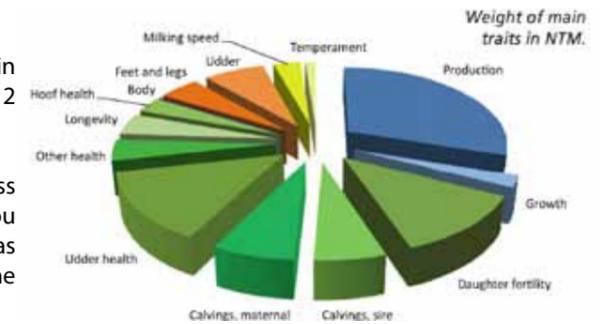




# Understand the benefit from high NTM - **increased profit!**

## 1. What is NTM?

NTM (Nordic Total Merit) is the most complete total merit index in the world. NTM consists of more than 40 subtraits combined into 12 main traits as shown in the right figure.

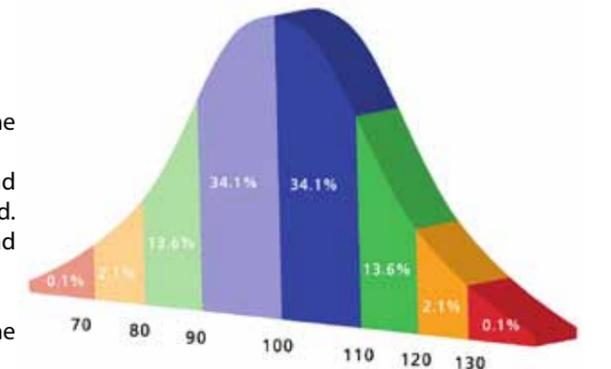


When you use NTM as selection criteria, you obtain positive progress for all traits of economic importance in the dairy cattle industry. You obtain the highest progress from the "most expensive traits" such as fat and protein yield and health traits as shown in the figure to the right.

Longevity index and production index have the highest correlation of all traits to the NTM, showing that the NTM is optimized to produce long living and high producing cows.

## 2. How are the indexes in NTM expressed?

EBV's of all animals are adjusted in such a way that animals in the base population have an average index of 100. For all traits a rolling base consisting of cows from Denmark and Sweden that are 3-5 years of age at the date of publication is applied. The Standard Deviation is a statistic that tells you how widely spread from the average the scores of all bulls are for any particular trait. The bell curve shows what each standard deviation represents. One standard deviation away from the mean in either direction (the purple area) accounts for about 68% of the bulls.



## The **profitable** choice



Viking Holstein Cows sired by VikingGenetics bulls prepare you for an ever more competitive future, combining longevity and production like no other cows. We were the first to focus on important traits like fertility and udder health - a dedication to the farmer's best interest that has resulted in superior long-term profitability.

VikingGenetics is one of the leading AI companies in the world, covering three countries and export to well above 40 markets annually. VikingGenetics uses genomic selection to select the very highest bull calves and puts 175 Holstein bulls through progeny testing every year. The high participation in milk recording and the unique registrations on health and fertility enables an effective selection for cows that are high yielding and in the same time breed back and stay healthy.

In short, our Viking cows give you more output, less trouble and more freedom.

### Breed statistics

No. of cows	603,731
Milk, kg	9,447
Fat, kg	387
Fat, %	4.09
Protein, kg	319
Protein, %	3.37
Fat + Protein, kg	706
Calving interval	13.3 months
Inseminations/preg	1.65 heifers ; 1.98 cows

## 3. The value of NTM units

The value of +10 NTM units for the sire is the same as 100 Euro added value for the heifer under Scandinavian conditions.

### The value of +10 units for production traits

Milk index	+ 160 kg milk
Fat index	+ 8.6 kg fat
Fat percentage	+ 0.13%
Protein index	+ 6.1 kg protein
Protein percentage	+ 0.08%
Growth	+ 8g/day. Higher weight gain of bull calves

Calculation of production index	- 0.25 x Milk + 0.25 x Fat + 1 x Protein
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### The value of +10 units for functional traits

Daughter fertility	Days open reduced by 8 days and 0.03 less services per pregnancy
Calvings, Sire (Maiden heifers)	Reduction in difficult calvings with 2% and 1% less stillborn calves
Calvings, Maternal (Maiden heifers)	Reduction in difficult calvings with 8% and 2% less stillborn calves
Udder health	1.8% units less mastitis treatments in first lactation. 2.6% units less mastitis treatments in second and third lactation
Other diseases	2.7% units less treatments for reproduction diseases, metabolic disorders and diseases in hooves, feet and legs in first and second lactation. 3.6% units less treatments for the same diseases in third lactation
Milking speed	9.5g fat + protein more per minute, robots and farmer observation
Longevity	36 days longer productive life