BETTERRETURNS

AHDB

Understanding cattle and carcases for Better Returns

BEEF & LAMB

Contents

This guide was compiled by Liz Ford and Steve Powdrill, AHDB Beef & Lamb.

Introduction

The key to maximising financial returns is to produce and sell the type of finished cattle the marketplace wants and is willing to pay for.

There are many other elements to get right too, such as:

- Feeding animals efficiently/minimising costs of production, and targeting high demand and prices
- Avoiding price penalties due to poor handling or health
- Presenting clean animals
- Hitting the right specification for conformation, fat class and weight

Sending overfat cattle to slaughter costs UK producers approximately £12.5 million a year in potential lost earnings and must be avoided.

Processors, retailers and consumers do not want excess fat. Producing 'fat' cattle costs farmers far more in feeding than any gain from sending heavier animals.

This booklet highlights the good and bad in terms of carcase quality, fat levels and conformation. It aims to help producers understand the specifications of the market, and to illustrate some of the factors that can affect carcase value and therefore producer returns.

Steve Powdrill
National Selection Specialist

Handling the loin

Always handle the loin on the beast's left side to give a true reflection of loin depth. This is the 'loose side'.

Loose side because the kidney knob hangs free, away from the underside of the loin.

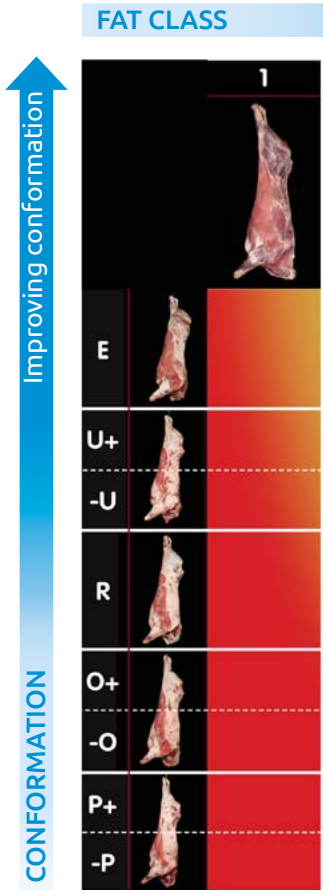
On the beast's right side, the kidney knob is attached to the underside of the loin.

Carcase classification

Carcases are classified by assessment of conformation (five classes: E, U, R, O and P) and fat cover (five classes: 1,2,3,4 and 5).

To be awarded an E classification, the carcase must have excellent conformation. P is the poorest conformation class. For fat cover, 1 is the leanest and 5 is the fattest.

Some abattoirs use the 15-point grid. It divides each conformation and fat class into three, e.g. +, =, - .



Market signals

Little or no demand
Discount prices
Poorest returns

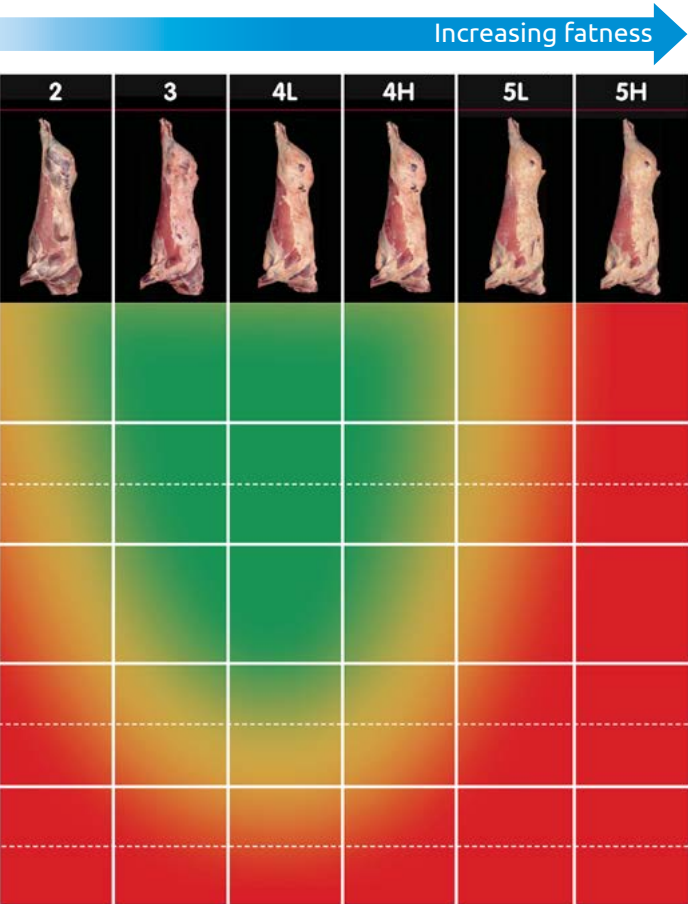
Medium demand
Average prices
Moderate returns

