Genetic analysis of cross- and intersucking in Austrian dairy heifers

Fuerst-Waltl, B.[1], Rinnhofer, B.[1], Fuerst, C.[2], Winckler, C.[1]

[1]University of Natural Resources and Applied Life Sciences (BOKU) Vienna, Austria
[2]ZuchtData EDV-Dienstleistungen GmbH, Vienna, Austria

University of Natural Resources and Applied Life Sciences Vienna

What is cross- and intersucking?

- Abnormal behaviour in cattle
- **Cross-sucking**: Sucking any body part in calves
- **Intersucking**: Sucking udder or udder area in heifers and cows
- Reported in different dairy breeds

Reasons for this behaviour

- **Environmental effects**: e.g. housing, management, feeding, …
- **Internal effects**: e.g. age, individual coping mechanisms
- **Genetic effects??? Not studied so far!**

Questionnaire

- Sent out to 4,300 performance recording farms of all breeds in Lower Austria
- 2,244 returned both parts of questionnaire:
  (1) general information: e.g. is sucking a problem?, housing and feeding, …
  (2) identification of calves and heifers

Restrictions and trait definition

Restriction to main breed Fleckvieh, females aged 21-700 days, less than 25% Red Friesian; after further editing N=13,332 in 1,222 farms
Sucking: Animals either inter- or cross-sucking recorded as 1, otherwise as 0

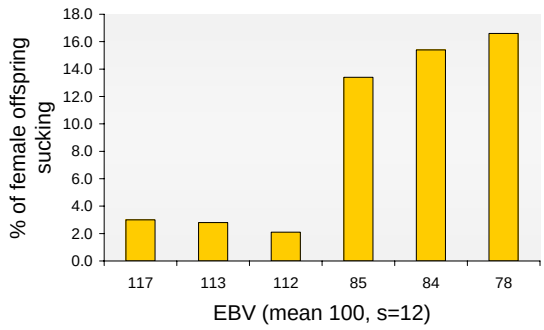
Summary

- **66% of asked farmers (all breeds) have low to severe problems with abnormal sucking**
- **8.6% of analysed female calves and heifers were observed/known sucking**
- **Heritability 0.116 (Threshold sire model)**
- **2.1-3.0% and 13.4-16.6% of three best and worst (EBV) sires' offspring recorded sucking**
- **Reasonable genetic variability of sucking exists, trait could be used as selection criterion**

Genetic analysis

- **Threshold sire model** (ASReml)
- **Effects**: Herd*Year*Season (random), sire (random)
- **Estimated heritability**: 0.116 ± 0.041

Percentage of offspring reported inter- or cross-sucking for the three best and worst sires having more than 100 offspring (EBV, relative breeding value; mean = 100, s = 12)



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Austrias main breed Fleckvieh (dual purpose Simmental) – photos by Kalcher (right and middle) and KeLeKi (left)