BETTERRETURNS

AHDB

Understanding lambs & carcases for better returns

BEEF & LAMB

Contents

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

Introduction

Many in the sheep industry are talking about consistency. Returns can be improved by delivering a product that fits the needs of the customer. This means deciding which market to target, researching it and making breeding, feeding and production decisions with those market requirements in mind.

This booklet highlights the good and the bad in terms of carcase quality, fat levels and conformation. Its aim is 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.

Steve Powdrill
National Selection Specialist

Selecting finished lambs

Weight and visual appraisal are general guides to an animal's readiness for market, but to ensure accurate selection, handling the live animal is essential.

Five key handling points give the best indication of level of finish and fat class.

To assess conformation, feel the animal at the shoulder and loin. To assess fat level, feel the animal at the dock, loin, rib and breast.
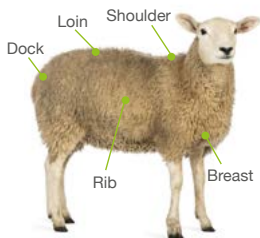
Assessing conformation

Shoulder	Loin

Conformation

E   Spinous processes undetectable, flesh creating a very convex profile, very broad shoulder area

U   Spinous processes just detectable, flesh beginning to create a convex profile

R   Spinous processes less prominent with flesh creating a straight profile under the hand

O   Spinous processes still prominent, less concave with some evidence of flesh beginning to fill the hand

P   Very prominent spinous processes evident, very concave profile to the centre of the hand
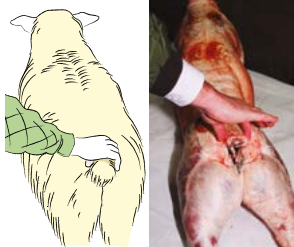
Transverse process

Spinous process

Selecting finished lambs

Assessing fatness

Dock

1. Individual bones very easy to detect
2. Individual bones easy to detect with light pressure
3. Moderate pressure to detect individual bones
4. Firm pressure to detect individual bones
5. Individual bones cannot be detected

Loin

1. Very easy to feel between processes which are very prominent
2. Prominent spinous and transverse processes felt easily
3. Tips of processes rounded. Individual bones felt as corrugations with light pressure
4. Spinous processes felt with moderate pressure; transverse processes felt with firm pressure
5. Individual processes cannot be felt
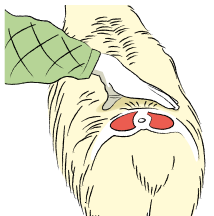
Rib

1. Individual ribs feel very bare, prominent and easy to detect
2. Individual ribs show slight cover but still easy to detect
3. Individual ribs have softer feel, with fat cover becoming more evident in between and over ribs, which are now less easy to detect
4. Individual ribs are only detectable with firm pressure
5. Individual ribs are undetectable, soft, rolling, spongy feel

