Possibilities to improve temperament with AMS data

NAV workshop

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Supported by Danish Holstein

What is temperament?

Cow is calm when putting on milk machine and during milking – less work

– not affected by udder shape and teats

Cow is calm when handling in barn

What is the goal?

- Stop asking for farmers opinion
  - Time consuming
  - Data quality in large herds – still good!!
- Better measure – better expression of economic value

Could other data sources give more value?

Data from AMS

- 1st lactation Holstein cows
- Data from 0-100 dage after calving
- Only Lely C3
- Deletion if conductivity is high – indicate mastitis
- 2 temperament variables
  - Time from 1. to last teat cup is attached (AttTime)
  - Number of times AMS tried to put on teat cups (NoAtt) - calculated from codes
  - Different time periods defined

Basic statistics

	No	Average	STD	Min	Max
AttTime	12.589	41.5	16.6	12	157
NoAtt	12.350	1.66	0.67	1	10

Genetic model

- Calving age (fixed)
- Calving month (fixed)
- Distance from calving (fixed)
- Teat coordinates (fixed)
- Herd × Year (fixed)
- Animal (random)
- Residual

Heritabilities and genetic correlations
0-100 days in milk

Trait	AttTime	NoAtt	Temp
AttTime	0,26	0,80	-0,52
NoAtt		0,11	-0,41

Shorter time = fewer atemts

Shorter time = better temperament

Fewer atemts = better temperament

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Heritabilities and genetic correlations
0-100 days in milk

Trait	AttTime	NoAtt	Temp
AttTime	0,26	0,80	-0,52
NoAtt		0,11	-0,41
Milkflow	-0,19	-0,12	
Milk yield	-0,27	-0,38	

Shorter time = more milk

Shorter time = higher flow

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Nordic Cattle

Heritabilities and genetic correlations
0-2 days in milk

Trait	AttTime	NoAtt	Temp
AttTime	0,11	0,89	-0,31
NoAtt		0,14	-0,20

0-100 days in milk

Trait	AttTime	NoAtt	Temp
AttTime	0,26	0,80	-0,52
NoAtt		0,11	-0,41

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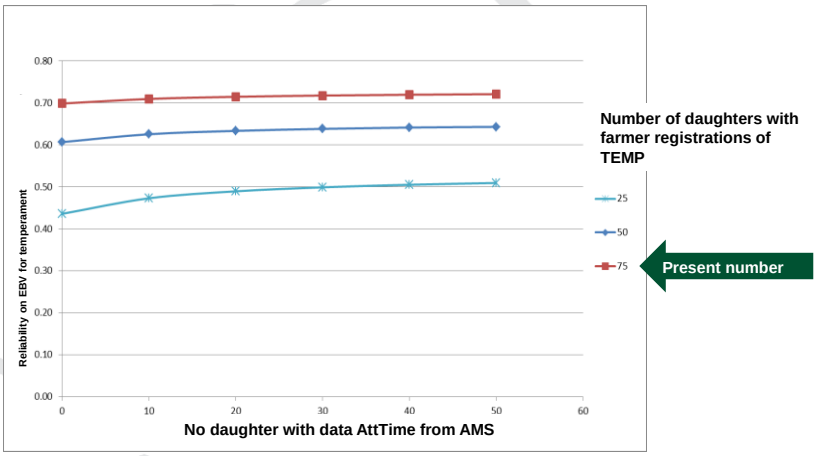
AttTime as correlated trait in evaluation for temperament



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Which way to go?

Assumption: Farmer evaluation is true breeding goal

Possible to drop farmer evaluation?

- AttTime do not describe all temperament
- Collect variables describing other parts of temperament
  - Kickoff during milking (DeLaval?)
  - Temperament - handling (hoof trimmer or classifier)

Possible to use AttTime as correlated trait?

- Not much extra value
- No AMS data from Finland and Sweden

Which way to go?

What is the true breeding goal?

- What has economic value?

Possible to have 2 breeding goal traits?

- AttTime
- Temperament when handling

BUT consider how many ressorces to invest

- collecting data, research ect.!