How to deal with persistency in the breeding goal

Jan-Åke Eriksson
Why interest in persistency?

• Correlated to other important traits
  yield
  fertility
  diseases
  longevity

• Indirect economic importance
  “Less expensive feed needed with flat lactation curve”
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
NAV-persistency definition

- Comparison with breed average curve

- A high value indicates a more flat lactation curve
Result of including NAV persistency in NTM based on NAV data shows that

- All important traits will get a lower genetic gain
Data used for the study

- Al-bulls born 2003 to 2007
  - RDC 1149
  - HOL 2284

- Swedish cows born 2003 to 2007
  - RDC 248991
  - HOL 292681
Alternatives for study the effect of NAV-persistency on NTM

- Persistency EBV added to NTM with the weight:
  - 0  NTM
  - 0.2  NTM+P*0.2
  - 0.4  NTM+P*0.4

- The low or no economic weights are based on the study by Kevin Byskov, 2013
RDC cows, changes in mean EBV for Fertility, Mastitis, Yield and Other diseases by increasing persistency index

Mean EBV for other traits
RDC bulls, regression of EBV for Fertility, Mastitis, Yield and Other diseases by increasing persistency index
Bulls, correlation between EBV for persistency and NTM traits

- NTM
- Yield
- Growth
- Fertility
- Birth
- Calving
- Udder...
- Other...
- Body
- Feet and...
- Mammary
- Milk ability
- Temperam...
- Longevity
- Claw health

- HOL
- RDC
RDC bulls, correlation between NTM alternatives and NTM traits

- NTM
- NTM+P*0.2
- NTM+P*0.4
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