R3L/U4H comparison

R3L – 19.5 kg
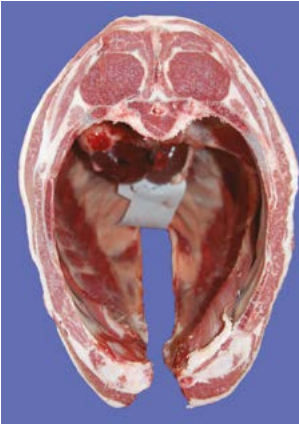
4 chops = 454 g

R3L plate waste =
92 g or 20.6%
Edible = 362 g

U4H – 26.5 kg

4 chops = 705 g
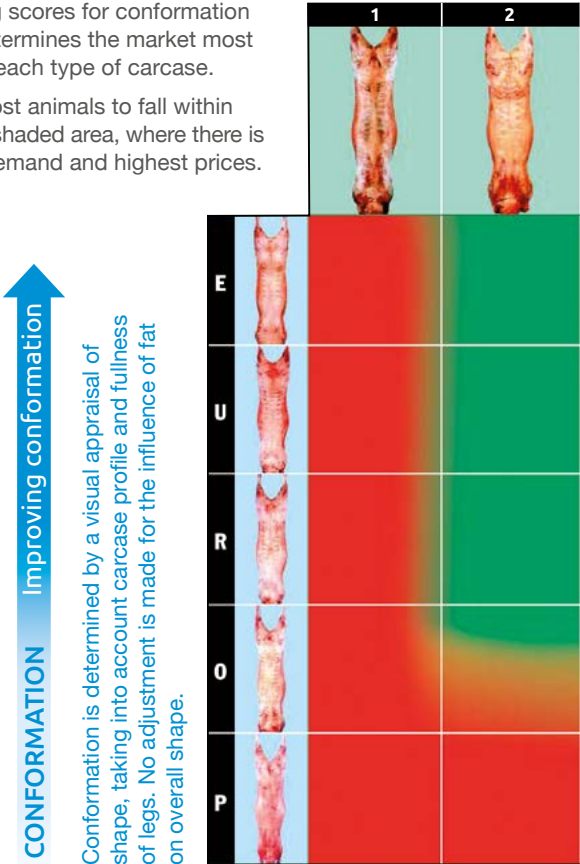

U4H plate waste =
344 g or 48.79%
Edible = 361 g

Carcase classification

The current grading system for carcases in the UK and Europe uses the EUROP classification for conformation and a numeric assessment for fatness (classes 1–5).

Combining scores for conformation and fat determines the market most suited for each type of carcase.

Aim for most animals to fall within the green shaded area, where there is greatest demand and highest prices.
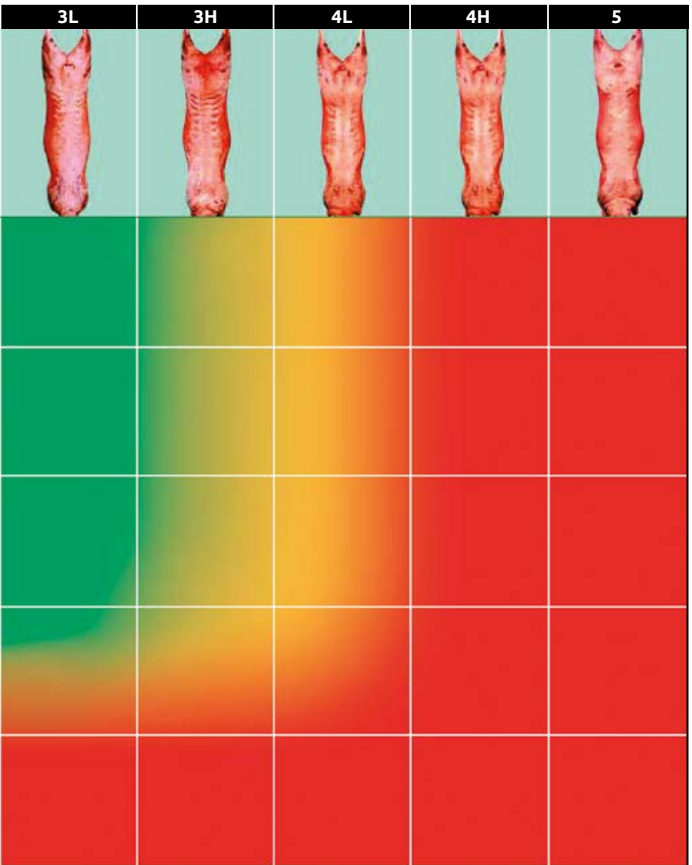
FAT CLASS

CONFORMATION Improving conformation

Conformation is determined by a visual appraisal of shape, taking into account carcase profile and fullness of legs. No adjustment is made for the influence of fat on overall shape.

Yield data

Fat class	1	2	3L	3H	4L	4H	5
Saleable cuts (%)	94.87	92.95	91.52	90.56	89.61	88.65	87.22
Fat trim (%)	3.91	5.92	7.44	8.46	9.47	10.49	12.02
Bone and waste (%)	1.22	1.12	1.04	0.98	0.92	0.86	0.77

Fat is determined by visual assessment of external fat cover. There are five main classes. Classes 3 and 4 are subdivided into L (leaner) and H (fatter)
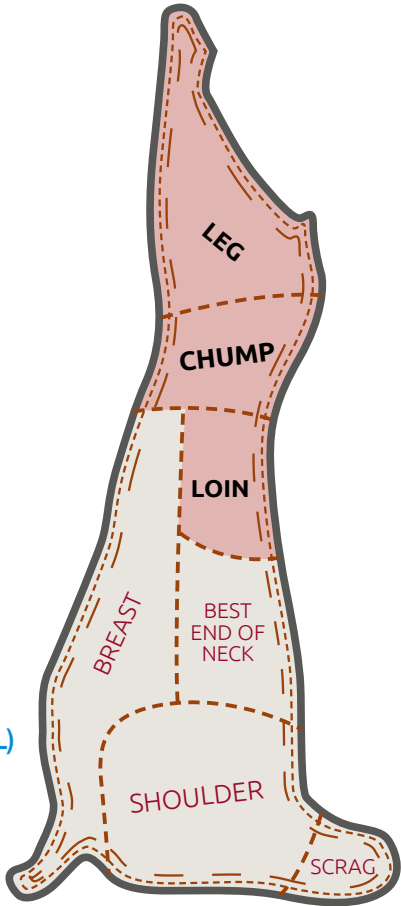