High demand
Premium prices
Best returns

Yield data

Yield is the total percentage of saleable meat from a carcase and should not be confused with killing-out percentage, which is carcase weight as a percentage of the liveweight.

Fat has the greatest influence on total meat yield from a carcase. Better conformed carcases will yield a greater proportion (percentage) of higher value (or premium) cuts (see table opposite).



Increasing fatness

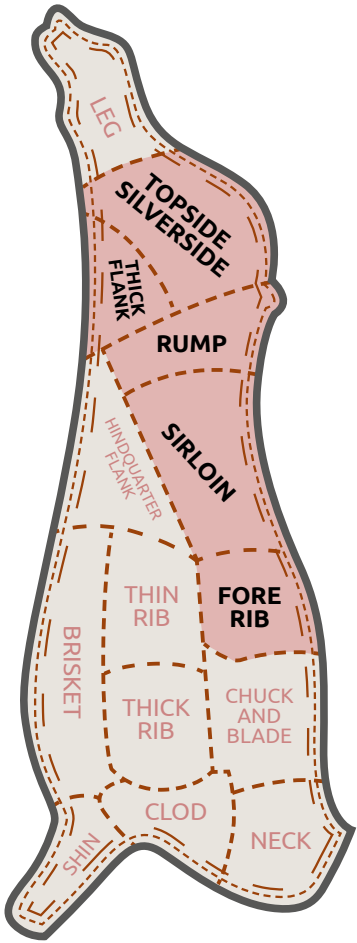
Improving conformation

	2	3	4L	4H	Overall
-U	76.5	73.8	71.7	70.4	73.1
R	74.8	72.1	70.0	68.7	71.4
O+	73.1	70.4	68.3	67.0	69.7
-O	71.7	69.0	66.9	65.6	68.3
P	70.8	68.1	66.1	64.7	67.4
Overall	74.10	71.04	69.4	68.0	70.7

Conformation differences

Poor carcase

Premium cuts



Very good carcase

Eye muscles and fat levels

Too lean: 2

Ideal: 4L

Too fat: 5H

Dark cutting meat

Dark cutting beef is often caused by stress. The lean meat in the most expensive cuts is dark and unattractive, shelf life is reduced and the carcase is devalued.

To avoid stress:

- Always handle cattle quietly
- Avoid mixing cattle from different groups
- Take special care with bulls, as they are more susceptible to stress
- Provide clean, dry bedding and plenty of drinking water in the lairage

Bruising and gristle

Bruising

A bruised carcase may need further trimming and may result in darker meat. Bruising and abscesses lead to wasteful trimming, or even partial condemnation of carcases.

Bruising is best avoided, by:

- Handling cattle in layouts with smooth walls, no sharp corners and non-slip floors
- Avoiding use of sticks and goads
- Using vehicles that avoid overcrowding, with internal partitions to restrict movement
- Using clean injection needles to avoid infection

Gristle

Gristle can become an increasing problem with age.

