

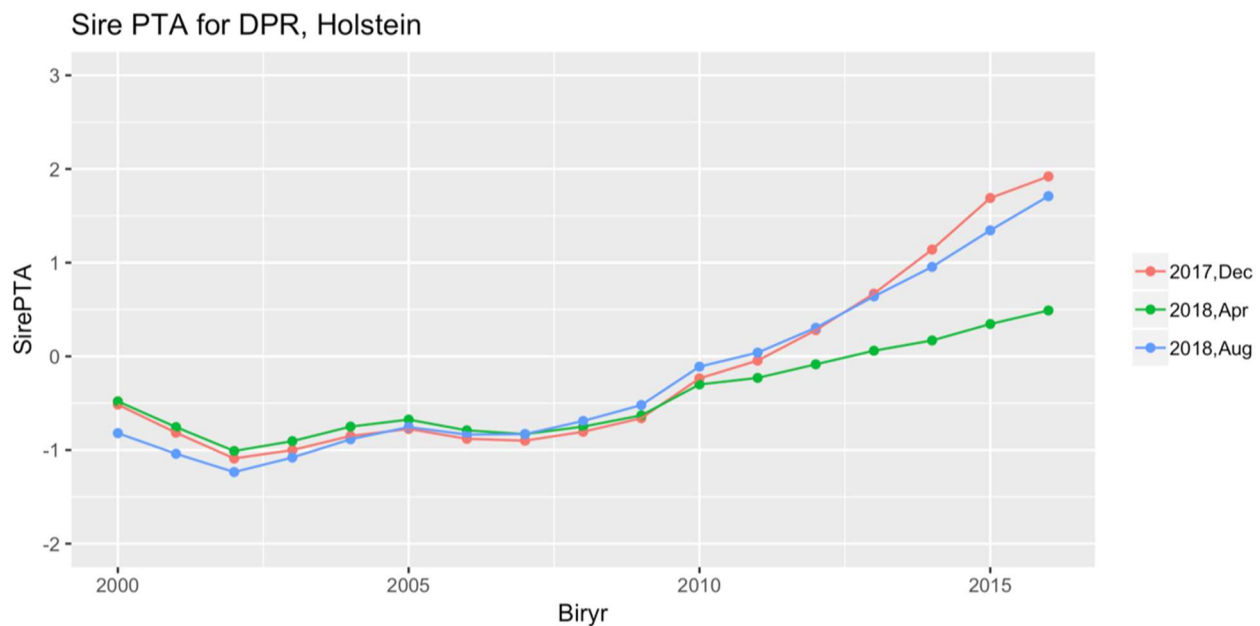
For fertility traits, a larger-than-expected variation was observed with the April 2018 evaluations, primarily due to changes in bulls' traditional PTAs. In previous runs, some top animals had unexplained increases or decreases averaging about 0.5 in Daughter Pregnancy Rate (DPR), but in April the variation reached 1.5 for some of the top recently-proven bulls. Younger animals appear to have larger variations, likely due to extrapolation of the SNP effects. Despite the shift in the mean for recent years, the rankings of individual animal remained fairly stable across runs.

CDCB and AGIL staff investigated the cause of this undesirable variation. Much of the recent fluctuation in current bulls apparently was due to the method of accounting for year-groups. Animals were assigned into five-year groups, but when additional years became available the strategy used for obtaining group means for the additional years produced evaluations with lower accuracy than needed. The revised evaluation model will still include year-groups, but they will be defined differently. Incorporated into the model will be age groups (individual months from 15 to 60 plus groupings beyond) in addition to the five parities (lactation numbers) within year group.