3L	3H	4L	4H	5

Market signals

🔴 **Little or no demand**
Discount prices
Poorest returns

🟡 **Medium demand**
Average prices
Moderate returns

🟢 **High demand**
Premium prices
Best returns

Conformation differences

Poor carcase (P2)

Good carcase (R3L)

Excellent carcase (E3L)

LEG

CHUMP

LOIN

BREAST

BEST
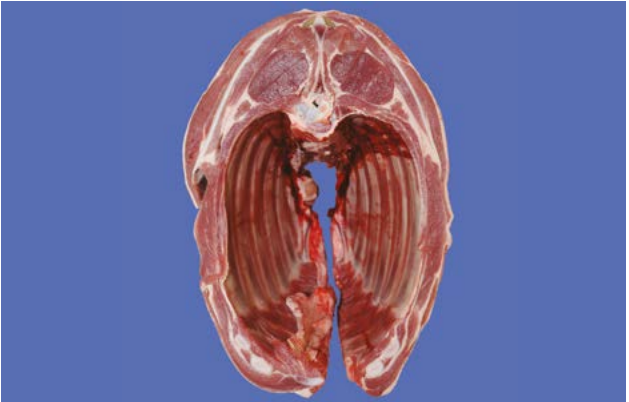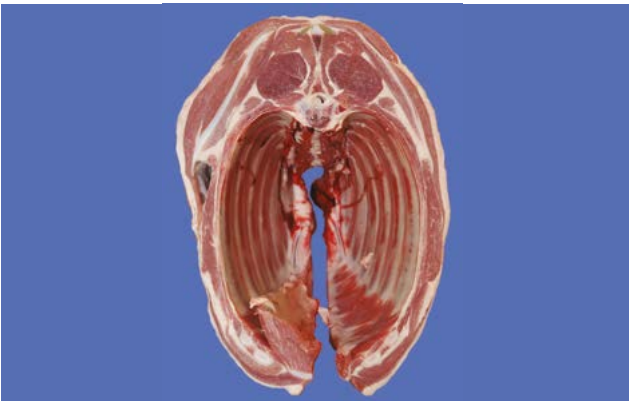END OF
NECK

SHOULDER

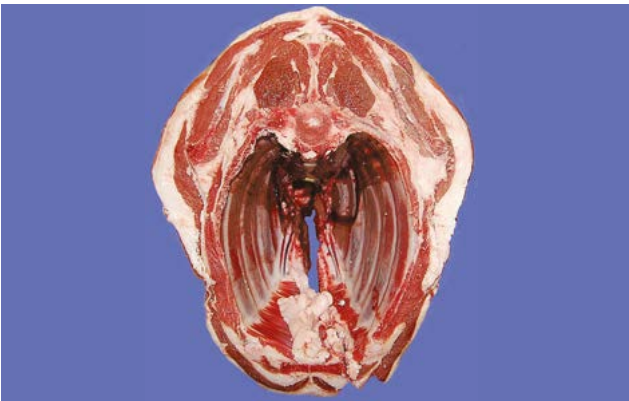SCRAG

Cut-through and fat levels

Lean (R2)

Ideal (R3L)

Too fat (R4H)

Bruising and wool pull

Sensitive handling is vital for animal welfare and avoids damage that shows up after slaughter.

Sheep bruise easily, particularly young lambs.

Bruising and abscesses lead to wasteful trimming and even partial condemnation of the carcase, which in turns reduces saleability and the amount paid to the producer.

Do not:
✗   Handle and move sheep by grabbing wool. This creates a bruise which will require trimming at the processing plant

✗   Allow sheep to be trampled during transport

✗   Allow sheep to trample over each other in races during handling or selection

✗   Leave any sharp objects in races, trailers or on gates, etc.

Always:
✓   Use clean injection needles to avoid infection in the skin

✓   Choose injection site with care (neck wherever possible)

Does weight pay?

Additional weight may pay but not if only putting on fat.

