

Economic value of NTM

NAV Workshop

January 17, 2019

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Nordisk Avlsværdi Vurdering • Nordic Cattle Genetic Evaluation

Rule of thumb

Economic value of 1 NTM index unit:

- Value of AI sire € 9.00
- Value of AI sire on progeny € 4.50
- Value of heifer at first calving € 23.00
- Value of bull calf for slaughter € 0.50

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Why do we need econ. value of NTM?

- Evaluate different breeding programs
- Value of breeding decision within herd
- Value of breeding stock (animals for sale)
- Value of herd
- ...



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Economic value of NTM 2018

Definition: Expected additional income annually per cow (per annual cow) per NTM index unit

Assumptions: Prices, costs and biological parameters as final 2018 NTM scenario

	Holstein	RDC	Jersey
€ / NTM index unit	9.9	9.2	8.0
2008 values	10.2	9.1	7.8

Method for calculating NTM value

	Unstandardized NTM weights						Standardized NTM weights*			Economic value of an index unit, €		
	HOL	RDC	JER	HOL	RDC	JER	HOL	RDC	JER			
	Yield	1.00	1.00	1.00	0.90	1.02	0.83	8.90	9.38	6.61		
Growth	0.09	0.10	0.00	0.08	0.10	0.00	0.79	0.92	0.00			
Fertility	0.40	0.35	0.31	0.36	0.36	0.26	3.56	3.31	2.07			
Birth	0.16	0.11	0.05	0.14	0.10	0.04	1.38	1.01	0.32			
Calving	0.16	0.10	0.08	0.14	0.10	0.07	1.38	0.92	0.56			
Udder health	0.33	0.25	0.53	0.30	0.26	0.44	2.97	2.39	3.50			
General health	0.15	0.11	0.17	0.14	0.11	0.14	1.38	1.01	1.11			
Frame	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Feet & legs	0.05	0.06	0.09	0.05	0.06	0.07	0.49	0.55	0.56			
Udder	0.20	0.25	0.18	0.18	0.25	0.15	1.78	2.39	1.19			
Milking speed	0.10	0.11	0.11	0.09	0.11	0.09	0.89	1.01	0.72			
Temperament	0.04	0.03	0.03	0.04	0.03	0.03	0.40	0.28	0.24			
Longevity	0.07	0.06	0.11	0.06	0.06	0.09	0.59	0.55	0.72			
Claw health	0.11	0.07	0.05	0.10	0.07	0.04	0.99	0.64	0.32			
Young stock survival	0.14	0.19	0.12	0.13	0.19	0.10	1.29	1.75	0.80			
Sum	3.00	2.79	2.83	2.71	2.84	2.35	26.80	26.12	18.72			
NTM, €/ index unit							9.89	9.20	7.96			



AI sire

Economic value from using an AI sire with NTM of +10

- **Conventional semen is used**
- **Value is expressed in progeny (sex unspecified)**
- **Value in progeny is: value of sire \times $\frac{1}{2}$**

