

# Understanding cattle and carcasses for better returns



The future for beef production in England is bright with strong demand and new markets opening up all the time. The way to maximise financial returns is to produce and sell the type of finished cattle the market place really wants and is willing to pay the most money for.

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

- Feed animals efficiently / minimise costs of production and target 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 over-fat cattle to slaughter costs UK producers approximately £12.5 million per 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 effect carcase value and therefore producer returns.

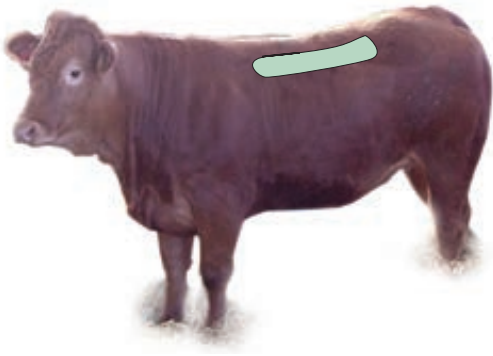


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National Selection Specialist



# 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'.

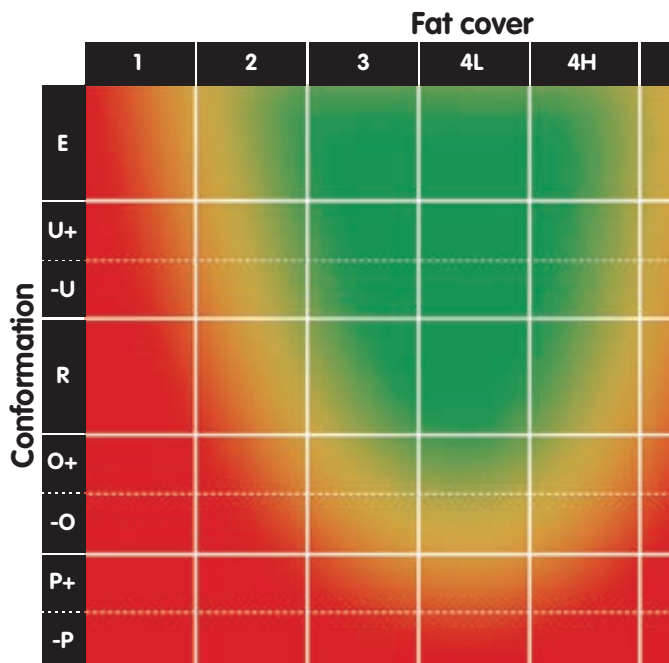


'Loose' side as the kidney knob hangs free, away from the underside of the loin.



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

# Carcase classification



# Yield data

		Increasing Fatness →				
		2	3	4L	4H	Overall
Improving conformation ↑	-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	66.9	65.6	68.3
	P	70.8	68.1	66.1	64.7	67.4
	Overall	74.1	71.4	69.4	68.0	70.7

5L	5H

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). In order to be given an E classification the carcass must have excellent conformation. P is the poorest conformation class. For fat cover, 1 is the leanest and 5 the fattest.

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

### Market Signals



- Little or no demand
- Discount prices
- Poorest returns
  
- Medium demand
- Average prices
- Moderate returns
  
- High UK demand
- Premium prices
- Best returns

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

Fat has the greatest influence on total meat yield from a carcass. Better conformed carcasses will yield a greater proportion (percentage) of higher value (or premium) cuts.

