

# How to deal with persistency in the breeding goal

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**NAV**



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# Why interest in persistency?

- **Correlated to other important traits**  
yield  
fertility  
diseases  
longevity
- **Indirect economic importance**  
“Less expensive feed needed with flat lactation curve”

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# Alternative definitions of persistency or flat lactation curve

- Comparison of yield between early and late lactation

Differences: early-late or late-early

Ratios: early/late or late/early

- Other  
Comparison with standard curve  
Variation in test day yield within lactation

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# NAV-persistency definition

- **Comparison with breed average curve**
- **A high value indicates a more flat lactation curve**

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# Result of including NAV persistency in NTM based on NAV data shows that

- All important traits will get a lower genetic gain

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# Data used for the study

- **AI-bulls born 2003 to 2007**

**RDC            1149**

**HOL            2284**

- **Swedish cows born 2003 to 2007**

**RDC            248991**

**HOL            292681**

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# Alternatives for study the effect of NAV-persistency on NTM

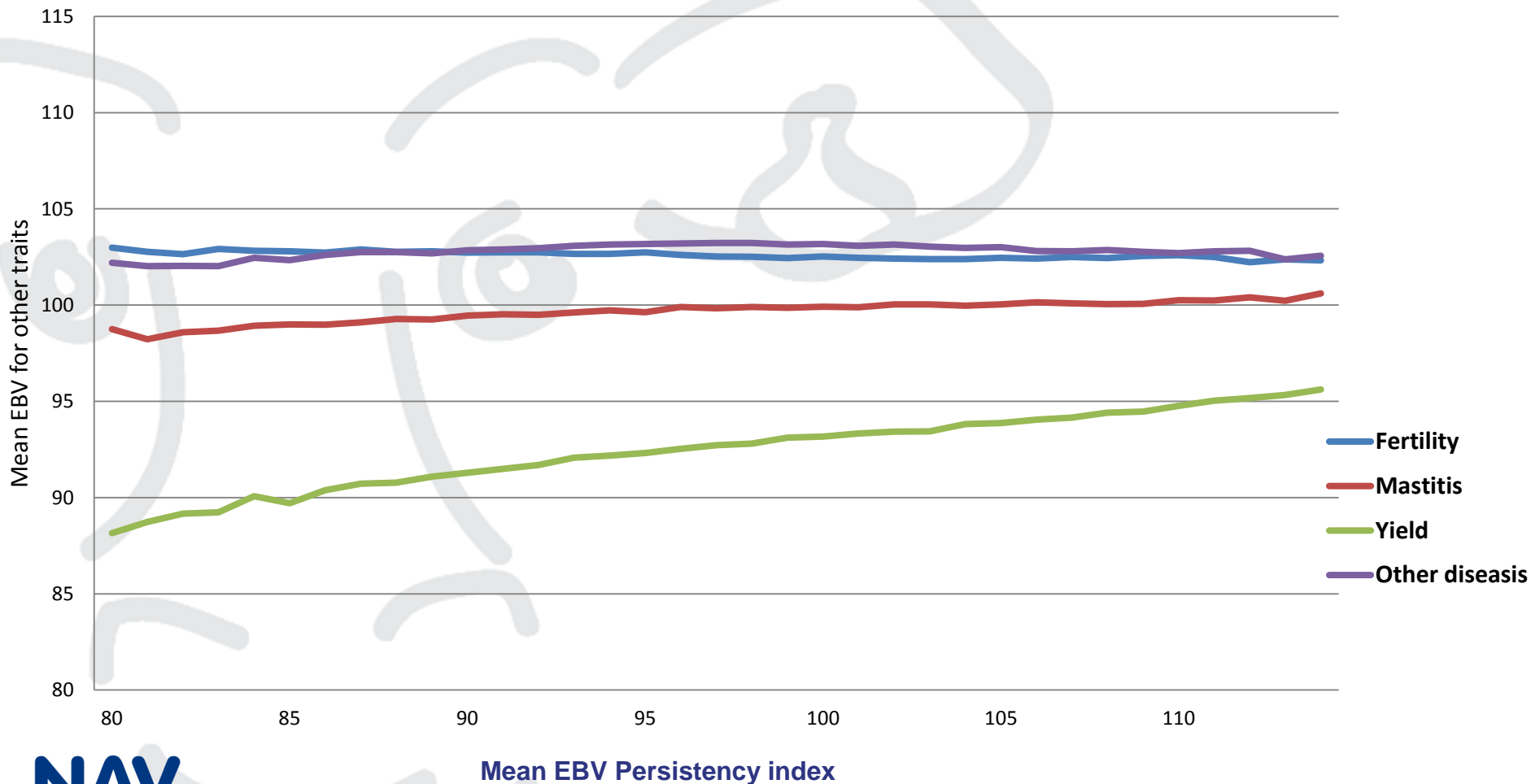
- Persistency EBV added to NTM with the weight

