Correlations between health and performance traits in Vorderwaelder and Fleckvieh cattle

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Outline

1. Introduction
2. Material
3. Results
4. Conclusion

Material

GMON: Recording of the (official) receipt diagnosis of veterinarians

- → benefit for farmers: management tool
- → benefit for breeders: perfomance test → new health traits and breeding values

OCB: Observations close to birth

- → based on farmer-observed health data
- → voluntary statements
- → many informations: 1.4 million calvings since 2012

Material

GMON:

- Early reproductive disorders (EREPRO)
- Mastitis (MAST):
- Cystic ovaries (CYST)
- Milk fever (MF)
- Ketosis (KET)

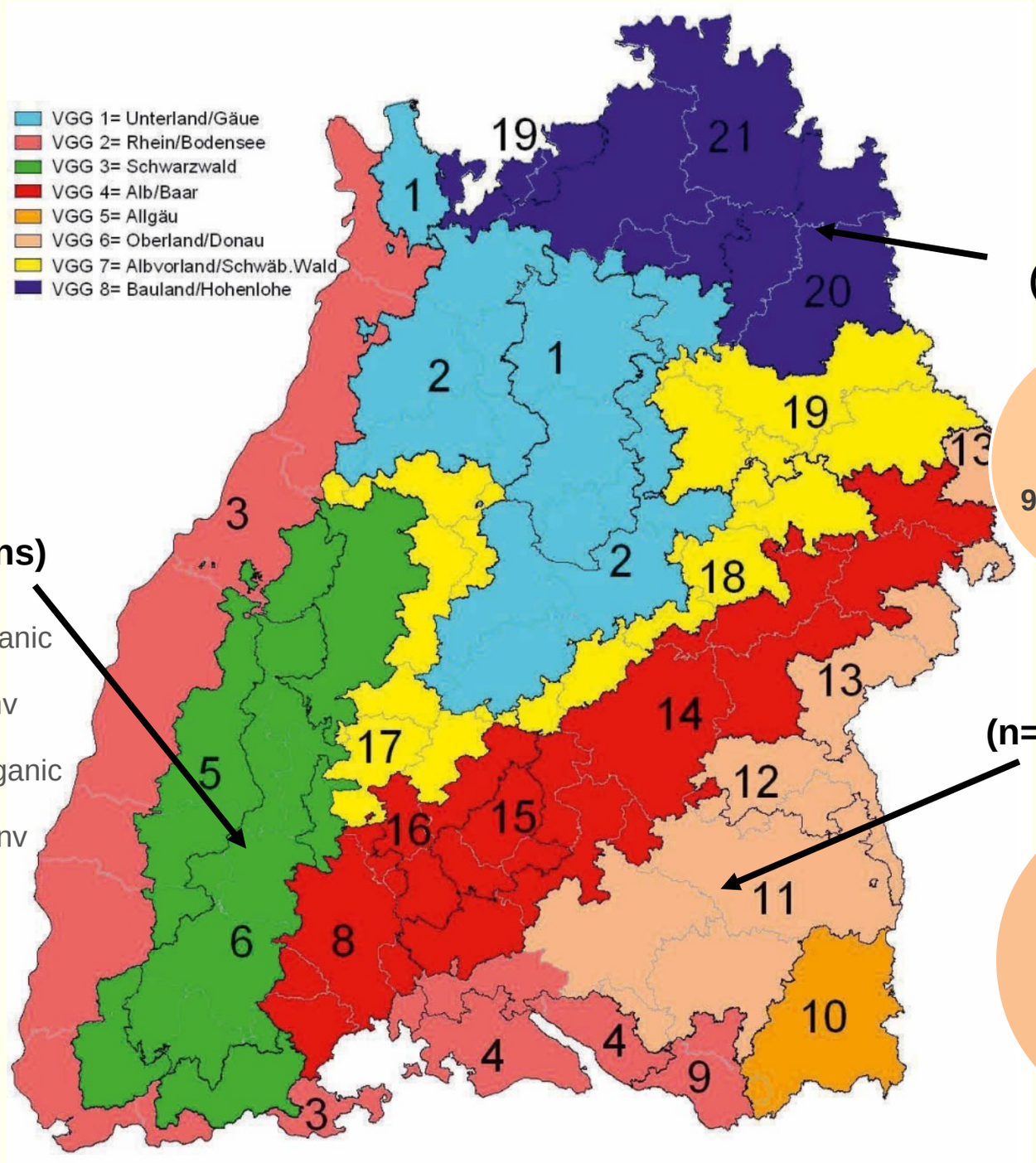
Material

Observations close to birth (OCB):