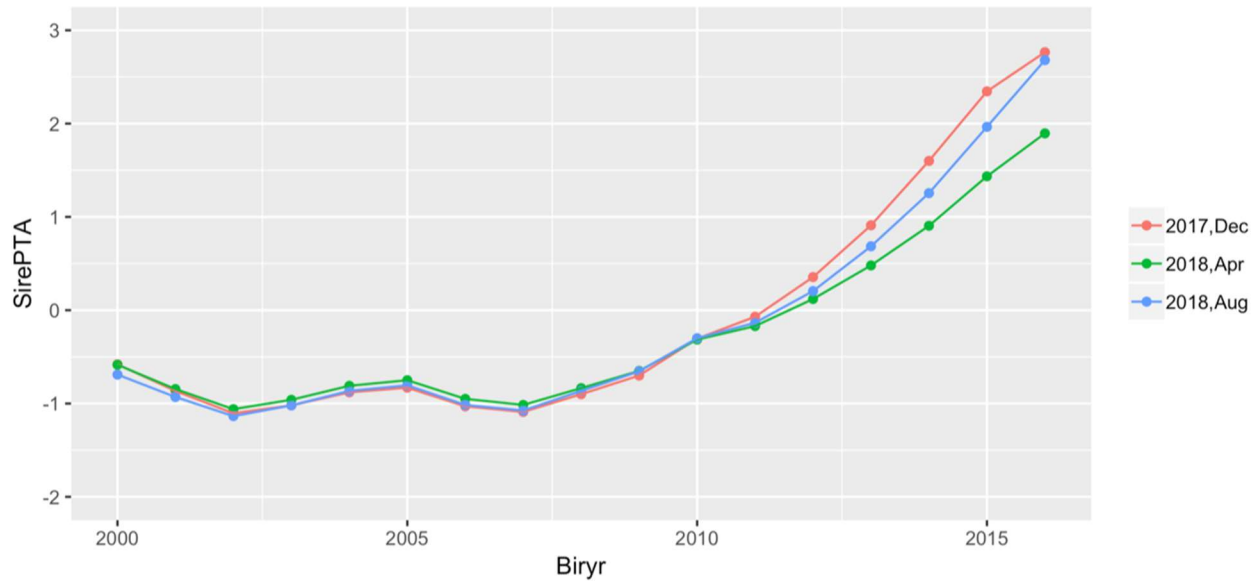
When tested, the new model produced DPR evaluations for current bulls that compared more favorably with those from December 2017. The new model shows that the long-term deterioration in fertility was less than estimated in the past. Impacted by the genetic trend estimates, the PTA for DPR of many young bulls will be closer to the PTAs from December than April. An exception to these improvements is the trend in Cow Conception Rate (CCR) for Jersey bulls.

The charts below demonstrate the DPR and CCR genetic trends for Holstein and Jersey bulls having birth dates since 2000, comparing the previous model and the revised model.

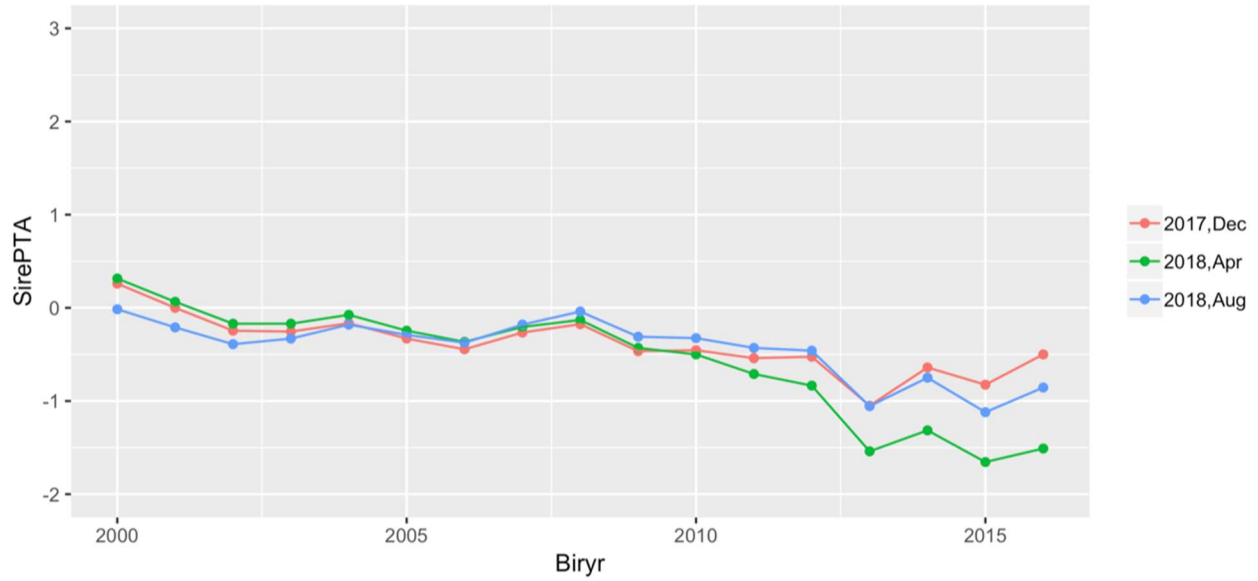
Further improvement to the model will continue to be investigated.



Sire PTA for CCR, Holstein



Sire PTA for DPR, Jersey



Sire PTA for CCR, Jersey