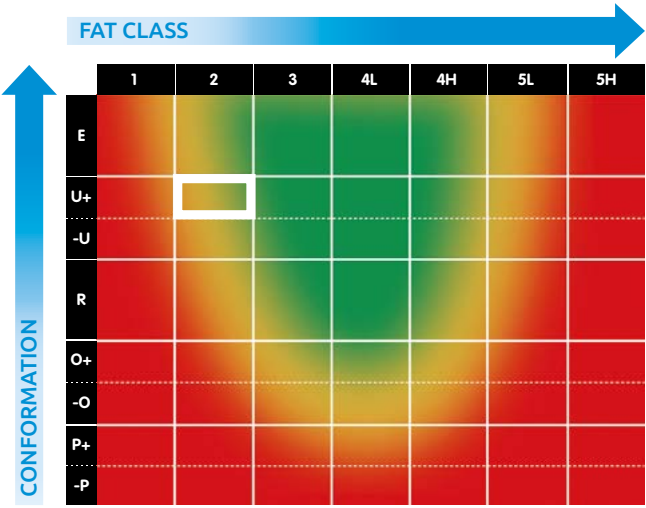
U+2 classification example

Conformation

Wide and thick back from a rounded shoulder to round buttocks.

Fat

Skin is tight on the tail head, and the area around the root of the tail and over the pin bones is fairly firm. The ends of the transverse processes are prominent, and individual bones are felt as deep corrugations. The ribs are prominent, visible, and also felt as deep corrugations.



Very good muscle development, with all profiles being convex.

The round, shoulder and rump are rounded, along with the back being wide and thick.

The topside spreads over the pelvis.

Slight fat cover, with flesh visible throughout. Within the thoracic cavity the muscle is clearly visible between the ribs.

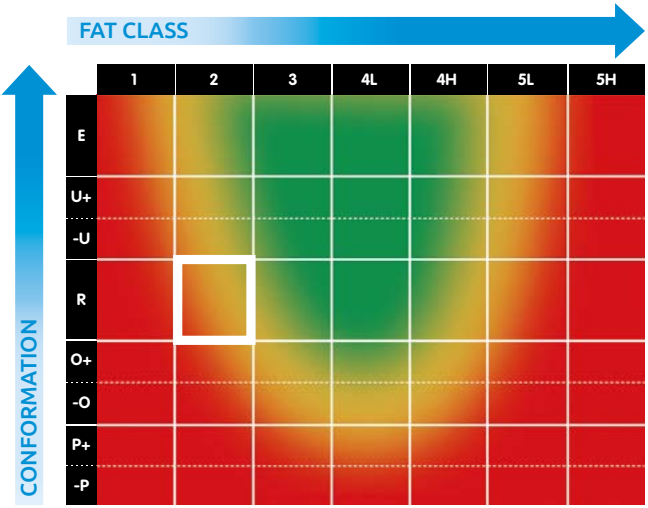
R2 classification example

Conformation

Well-developed round and shoulder with thick back.

Fat

Skin is tight on the tail head, and the area around the root of the tail and over the pin bones is fairly firm. The ends of the transverse processes are prominent, and individual bones are felt as deep corrugations. The ribs are prominent, visible, and also felt as deep corrugations.



Profiles mainly straight, on the whole, with good muscle development throughout the carcase.

Well-developed round.

Thick back, less wide at the shoulder, but still neat and fairly well developed.

Topside and rump are slightly rounded.

Slight fat cover, with flesh visible throughout. Within the thoracic cavity, the muscle is clearly visible between the ribs.

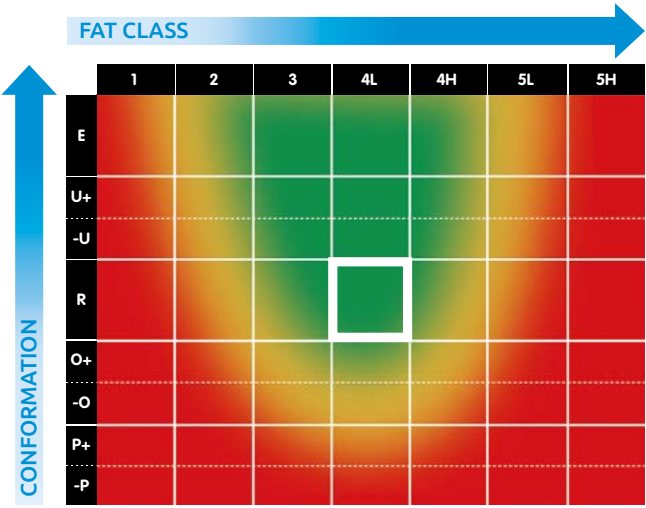
R4L *classification example*

Conformation

Well-developed round and shoulder with thick back.