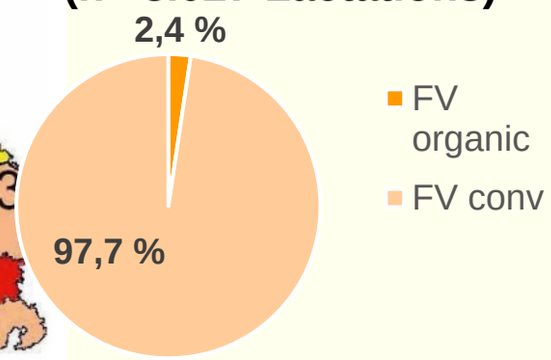
- **Retained Placenta**
- **Downer cow syndrome**
- **Umbilical hernia**

Herkunftssicherungs- und Informationssystem Tier (HIT)

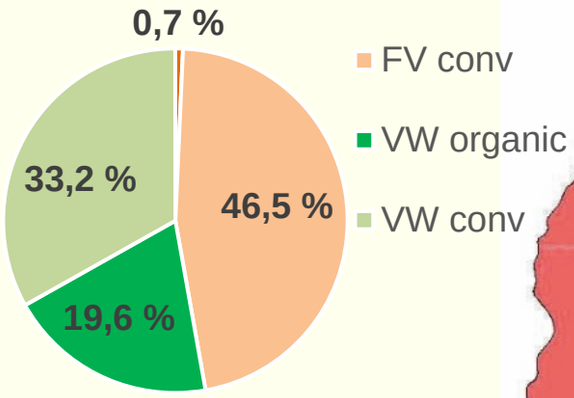
Material



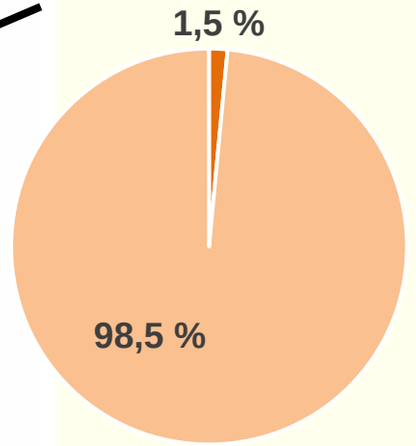
Hohenlohe/Bauland
(n= 8.027 Lactations)



Schwarzwald
(n= 4.561 Lactations)



Oberland
(n= 14.913 Lactations)



FV organic FV conv

VW=Vorderwaelder, FV=Fleckvieh

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Material

Fleckvieh:

- most common breed in BW
- supra-regional
- first breeding values for health traits in 2013 (in BW)

Vorderwälder:

- local breed
- only in the Black Forest region
- no breeding values for health traits yet
- known as robust cattle

