

Dairy carcass index



Figure 1. Calves in straw yard

Genetic index to aid dairy carcass quality

With around 55 per cent of UK beef originating from the dairy herd, there is a supply chain efficiency desire to monitor, and where, possible improve dairy cattle carcasses.

The dairy carcass index (DCI) has been created to improve dairy cattle carcasses. The DCI is calculated using the average daily carcass gain and carcass conformation predicted transmitting abilities (PTAs).

These two PTAs have been developed using data from seven major abattoirs around GB and were found to have heritabilities between 50 per cent to 60 per cent.

Table 1 indicates the fat and conformation scores of carcasses processed in 2016. From the data used from this project, the average dairy carcass fell into the 30-class (highlighted by yellow square) failing to meet the optimal market specification in conformation of at least R.

Resulting genetic evaluations are being made available by AHDB Dairy for the dairy breeds, and AHDB Beef & Lamb for the beef breeds in the dataset.

The dairy carcass index (DCI) is primarily based on:

- Average daily carcass gain
- Carcass conformation

Table 1. Fat and conformation of 2016 processed carcasses

Prime cattle	Fat class → Increasing fatness							
	1	2	3	4L	4H	5L	5H	Total
E	0.0	0.2	0.3	0.1	0.0	0.0	0.0	0.7
U+	0.1	0.9	2.3	1.1	0.2	0.0	0.0	4.5
-U	0.1	1.4	6.1	6.4	1.4	0.1	0.0	15.5
R	0.1	2.7	15.0	19.6	6.6	0.5	0.0	44.7
O+	0.1	1.4	7.2	9.1	3.1	0.3	0.0	21.3
-O	0.1	1.7	5.3	3.4	0.5	0.0	0.0	11.1
P+	0.2	0.7	0.8	0.2	0.0	0.0	0.0	1.9
-P	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.4
Total	0.9	9.2	37.2	39.9	11.8	0.9	0.1	

How to use the dairy carcass index (DCI)

DCI is published on a scale of about -5% (bad) to +5% (excellent). For each percentage point increase, an improvement is predicted in both carcass conformation and average daily carcass gain in a bull's progeny.

From April 2018 the DCI is published by AHDB Dairy alongside existing dairy genetic evaluations, but is not included in the total economic merit indexes (£PLI/£SCI).

Therefore, farmers interested in improving the carcass quality of their cattle are advised to pay attention to bulls rating higher for the DCI.

However, even farmers not directly interested in improving carcass quality are advised to monitor how the bulls used for breeding dairy replacements score. From a shortlist of sires with similar genetic merit for traits of interest, the ones with higher DCI could be favoured for use.

Initial research funded by AHDB Beef & Lamb, AHDB Dairy and Hybu Cig Cymru (HCC). The genetic evaluation of carcass traits for beef and dairy cattle is jointly funded by AHDB Beef & Lamb and AHDB Dairy.



Figure 2. Dairy carcass

Author

Marco Winters, AHDB Head of Genetics

Further information

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

Produced for you by:

AHDB Dairy
Stoneleigh Park
Kenilworth
Warwickshire
CV8 2TL

T 024 7669 2051
E comms@ahdb.org.uk
W dairy.ahdb.org.uk
@AHDB_Dairy

If you no longer wish to receive this information, please email us on comms@ahdb.org.uk

While the Agriculture and Horticulture Development Board seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law, the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

© Agriculture and Horticulture
Development Board 2018.
All rights reserved.

AHDB