Fat

Thin layer of fat felt when skin on either side of tail head is pinched between fingers. Ends of transverse processes slightly rounded by fat. Thin layer of fat is felt over ribs with light pressure.



Profiles mainly straight, on the whole, with good muscle development throughout the carcase.

Well-developed round.

Thick back, less wide at the shoulder, but still neat and fairly well developed.

Topside and rump are slightly rounded.

Most areas of flesh covered with fat, but with muscle still visible across the round and shoulder. Some distinctive fat deposits within the thoracic cavity. Seam of fat on the round becoming distinctive. Muscle between the ribs becoming infiltrated with some fat.

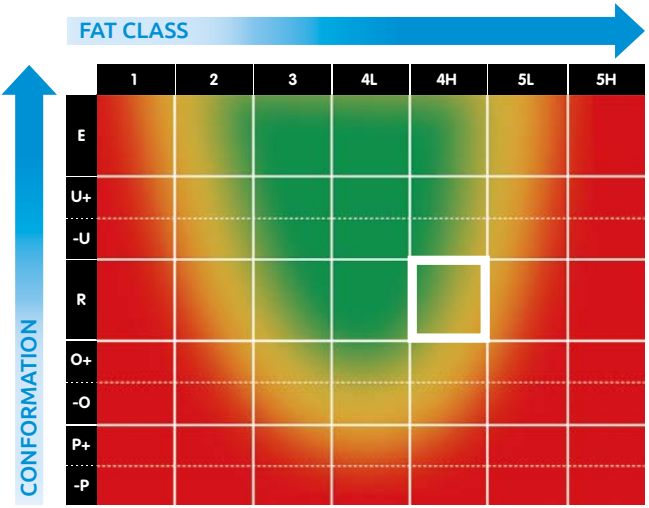
R4H *classification example*

Conformation

Well-developed round and shoulder with thick back.

Fat

Tail head looks slightly puffy and a soft layer of fat is felt, using light pressure. Surface area around the pin bones is soft and the fat tends to spread back towards the tail head. The ends of the transverse processes are slightly rounded by fat, which is felt with light pressure. Across the ribs, a distinct layer of soft fat is felt over the bones. Individual ribs are felt only with moderate pressure.



Profiles mainly straight, on the whole, with good muscle development throughout the carcase.

Well-developed round.

Thick back, less wide at the shoulder, but still neat and fairly well developed.

Topside and rump are slightly rounded.

Most areas of flesh covered with a thickening layer of fat, muscle only partially visible across the round and shoulder. Prominent seams of fat on the round. Some distinctive fat deposits in the thoracic cavity, with the muscle between the ribs infiltrated with fat.

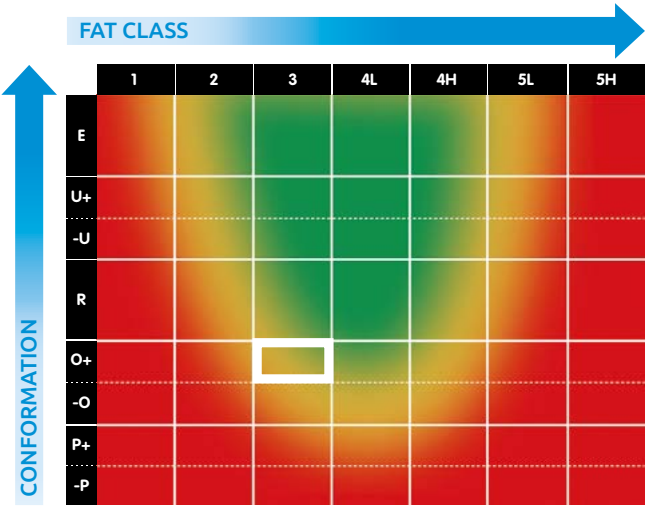
O+3 classification example

Conformation

Average round. Slightly lacking thickness on a marginally flat back.

