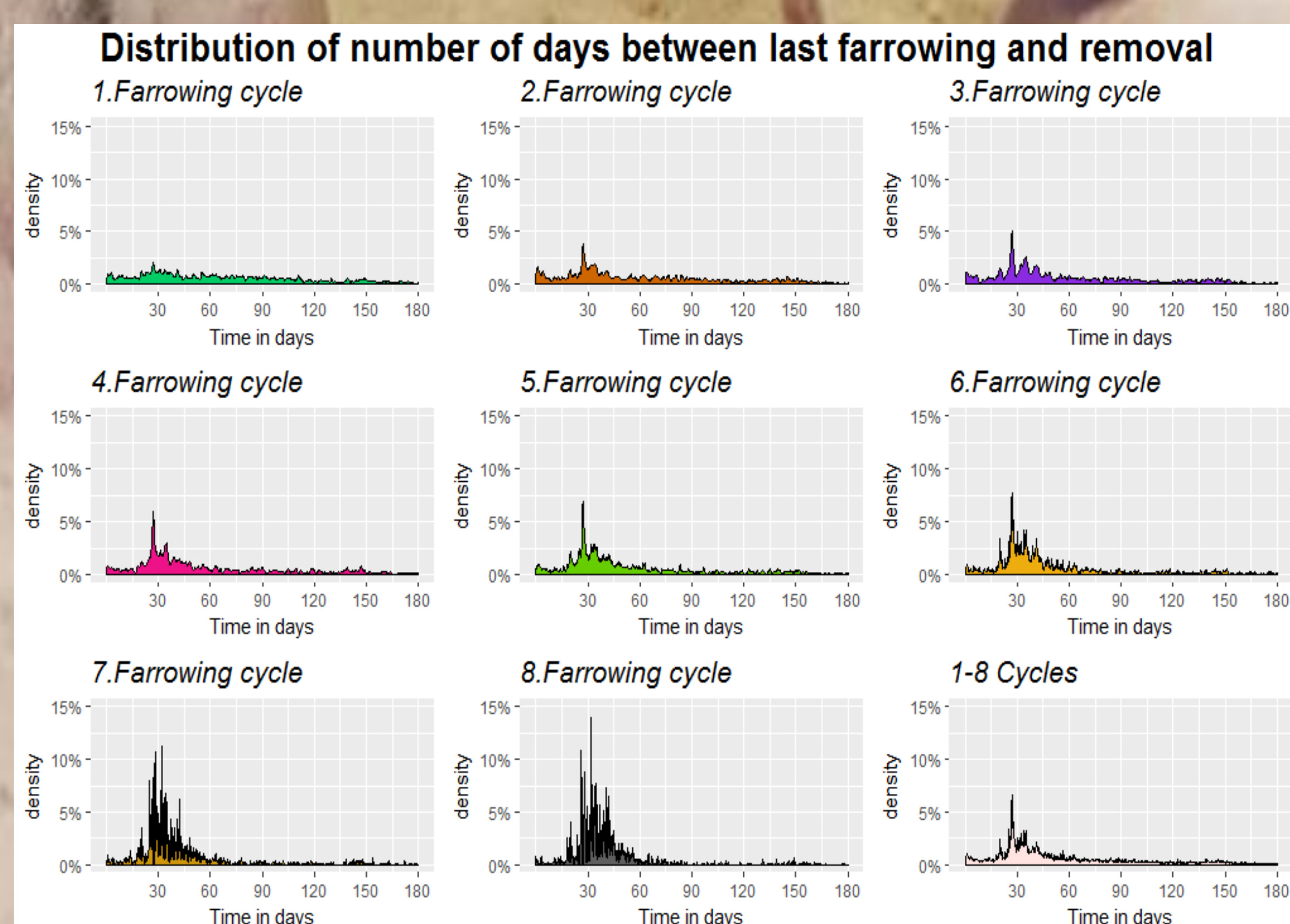# FACTORS AFFECTING SOW REMOVAL IN COMMERCIAL FARMS

- AN OBSERVATIONAL MULTILEVEL ON-GOING STUDY

The purpose of our project is to improve understanding of the links between sow performance, health, removal and socioeconomic decision making across piglet producing systems. Firstly, we describe the removal patterns by production cycle, and secondly, in separate studies, we estimate the effects of both production features and clinical findings on the probability of being culled in Finnish sows.

For the initial analyses altogether 71 512 production cycles commencing between July 2013 and June 2014 from sows in 88 herds was extracted from electronic herd management databases. For the subsequent study sow level health data was collected during 45 farm visits between February and October 2014, and merged with performance and removal records yielding a dataset of 2210 complete cases.

Distribution of number of days between last farrowing and removal

Survival Curves for Sows in Production Cycles 1-8

The risk set sizes

17379	16712	16033	15491	15102	6432	1050
13605	13049	12526	12184	11974	4418	557
11547	10994	10388	10110	9938	3620	421
9783	9245	8585	8360	8168	2840	344
7637	7093	6458	6248	6141	2216	260
5700	5190	4493	4322	4237	1491	186
3795	3125	2289	2168	2114	848	107
2066	1637	978	916	897	378	41

RISK OF CULLING BY GROUPING FEATURES IN THE FIRST AND SUBSEQUENT PRODUCTION CYCLES: [number of sows that were culled (with the feature) in a particular parity/total number of sows (with the feature) at risk in that parity]
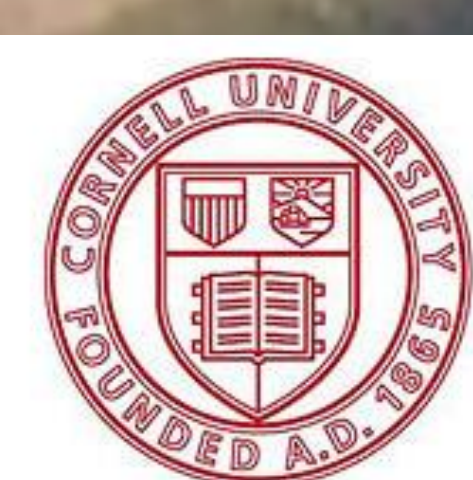
The different probabilities of removal dependent on the characteristics can be estimated as absolute risks for all production cycles. Furthermore, the developed generalized linear mixed Poisson models and parameter estimates provide a tool for calculating the risks at any given period and feature combination.
The results can be used as benchmarks for further development and update of economic models.

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