

Definition of breeding goals for dairy breeds in organic production systems

Quantification of organic preferences

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Aim

Investigate whether organic farmers prefer another weighting of traits in the breeding goal than calculated from an economic model

Including organic preferences

Weight in breeding goal = Economic value + Organic preferences



Economic model (Simherd)



**This study = survey
organic farmers**

Why survey to organic farmers?

- Economic models don't account for everything
 - Organic principles
- Create ownership
 - Ensure the breeding goal reflects farmers' requirements

The survey

- Web based contact via e-mail
 - General questions
 - Breeding goal
 - 1000Minds.com
- 161 farmers responded (51 % of total)
 - Danish Holstein: 106
 - Red Dairy Cattle: 29
 - Danish Jersey: 26

Questionnaire – breeding goal

- Pairwise comparison of two alternatives

Which of two alternatives do you prefer?

(Given they are identical in all other aspects)

Milk production +38 kg ECM per 305 days lactation	OR	Milk production As in your herd today
Mastitis As in your herd today		Mastitis 5.3 fewer cases per 100 cows
this one		this one
they are equal		

Changes have same economic value

Feed efficiency	0.010 kg ECM per feed unit
Milk production	38 kg ECM per 305 days lactation
Fertility, cows	39 Additional pregnancies per 100 inseminations
Fertility, heifers	11 Additional pregnancies per 100 inseminations
Calving difficulty	-8.2 Cases per 100 cows
Mastitis	-5.3 Cases per 100 cows
Diseases besides mastitis	-10.1 Cases per 100 cows
Leg and claw diseases	-13.5 Cases per 100 cows
Calf mortality	-12 Dead heifer calves per 100 cows
Cow mortality	-1.8 Cases per 100 cows years

Prioritizing all traits equally = no changes in economic values

Organic preferences higher weight

Fertility, cows	+24%
Milkproduction	+20%
Calf mortality	+14%
Mastitis	+10%

Weight in breeding goal = Economic value + **Organic preferences**

$$954 = 797 + 157 (20\%)$$

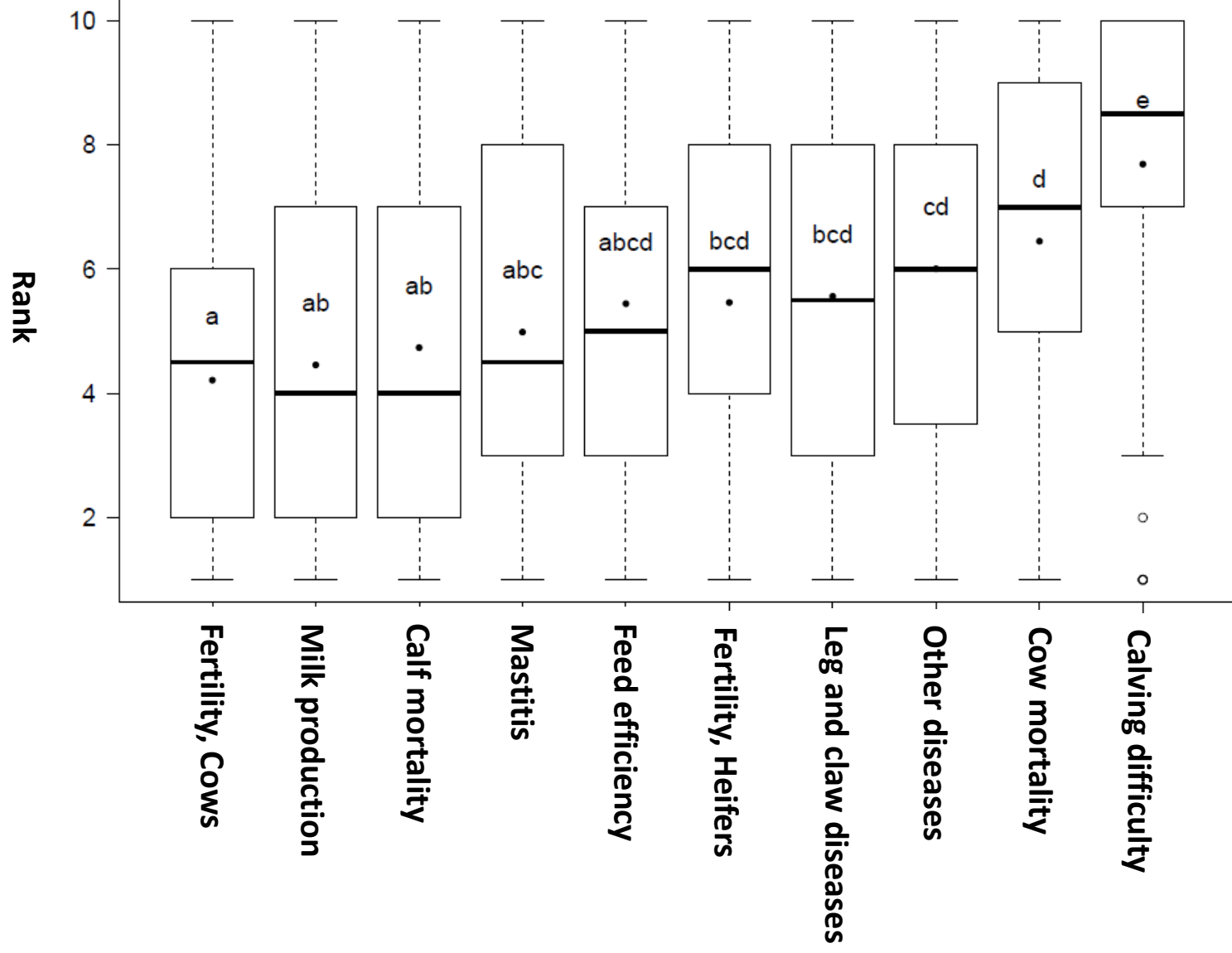
Organic preferences lower weight

Calving difficulty	-40%
Cow mortality	-17%
Diseases besides mastitis	-9%

Organic preferences same weight

Leg and claw diseases	-1.0%
Feed efficiency	0.1%
Fertility, heifers	0.1%

Ranking of traits



Summary of results

- Higher weights for cow fertility, calf mortality, mastitis and milk production
- Lower weights for calving difficulty, cow mortality and diseases besides mastitis
- Large heterogeneity among farmers

Further work

- Do answers represent a specific organic perspective?
 - Survey to all conventional farmers is initiated
- Investigate the consequences of chosen strategy
- Effect on genetic gain and rate of inbreeding for different breeding goals will be investigated in simulation studies
 - Survey
 - Organic principles
- Dialogue with farmers

Conclusion

**Do organic farmers prefer
another weighting of traits in the breeding goal
than calculated from an economic model?**

Yes

**Large changes in weights due to
organic preferences**