<b>0</b>	<b>NTM</b>
<b>0.2</b>	<b>NTM+P*0.2</b>
<b>0.4</b>	<b>NTM+P*0.4</b>

- The low or no economic weights are based on the study by Kevin Byskov, 2013

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# RDC cows, changes in mean EBV for Fertility, Mastitis, Yield and Other diseases by increasing persistency index



Mean EBV Persistency index

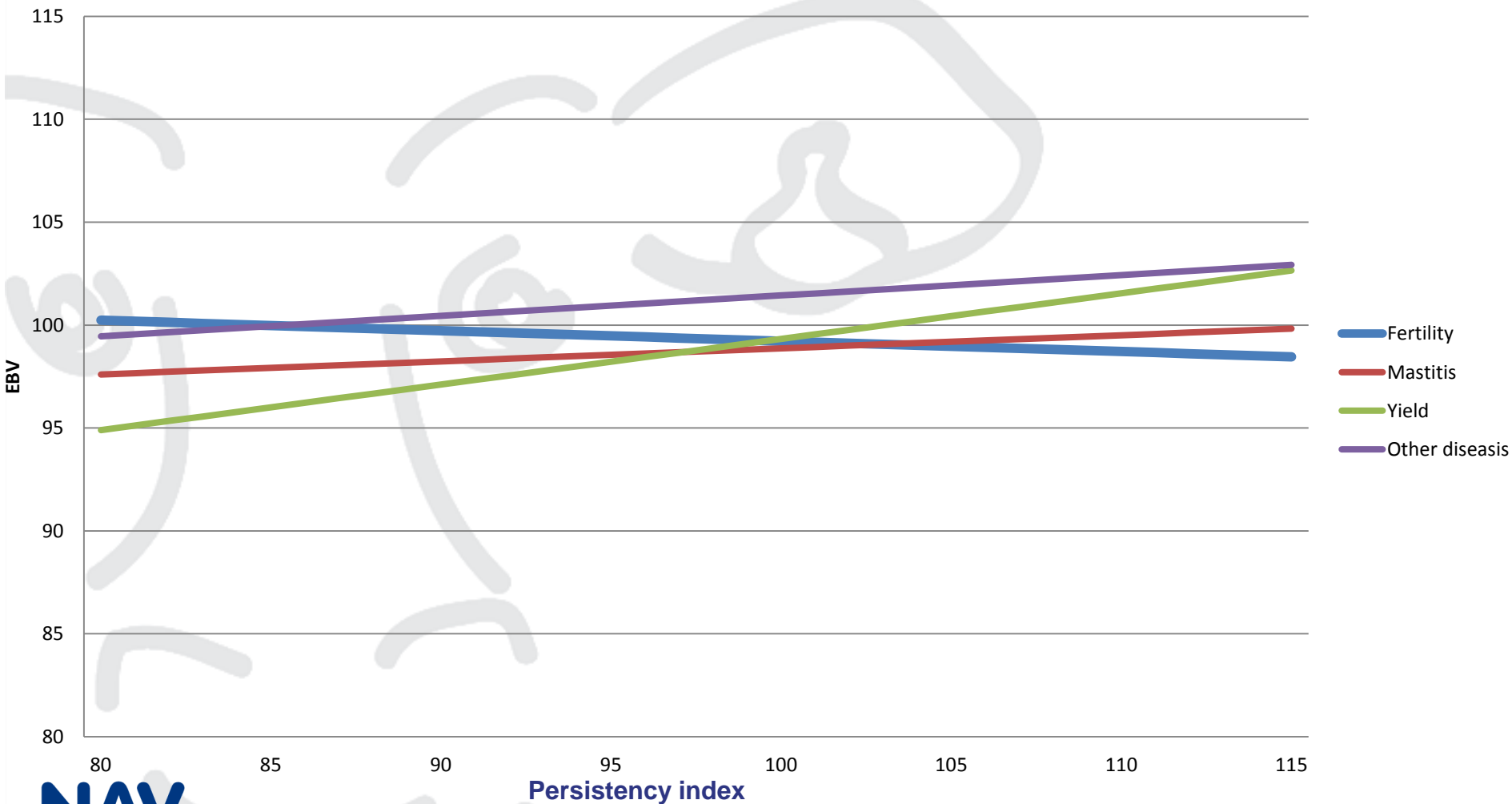


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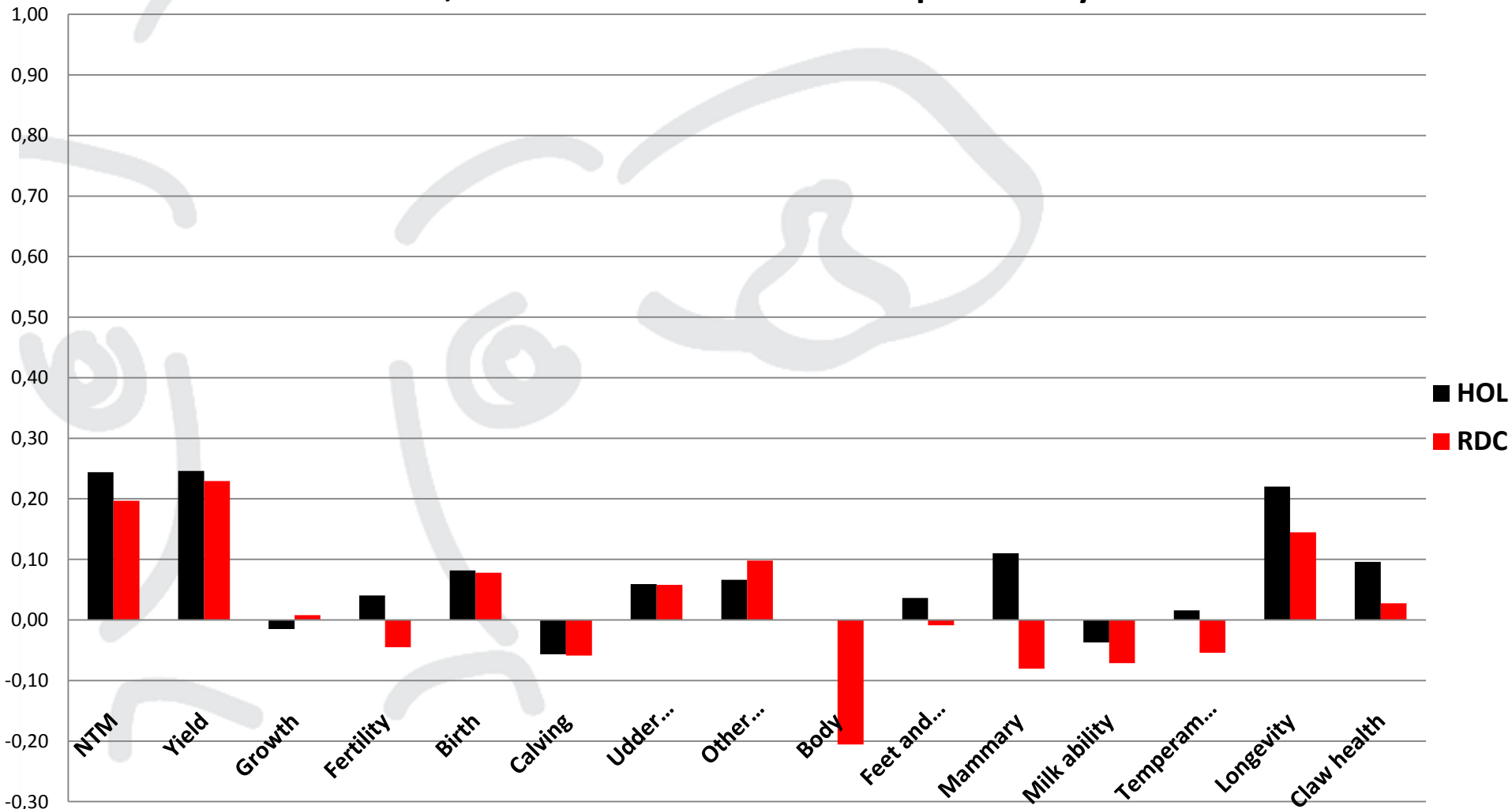
# RDC bulls, regression of EBV for Fertility, Mastitis, Yield and Other diseases by increasing persistency index