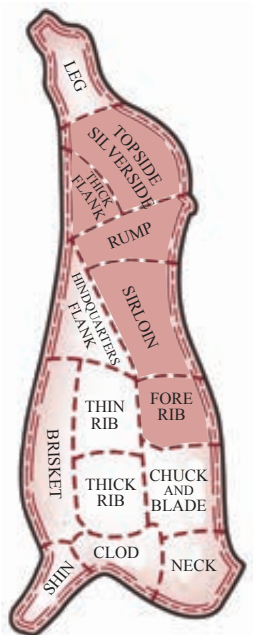
# Conformation differences



**Poor carcass**

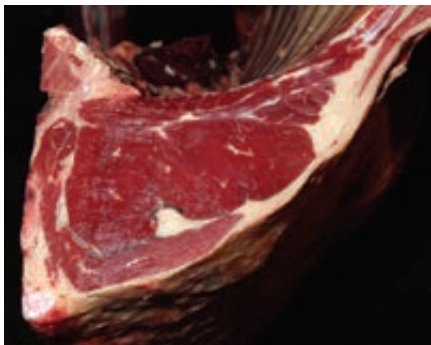


**Very good carcass**



**Premium cuts**

## 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 carcass is devalued.



## To avoid stress:

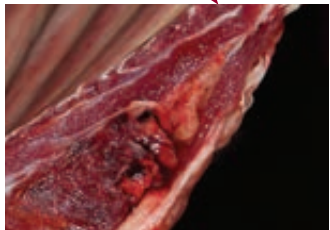
- Always handle cattle quietly
- Avoid mixing cattle from different groups
- Take special care with bulls, as they are more susceptible to stress
- Provide clean, dry bedding and plenty of drinking water in the lairage



# Bruising and gristle

## Bruising

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

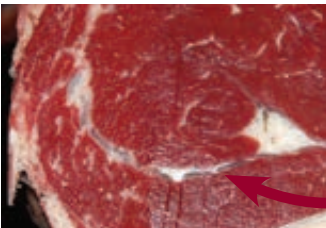


## Bruising is best avoided by:

- 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

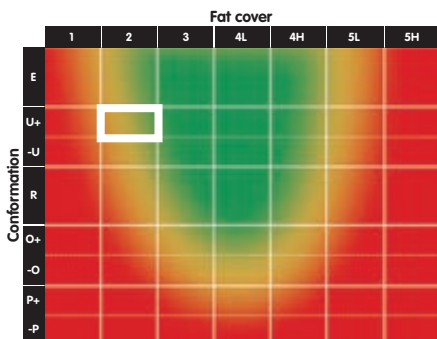


## Conformation

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 almost everywhere. Within the thoracic cavity the muscle is clearly visible between the ribs.



# R2

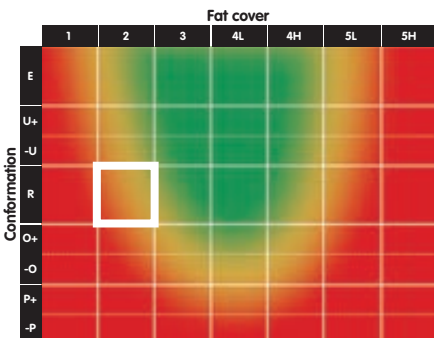


## Conformation

Well developed round and shoulder with thick back.

## Fat

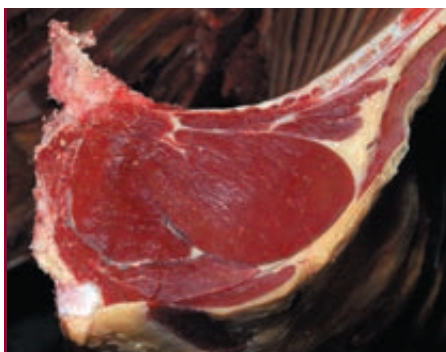
Skin is tight on the tail head and the area around the root of the tail and over the pin bones is fairly firm. The ends of the transverse processes are prominent and individual bones are felt as deep corrugations. The ribs are prominent, visible, and also felt as deep corrugations.





Profiles on the whole mainly straight with good muscle development throughout the carcass. 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 almost everywhere. Within the thoracic cavity the muscle is clearly visible between the ribs.



# R4L

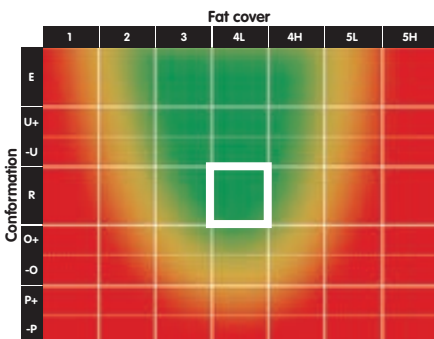


## Conformation

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 on the whole mainly straight with good muscle development throughout the carcass. 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

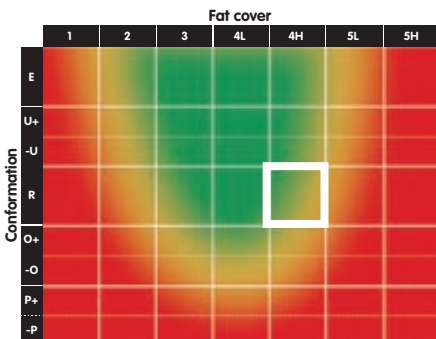


## Conformation

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 on the whole mainly straight with good muscle development throughout the carcass.

