

QTL for female fertility in Nordic Holstein cattle

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Objective

Detect and confirm QTL for female fertility

Conclusion

We detect several QTL for multiple female fertility traits where many could be confirmed from a previous study

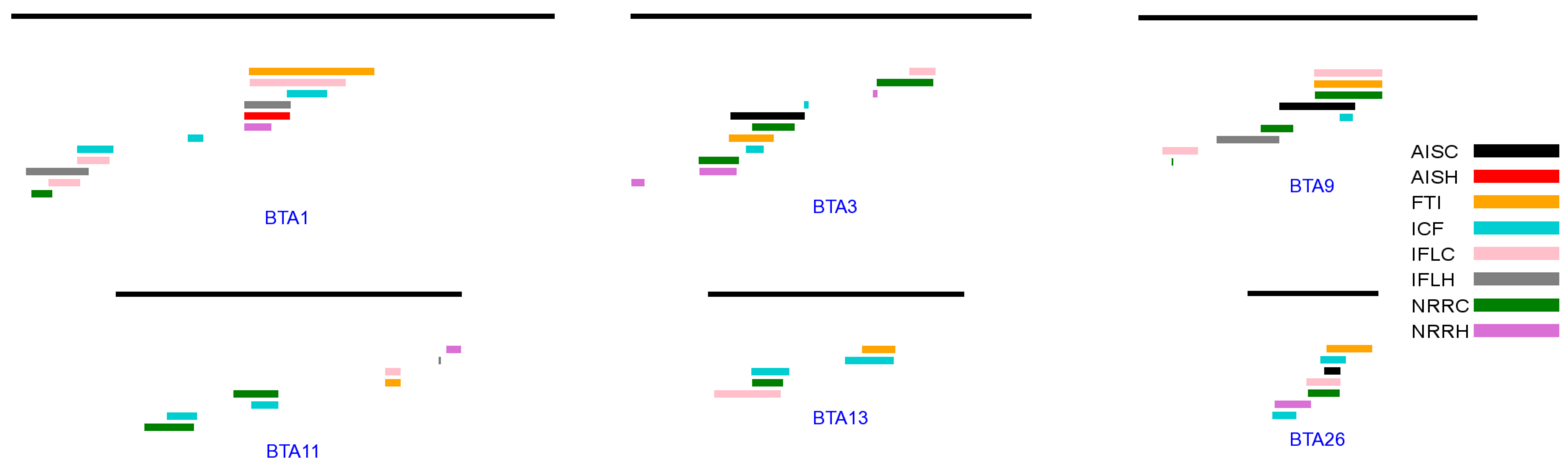
Results



- We identify 108 QTL in total
- 24 QTL have effects on multiple traits

- In 41% of the cases at least 1 SNP from a comparing study fell within our defined QTL

Detected QTL in our study



Method

- Genome-wide association mapping, significance by genome-wide Bonferroni correction
- Linear regression model, response variable: Sire-model Estimated Breeding Value

Materials and phenotypes

- 38,545 SNPs
- 3,475 sires with phenotypes for 8 female fertility traits (C:cows, H:heifers)
 - 56 day non-return rate (NRRC/H)
 - Calving to first insemination (ICF)
 - Time from first to last insemination(IFLC/H)
 - Number of inseminations(AISC/H)
 - Fertility index (FTI)

The traits reflect showing heat and ability to conceive