2018 Review of Nordic Total Merit Index

Yield index
Weights for M-, F- and P-index

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Arla and Valio presentation conclusions:

- **Increasing value of fat compared to protein**
- **Increasing value of concentration of fat and protein**

For NTM:

Prediction of production circumstances 5-10 ahead

Background – payment for milk

- DNK and SWE (Arla):
  - Protein-fat-ratio reduced to 1.1 (from 1.4)
  - Some other changes
- FIN (Valio) – Protein-fat-ratio
  - Current: 2.8
  - Expected change 2019: 1.7
- Question: Future development - payment in 2025-30

From payment to index weights

- Income per kg: Fat, protein, milk (milk regardless of content)
- Costs per kg: Feed based on energy content
- Result: Net value per kg of fat, protein, milk
- Kg per index unit (= standardization factors)
- Net value per index unit
- Calculation of relative weights

Other analyses

- **Aversion against negative weight on M-index**

  Could be converted to positive weight on %F-index and %P-index

- **Proposals from breed organizations (JER, HOL, RDC)**

Weights on Yield indexes
Basic assumptions (table 1 and 2 in the note)

	Fat, €/kg	Protein, €/kg	Milk, €/kg	€/kg milk 4,2%,3,4%	Net fat, €/kg	Net protein, €/kg	Net milk, €/kg
2018 Arla	4.31	4.74	-0.0028	0.339	2.50	3.60	-0.0396
2019 Valio	3.90	6.50	0.0000	0.385	2.02	5.31	-0.0384

Weights on Yield indexes Results (RDC,HOL and JER)

	M-index	F-index	P-index
HOL, RDC and JER (identical when rounded)			
2018 Arla	-0.25	0.60	0.65
2019 Valio	-0.20	0.40	0.80
Current:HOL, RDC	*-0.20*	*0.40*	*0.80*
Current: JER	*-0.30*	*0.50*	*0.80*

Correlations between current and "new" Y-index

	HOL (914 sires)	RDC (678 sires)	JER (148 sires)
Arla 2018 (-0.25:0.60:0:65)	0.982	0.988	0.998
Valio 2019 (-0.20:0.40:0.80)	1.000	1.000	0.997
Correlation Arla 2018-Valio 2019	*0.982*	*0.988*	*0.992*

Correlations between current and new Y-index
Proposals from breed organisations

	HOL (914 sires)	RDC (678 sires)	JER (148 sires)
HOL I (-0.30:0.50:0.80)	0.993	0.995	1.000
JER I (-0.30:0.65:0.65)	0.971	0.980	0.997
JER II (-0.30:0.74:0.56)	0.952	0.966	0.992
JER III (-0.60:0.80:0.80)	0.918	0.936	0.978

Weights on Yield indexes - alternative

Negative weight for M-index converted to weight on %F- and %P-index
Correlation between original and alternative: >= 0.99

	M-index	F-index	P-index	%F-index	%P-index
HOL, RDC and JER					
2018 Arla	0.00	0.35	0.40	0.150	0.100
2019 Valio	0.00	0.25	0.55	0.125	0.075
Current: HOL, RDC	*0.00*	*0.25*	*0.55*	*0.125*	*0.075*
Current: JER	*0.00*	*0.25*	*0.45*	*0.200*	*0.100*

Summary

- Calculated weights – based on current Arla and expected Valio payment
- Weights proposed by JER, HOL (and RDC)
- Correlations to current Y-index
- Conversion of negative weight on M-index

Important: Future expectations year 2025-2030

- Expectations on F/P-relation
- Value of concentration (=negative payment for ”water”)