Achieve consensus on how to deal with general aspects of NTM upgrade:

Weight on different lactations in EBVs and organic production system

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General aspects of NTM upgrade

• Weights according to level of conventional and organic production systems
• Weights on different lactations
• Feed efficiency
• Polledness
Weighting of organic and conventional production systems

Workshop 2017:
- Current share of milk from organic NAV herds: ~15%
- Increased production in organic herds 5-10 years ahead should be considered

Workshop 2018:
- Correlations between conv. NTM and org. NTM about 0.95
- Weak arguments for two separate breeding goals

**Nav**

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Weighting of organic and conventional production systems

- Natural to combine economic values from organic and conventional production systems in upgraded NTM
- Weigh the NTM weights 70% conventional and 30% organic to reflect expected future production systems.
- Correlation between NTM_{conv} and NTM 70:30 is >0.99.

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Weights on different lactations in EBV

Current weights are 0.5:0.3:0.2 for 1\textsuperscript{st}, 2\textsuperscript{nd} and 3\textsuperscript{rd+}

- From 2005
- Progeny testing scheme
- Aim to reflect - to some extent number of lactations and time of expression in a cows life (discounting)
- Genetic correlations between lactations are high

Weight on different lactations in EBV

New for 1\textsuperscript{st}, 2\textsuperscript{nd} and 3\textsuperscript{rd+}

- Reflect number of lactations in future production systems with a lower replacement rate
- Progeny testing scheme substituted by genomic selection – give more equal reliability across lactations at an early stage
Weights on different lactations in EBV

<table>
<thead>
<tr>
<th>Current weights in NAV evaluations</th>
<th>Distribution of lactations based on 2016 data</th>
<th>NTM 2018 model results with 32% replacement rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>0.38</td>
<td>0.30</td>
</tr>
<tr>
<td>0.3</td>
<td>0.28</td>
<td>0.25</td>
</tr>
<tr>
<td>0.2</td>
<td>0.34</td>
<td>0.45</td>
</tr>
</tbody>
</table>

New proposed weights
0.30: 0.25: 0.45 for 1\textsuperscript{st}, 2\textsuperscript{nd} and 3\textsuperscript{rd+}

- Genetic correlation between lactations are very high >0.90
- Effect on (G)EBVs by changing weights on lactations very small

<table>
<thead>
<tr>
<th>Breed</th>
<th>HOL</th>
<th>RDC</th>
<th>JER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sires</td>
<td>914</td>
<td>678</td>
<td>164</td>
</tr>
<tr>
<td>P-index</td>
<td>0.997</td>
<td>0.988</td>
<td>0.995</td>
</tr>
<tr>
<td>Number of sires</td>
<td>905</td>
<td>669</td>
<td>162</td>
</tr>
<tr>
<td>Total claw health</td>
<td>0.997</td>
<td>0.997</td>
<td>0.997</td>
</tr>
</tbody>
</table>
Weight on different lactations in EBV

- NAV recommend using the weights 0.30:0.25:0.45 for 1st, 2nd and 3rd and later lactation, respectively, for estimation of breeding values, even though it has a very limited effect on the ranking of animals to send the signals that later lactations are important in the breeding goal.

- A change in the weight of the different EBV requires some preparation by NAV since the results have to be included in an Interbull test run before it can be changed.

Saved Feed
NAV routine evaluation and NTM

EBV Saved feed = EBV Maintenance eff. + EBV Metabolic eff.

Aim

(G)EBV - Maintenance eff. winter 2018/19 all breeds based on body weight and conformation traits

(G)EBV - Metabolic eff. – when we have something with a “fair” reliability – all breeds

Discuss inclusion in NTM, when we have official EBVs available
**Polledness**

- Workshop January 2018
  - NAV presented economic value of polledness
  - Feedback from RDC breed organization who has asked for the analyses – RDC is not at present time prepared to introduce polledness in NTM
- Conclusion
  - Polledness will not be included in the November 18 upgrade, but can be discussed again in the future if it is a wish

**Summary**

NAV recommendations:
- Weight organic:conventional – 30:70 (group work I)
- Weight 0.30:0.25:0.45 for 1\textsuperscript{st}, 2\textsuperscript{nd} and 3\textsuperscript{rd} and later lactation
- Saved feed discuss inclusion when we have official EBVs
- Polled – discuss further if a wish