Fat

An indication of very thin fat cover over the tail head, which yields slightly to moderate pressure. Ends of the transverse process are prominent, with individual bones felt as deep corrugations. Individual ribs are easily felt as corrugations, with some fat cover detectable.



Profiles straight to concave, with overall average muscle development.

Average to lacking development over the round.

Average to lacking thickness on the back.

Shoulder flat, with a straight profile over the rump.

Average fat covering, with the exception of the round and shoulder, covered with a layer of fat throughout. Slight deposits of fat in the thoracic cavity, but with the muscle still visible between the ribs.

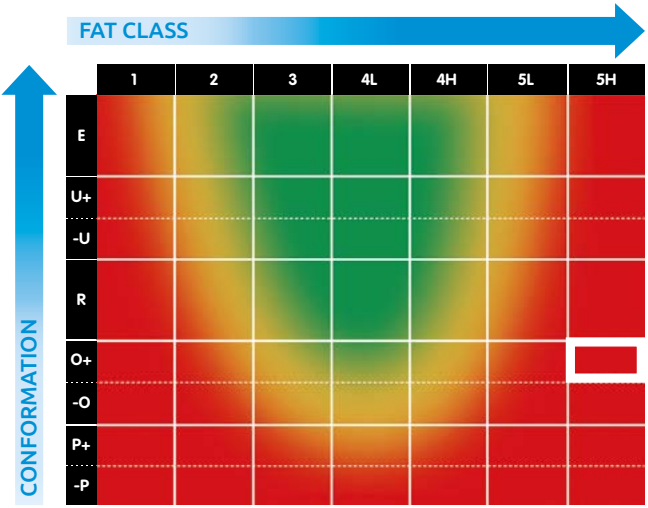
O+5H *classification example*

Conformation

Average round. Slightly lacking thickness on a marginally flat back.

Fat

The tail head looks puffy and feels spongy. A thick, and sometimes, patchy layer of fat can be felt over the bones. The individual transverse processes cannot be felt. The rib cage is smooth to the touch, with a tendency to patchiness, and individual ribs cannot be felt.



Profiles straight to concave, with overall average muscle development.

Average to lacking development over the round.

Average to lacking thickness on the back.

Shoulder flat, with a straight profile over the rump.

All areas of flesh covered with a thick layer of fat. Heavy deposits in the thoracic cavity, with muscle between the ribs infiltrated with fat. The round is almost completely covered with fat, so the seams are no longer clearly visible.

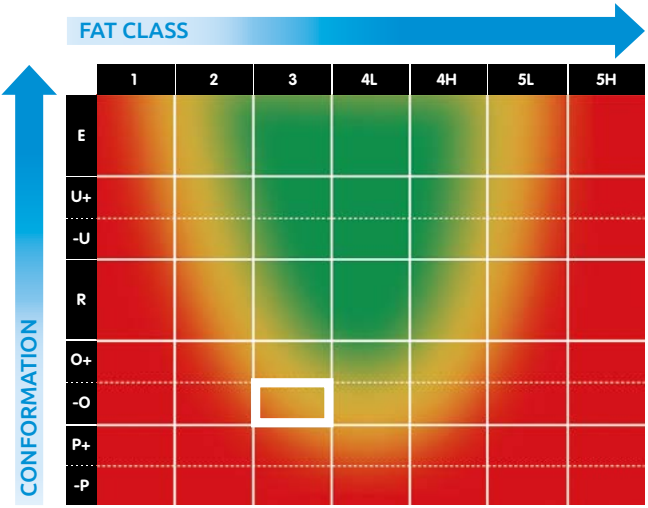
-O3 classification example

Conformation

Average round, lacking development. Lacking thickness on a fairly flat back.

Fat

An indication of very thin fat cover over the tail head, which yields slightly to moderate pressure. Ends of the transverse process are prominent, with individual bones felt as deep corrugations. Individual ribs are easily felt as corrugations, with some fat cover detectable.