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 and the muscle between the ribs infiltrated with fat.



# O+3

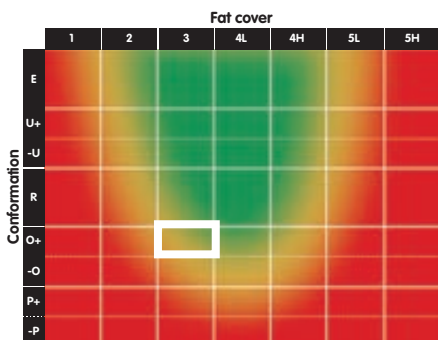


## Conformation

Average round. Slightly lacking thickness on a slightly 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 felt easily 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, everywhere covered with a layer of fat. Slight deposits of fat in the thoracic cavity but with the muscle still visible between the ribs.



# O+5H

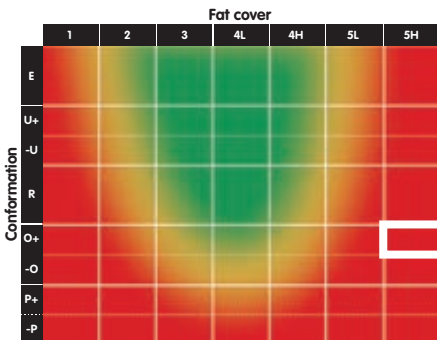


## Conformation

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

## Fat

The tail head looks very 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 that the seams are no longer clearly visible.



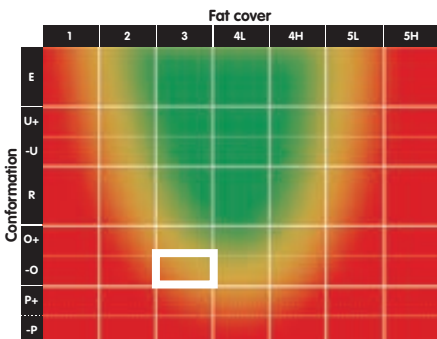


## Conformation

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 felt easily 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, everywhere covered with a layer of fat. Slight deposits of fat in the thoracic cavity but with the muscle still visible between the ribs.



# -O4L

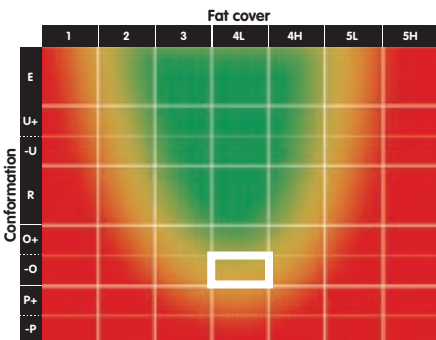


## Conformation

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.







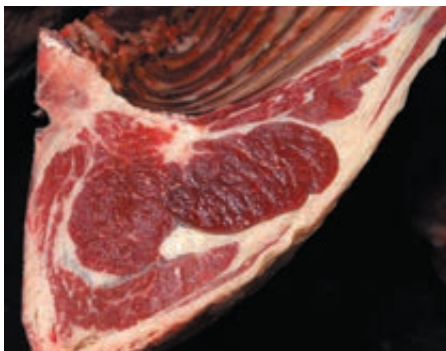
The odd straight profile but mainly concave.

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

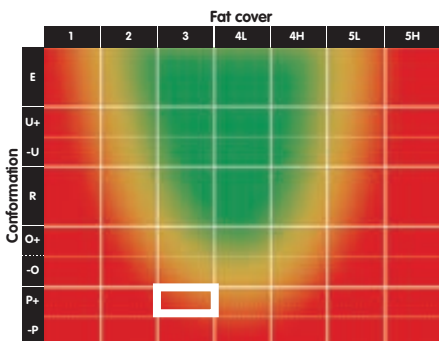


## Conformation

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 felt easily 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, everywhere covered with a layer of fat. Slight deposits of fat in the thoracic cavity but with the muscle still visible between the ribs.



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