

Maintenance Index



Figure 1. Cows feeding

What is maintenance?

Since August 2014, the Profitable Lifetime Index (£PLI) and Spring Calving Index (£SCI) account for the differences in cost of maintenance feeding smaller versus larger cows.

The Maintenance Predicted Transmitting Ability (PTA) is also published as a stand-alone trait and is provided as a way of estimating the feed efficiency differences of animals, and so allows farmers to select bulls accordingly.

A lactating dairy cow's maintenance feed cost is based on its liveweight. For example, the maintenance requirement of a 600kg dairy cow is significantly less than that of a 700kg cow.

Calculating Maintenance for £PLI/£SCI

The Maintenance trait is based on measures of stature, chest width, body depth and angularity. Studies have shown these predictions have an accuracy of over 90 per cent compared to direct liveweight measurements.

Genetic trends for the body traits: stature, chest width, body depth and angularity, as well as the associated maintenance, are continuing to show an undesirable upward trend (see graph below based on insemination data collected by Cattle Information Services and National Milk Recording)

The Maintenance PTAs for bulls range from approximately +50kg to -50kg with a lower value being more desirable.

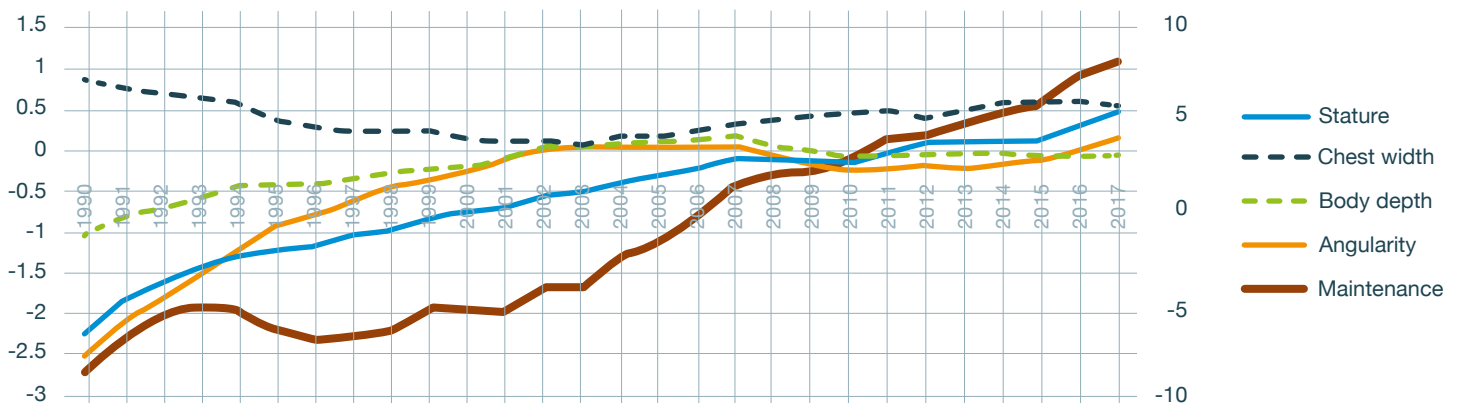


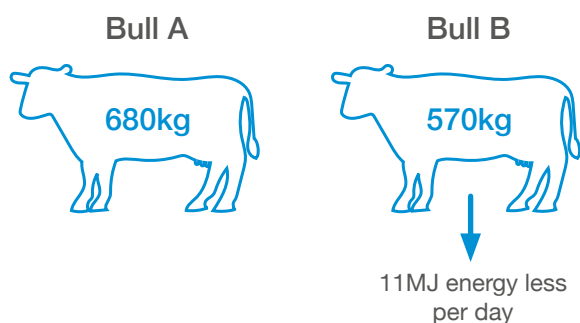
Figure 2. Genetic trends for body traits

How to use the Maintenance Index

The Maintenance PTA of individual bulls should be used as part of a broader breeding strategy.

As an example, two bulls with identical production and health traits will perform the same genetically, but if the offspring of bull A weigh 680kg and the offspring of bull B weigh 570kg, bull B will produce more efficient heifers as it requires around 11MJ of energy less per day for maintenance and will, therefore, receive credit within £PLI and £SCI due to its lower maintenance value.

As with somatic cell count and mastitis, a lower or negative value is more desirable when evaluating maintenance.



Further information

For more information on AHDB Dairy breeding and genetics, visit dairy.ahdb.org.uk/breeding or email breeding.evaluations@ahdb.org.uk



Figure 3. Cows at grass

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