

High potential with Saved feed version 3.0

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In February 2025, the new saved feed version 3.0 will be implemented. This version is quite different from the old one and should be seen as a new index. It offers higher reliability and economic value, making it one of the most important indexes for future dairy farmers.

Development over time

Feed cost is the largest single expense for dairy farmers. Breeding for better feed efficiency has huge potential for the entire dairy sector. In 2019, NAV released the first saved feed index, based on the maintenance index calculated according to cow size. In 2020, version 2.0 was introduced, where the metabolic efficiency index was included, which was based on feed intake data from CFIT cameras and scientific data from research farms worldwide. At the same time saved feed was also added to NTM.

Since 2020, a large amount of additional CFIT data has been collected. Researchers from Aarhus University and SEGES Innovation have worked intensively on a new and improved model for saved feed. This work has resulted in the saved Feed Index version 3.0.

A new index based on the same data

The best way to look at saved feed 3.0 is as a new index that uses CFIT data as its foundation. Close to 12,000 genotyped cows across breeds have CFIT data. The calculation of saved feed 3.0 is based on indexes for dry matter intake, ECM production, and change in weight over time. First lactation and second to fifth lactation are treated as two different traits, but they have a high genetic correlation.

Saved feed is therefore no longer calculated by summing maintenance and metabolic efficiency. However, the old maintenance index is still calculated as an informational trait but is not included in the saved feed index. The correlation between saved feed 3.0 and the old saved feed 2.0 indicates a significant difference between the two indexes. The correlations are 0.30 for Holstein, 0.50 for RDC, and 0.25 for Jersey. These low correlations mean there will be a large reranking of animals for the saved feed index.

Table 1: Genotyped cows with CFIT data per breed

	Herds	Genotyped cows
HOL	12	5104
RDC	7	3828
JER	7	3040

Internal effects of saved feed

With dry matter intake, production in ECM, and weight change in the saved feed model, it is interesting to see how they are affected when we improve the genetic level of saved feed. As shown in Table 2, all breeds have a negative correlation to dry matter intake and weight. This means that

breeding for better saved feed reduces the dry matter intake and weight of the cow. For production, there is a positive correlation, so better saved feed results in higher ECM production.

Table 2: Correlation between saved feed and the traits included in saved feed

	HOL	RDC	JER
DMI (dry matter intake)	-0,55	-0,75	-0,55
ECM (production)	0,45	0,30	0,55
Weight	-0,55	-0,60	-0,55

Low correlation to other traits

For some traits, there is a large connection between them, so when one trait improves, it can have a positive or negative effect on the other trait. The classic example is that yield has a negative correlation to udder health and fertility. For saved feed 3.0, the correlation to fertility, health traits, and survival is small as you can see in table 3.

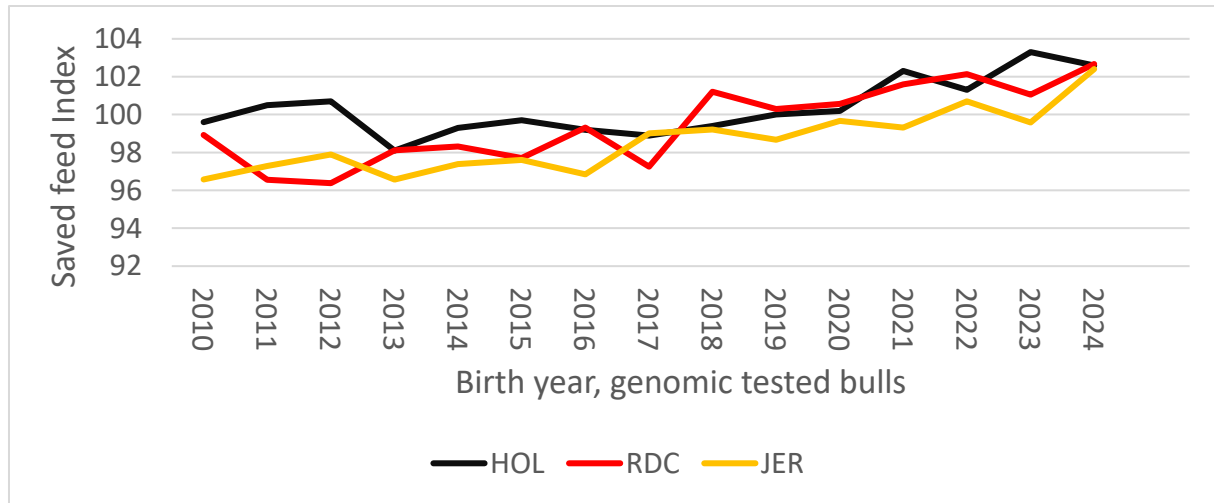
For Holstein and Jersey, there is a small negative correlation between saved feed and fertility/health. This small negative correlation is not a result of saved feed but rather the effect of higher yield when Saved feed is improved. For RDC, there is a small positive correlation to fertility and udder health. For survival traits, Holstein and RDC have a positive correlation, while Jersey has a small negative correlation to longevity.

Table 3: Correlation between saved feed 3.0 and other traits in NTM for all breeds.

Trait	Saved feed HOL	Saved feed RDC	Saved feed JER
Fertility	-0,05	0,15	-0,15
Udder health	-0,10	0,10	-0,10
General health	-0,10	-0,10	-0,05
Youngstock survival	0,10	0,15	
Longevity	0,05	0,20	-0,05

Positive trend for saved feed

In the last five years, saved feed has been included in NTM. With the change to saved feed 3.0, has breeding for saved feed been worthless? The short answer is no. The graph shows that all breeds—Holstein, RDC, and Jersey—have a small positive trend for saved feed. Before 2017, the trends for saved feed for all breeds were flat, while the trends have slightly increased since 2017 for all breeds. The expectation is that the trend will continue to be positive, so the future cow will be more feed efficient.



Graph 1: Genetic trend for saved feed 3.0 for genomic tested bulls for all breeds born between 2010 and 2024.

High value for saved feed

What can you save on feed costs? A very relevant question from a dairy farmer's perspective. When the saved feed index increases by one unit for a cow, it reduces the dry matter intake by 60 gram per day, which accumulates to 15-20 kg of dry matter per lactation. If the feed price is set to 0.2 Euro per kg of dry matter, the reduction in feed cost is 3-4 Euro per lactation for a saved feed index unit. To compare the value of an NTM unit is around 9 Euro per lactation.

Check it out

Now you can't wait any longer to see how saved feed has changed for your favorite bulls. On [NAV bull search](#), you can find the new saved feed index for all the bulls. The new saved feed index replaces the old saved feed index so you find the index in the same place as before.