The odd straight profile, but mainly concave.

Lacking development over the round.

Lacking thickness on the back.

Shoulder angular, with a straight profile over the rump.

Average fat covering, with the exception of the round and shoulder, covered with a layer of fat throughout. Slight deposits of fat in the thoracic cavity, but with the muscle still visible between the ribs.

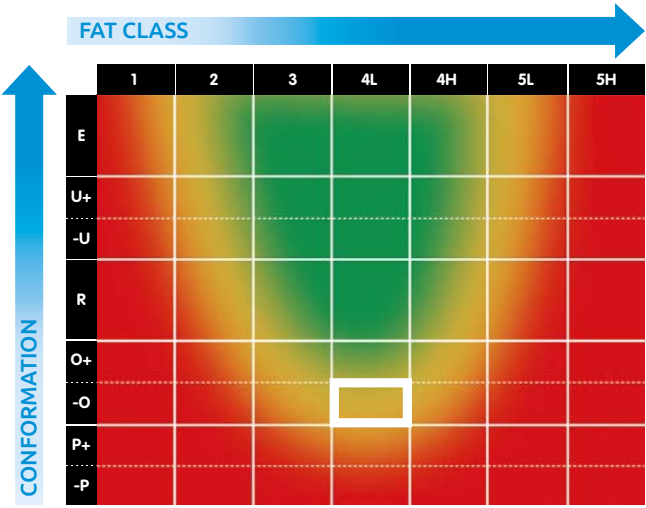
-O4L classification example

Conformation

Average round, lacking development. Lacking thickness on a fairly flat back.

Fat

Thin layer of fat felt when skin on either side of tail head is pinched between fingers. Ends of transverse processes slightly rounded by fat. Thin layer of fat is felt over ribs with light pressure.



The odd straight profile but mainly concave.

Lacking development over the round.

Lacking thickness on the back.

Shoulder angular, with a straight profile over the rump.

Most areas of flesh covered with fat, but with muscle still visible across the round and shoulder. Some distinctive fat deposits within the thoracic cavity. Seam of fat on the round becoming distinctive. Muscle between the ribs becoming infiltrated with some fat.

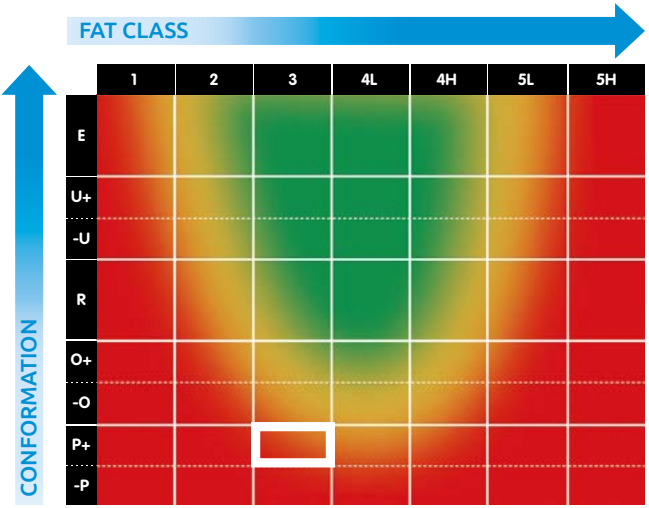
P+3 classification example

Conformation

Poorly developed on the round. Narrow, with bones visible across the back. Shoulders flat with bones visible.

Fat

An indication of very thin fat cover over the tail head, which yields slightly to moderate pressure. Ends of the transverse process are prominent, with individual bones felt as deep corrugations. Individual ribs are easily felt as corrugations, with some fat cover detectable.



All profiles concave to very concave, with poor muscle development.

Poorly developed over the round; narrow back with bones visible.

Shoulder is flat, also with bones visible.

Average fat covering, with the exception of the round and shoulder, covered with a layer of fat throughout. Slight deposits of fat in the thoracic cavity, but with the muscle still visible between the ribs.

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