

NTM - gives you more concentrated milk

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We want more concentrated milk! That was a clear, joint message from Danish, Swedish and Finnish dairy farmers, representing all breeds, during the process of revising the breeding goal, NTM. As a consequence, the yield index was updated in connection with the implementation of the revised NTM in November 2018.

The present payment system for milk is alike across the Nordic countries, with some small differences. Further, it is expected that these differences will be even smaller in the future. The trend according to both Valio in Finland and Arla in Denmark and Sweden is that the pricing in the future will favor more concentrated milk and with a relatively higher value on fat compared to protein. So, across all countries there is economic sense in breeding for milk with higher percentages of fat and protein.

Already in the previous yield index (prior to November 2018) there were positive weights on both production of kg fat and kg protein and a slightly negative weight on kg milk. Thus, selection was made for more concentrated milk. Due to the expectation that there will be an increased economic advantage in producing milk with high percentages of fat and protein, the weights in the updated yield index have been changed to achieve a genetic progress that better reflects the future pricing system. In table 1 is previous and current weights in yield index.

Table 1. Weighting of kg milk, kg fat and kg protein in previous and current yield index

	Nordic red breeds		Holstein		Jersey	
	Previous	Current	Previous	Current	Previous	Current
Milk, kg	-0.20	-0.25	-0.20	-0.25	-0.30	-0.30
Fat, kg	0.40	0.55	0.40	0.55	0.50	0.65
Protein, kg	0.80	0.70	0.80	0.70	0.80	0.65

Correlations between breeding values for yield index with current and previous weighing is very high. Across breeds it is 0.98-0.99 for genotyped Nordic bulls born in 2015-2016. This indicates that minimal re-ranking of the bulls will take place. What will change however, is the pattern of relative genetic progress for yield traits with relatively larger genetic progress for milk contents (see table 2).

Table 2. Expected genetic progress for yield of milk, fat and protein and fat- and protein percentages. Shown as correlations between EBV for the sub-traits and the yield index. The values are based on genotyped Nordic bulls born in 2015-2016.

		Milk	Fat	Protein	Fat %	Protein %
Holstein	Current yield index	0.28	0.92	0.75	0.39	0.33
	Previous yield index	0.44	0.83	0.87	0.20	0.22
RDC	Current yield index	0.47	0.91	0.86	0.24	0.19
	Previous yield index	0.57	0.85	0.93	0.09	0.11
Jersey	Current yield index	0.41	0.95	0.80	0.06	0.12
	Previous yield index	0.50	0.92	0.87	-0.05	0.04

Different ways of displaying weights

We have traditionally illustrated weighting in yield index with weights on production of kilograms of milk, fat and protein (see table 1). An alternative way of displaying the weighting in yield index, which will give rise to 100% equivalent result when it comes to relative genetic progress, is shown in table 3.

Table 3. Weighting of kg fat, kg protein and percentages in current Y-index

	Nordic red breeds	Holstein	Jersey
	Current	Current	Current
Fat, kg	0.40	0.40	0.50
Protein, kg	0.55	0.55	0.50
Fat %	0.20	0.20	0.25
Protein %	0.10	0.10	0.15