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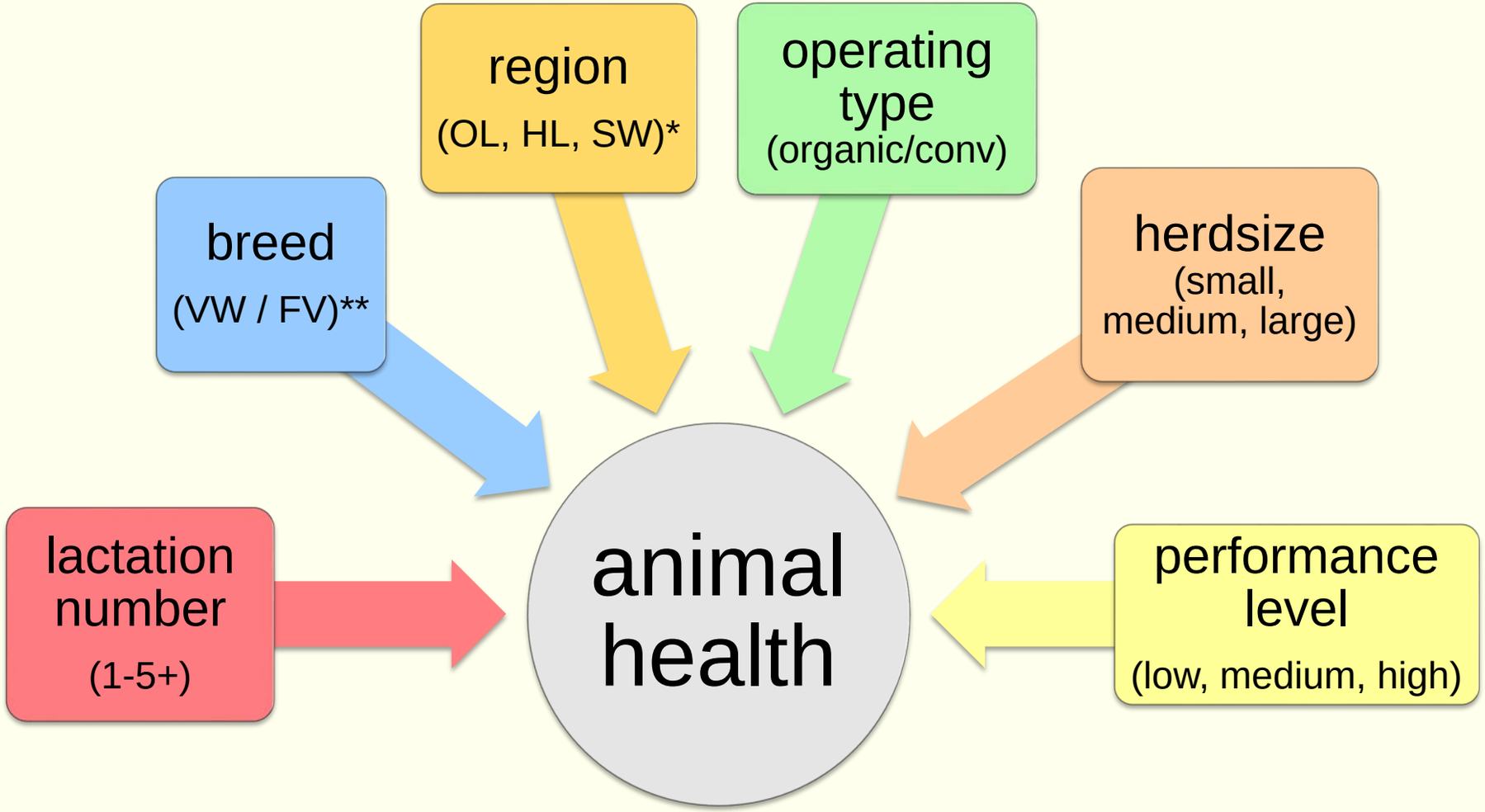
Material



*** OL=Oberland, HL=Hohenlohe/Bauland, SW=Schwarzwald; **VW=Vorderwaelder, FV=Fleckvieh**

Questions (with focus on situation in Baden-Württemberg):

1. Can observations close to birth (OCBs) be combined with GMON data?

2. What factors do influence health traits?

3. How are health traits correlated to performance traits?

Results

1. **Combination of GMON and OCB**

- **Complement is possible**

    - **consistent trait recording**
    - **high positive correlations between traits**
    - **improving of data quality**

Results

2. Significant influence factors

- **Robustness of Vorderwälder cattle could not be confirmed**
- **No effect of region, except for ovarian cysts**
- **Increasing lactation number → increasing disease frequency**
- **Ecological operating farms → lower disease frequency**
- **Increasing herdsize → decreasing disease frequency**
- **Perfomance level → no clear trend**

Results

3. Genetic parameters

- **Heritabilities for health traits low and as expected**
- **Unfavourable correlation between fertility, metabolism and performance traits**
- **Partial positive correlations between diagnoses and lifetime production and effectiveness**

Conclusion

Observations close to birth → **valuable new source**
→ **encouragement of farmers**

Vorderwälder: Amout of data not sufficient for breeding value evaluation yet

Use of auxiliary traits like the infra-red spectrum

Acknowledgement:

LKV Baden-Württemberg

Thank you for your attention!

Material

Trait definition

- Early reproductive disorders (EREPRO):

  metritis, retained placenta, puerperal disorders, cullings due to fertility problems

  30 d after calving

- Mastitis (MAST):

  acute + chronic mastitis, cullings due to udder health problems

  10 d before – 150 d after calving

Material

Trait definition

- Cystic ovaries (CYST)

  30 d – 150 d after calving

- Milk fever (MF)

  milk fever diagnoses + cullings due to metabolic diseases

  10 d before – 10 d after calving

- Ketosis (KET)

  no breeding value established

  very important metabolic disorder