	Holstein	RDC	Jersey
€ / 10 NTM index unit	49	46	40

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Herd value

Economic value of herd with average NTM of +10

- No of cows in herd = 150

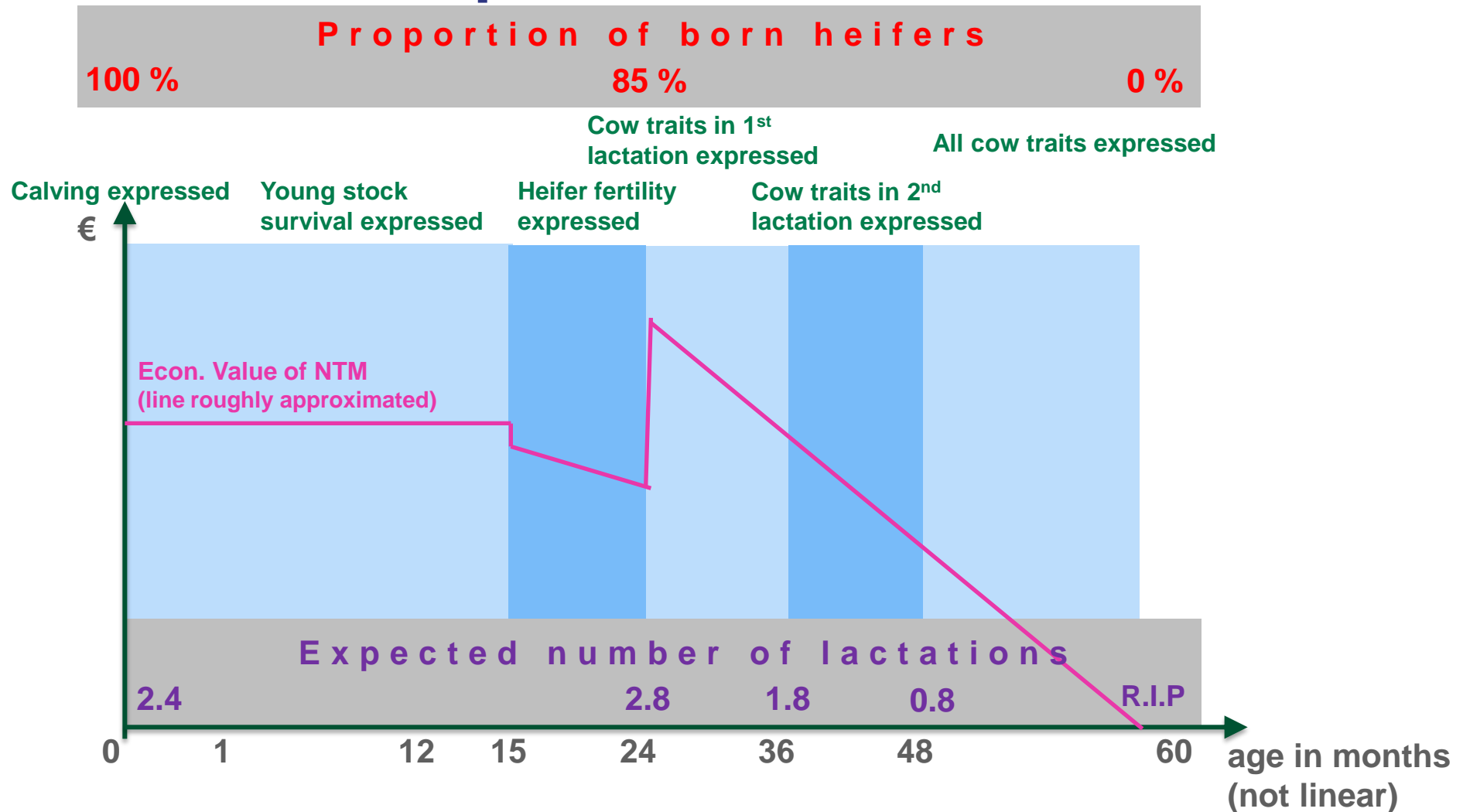
	Holstein	RDC	Jersey
€ / 10 NTM index unit	14,850	13,800	12,000

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How NTM is expressed in individual females



Live born heifer

Economic value of live born heifer with NTM = +10

- Proportion of heifers to become cow: ~85 %
- Exp. number of lactations = 0.85×2.8 lact.
= 2.4 lactations
- Male part of calf survival deducted: 1/3 of total
- Male growth = 0

	Holstein	RDC	Jersey
€ / 10 NTM index unit	227	208	188

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Heifer at first calving

Economic value of heifer at first calving with NTM = +10

- Exp. number of lactations = 2.8
- Calf survival = 0 (already expressed)
- Male growth = 0 (not expressed in females)

	Holstein	RDC	Jersey
€ / 10 NTM index unit	255	231	214

Conclusions

- Economic value of one NTM index unit per annual cow only slightly different from 2008 values
- Final NTM 2018 assumptions used – i.e. average production circumstances
- In herds with better longevity than 2.8 lactations the NTM is higher and *vice versa*

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