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## Bulls, correlation between EBV for persistency and NTM traits



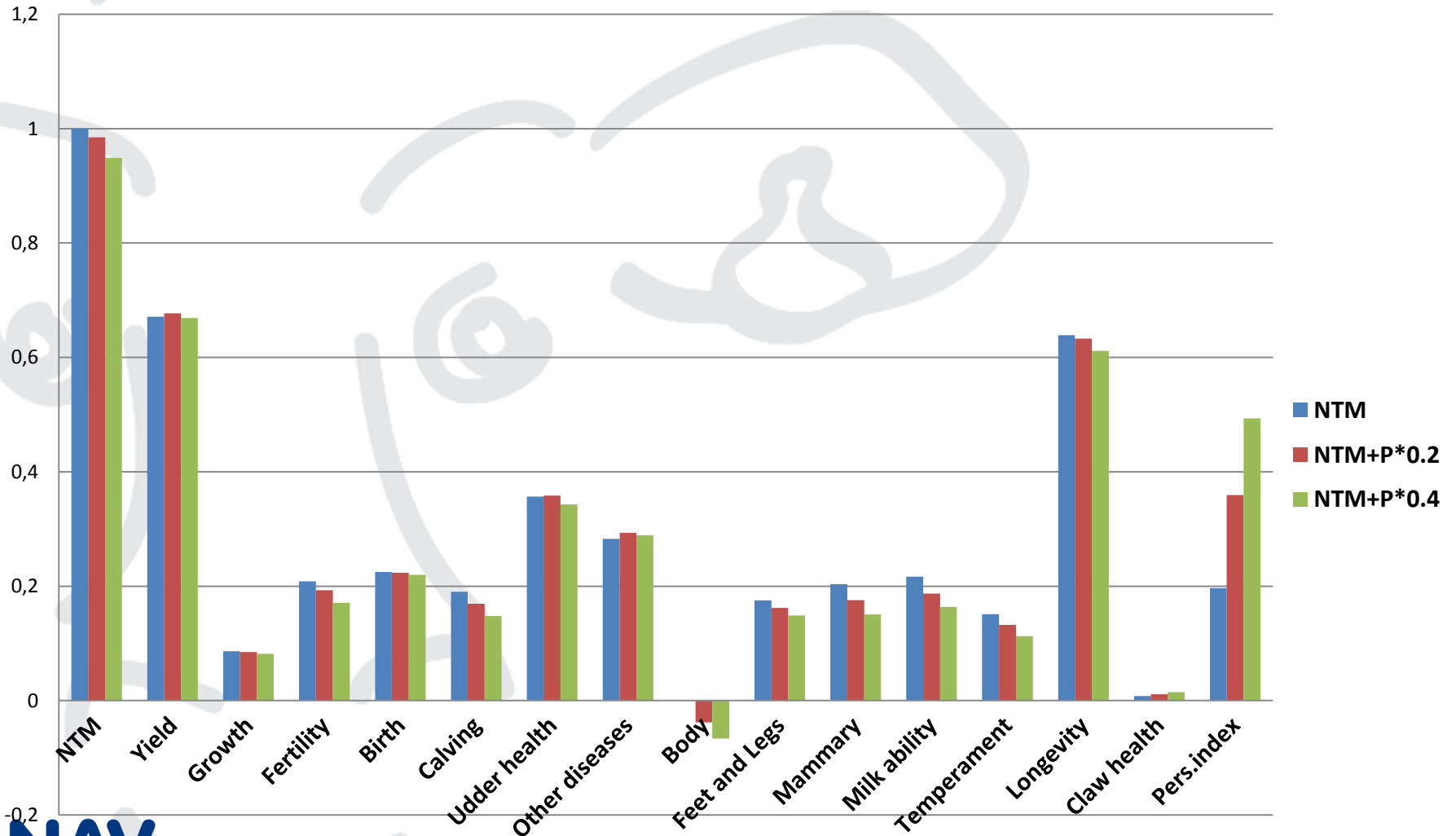
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## RDC bulls, correlation between NTM alternatives and NTM traits



# Summary for RDC and HOL

- Inclusion of persistency in NTM has no positive effect on economic gain
- Persistency has low and mostly positive correlation to yield and health traits
- Persistency will have a positive genetic gain with the existing NTM definition

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