If looking to add weight, consider the following:

- Increasing fat levels beyond optimum will have price penalties
- Increasing weight for no return
- Increasing feed costs per kg produced
- Reducing feed availability for sheep remaining

2   3   4   5

| 2 carcase | 3L carcase | 4L carcase |
| waste = 700 g | waste = 1.50 kg | waste = 3.00 kg |
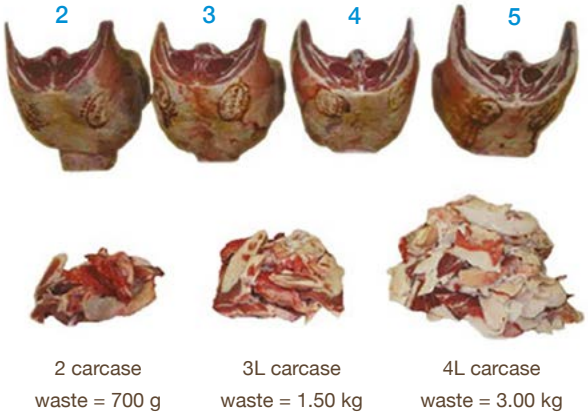
R3L versus R4H

R3L = base price/kg

R4H = –30p/kg

21 kg x 30p = £6.30 loss by getting the carcase to a R4H

Remember, most abattoirs only pay up to an upper limit deadweight (20, 21 or 22 kgs).

Check with your outlet to find out their upper limit.

Images kindly provided by Dunbia

O1 Classification example

Conformation
Profiles straight to concave; average muscle development.

Legs
Profiles tending to be slightly concave.

Loin
Lacking width and fullness.

Shoulder
Tending to be narrow, lacking fullness.

Fat
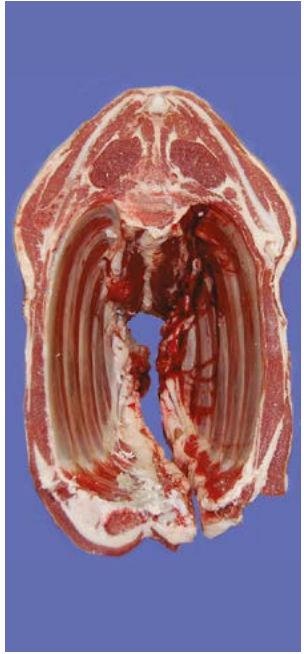None up to very low fat cover.

External
Traces of or no fat cover.

Internal
Abdominal: traces of or no fat visible on the kidneys.

Thoracic: traces of or no fat visible between the ribs.

O2 *Classification example*

Conformation
Profiles straight to concave; average muscle development.

Legs
Profiles tending to be slightly concave.

Loin
Lacking width and fullness.

Shoulder
Tending to be narrow, lacking fullness.

Fat
Slight fat cover, flesh visible almost everywhere.

External
A slight layer of fat covers part of the carcase but may be less evident on the loin and shoulders. There may be a lack of firmness in the flank area.

Internal
Abdominal: traces of fat or a slight layer of fat envelops part of the kidneys.

Thoracic: muscle clearly visible between the ribs.

R3L Classification example

Conformation

Profiles generally straight; good muscle development.

Legs
Profiles mainly straight.

Loin
Full, but less width to the shoulder.

Shoulder
Good development, but less full.

Fat

Flesh, with the exception of the leg and shoulder, almost entirely covered with a thin fat cover; slight deposits in the thoracic cavity.

External
A layer of fat covering most or the entire carcase; slightly thickened fat zones at the base of the tail.

Internal
Abdominal: light layer of fat envelops the kidneys.

Thoracic: muscle still visible between the ribs.

R3H Classification example

Conformation

Profiles generally straight; good muscle development.

Legs
Profiles mainly straight.

Loin
Full, but less width to the shoulder.

Shoulder
Good development, but less full.

Fat

Flesh, with the exception of the leg and shoulder, almost entirely covered with thickening fat cover; increasing deposits in the thoracic cavity.

External
A light layer of fat covering most or the entire carcase; thickened fat zones at the base of the tail, over the chump loin and shoulder.

Internal
Abdominal: thicker layer of fat envelops part or all of the kidneys.

Thoracic: slight fat deposits may be visible between the ribs.

R4L Classification example

Conformation

Profiles generally straight; good muscle development.

Legs
Profiles mainly straight.

Loin
Full, but less width to the shoulder.

Shoulder
Good development, but less full.

Fat

Flesh covered with fat, but still partly visible on the legs and shoulder; some distinctive fat deposits in the thoracic cavity.

External
A thick layer of fat covering most or all of the carcase, but may be thinner on limbs and thickening on shoulders.

Internal
Abdominal: kidney is enveloped in fat.

Thoracic: muscle between the ribs may be slightly infiltrated with fat; deposits may be visible on the ribs.

R5 *Classification example*

Conformation
Profiles generally straight; good muscle development.

Legs
Profiles mainly straight.

Loin
Full, but less width to the shoulder.

Shoulder
Good development, but less full.

Fat
Carcase thickly covered with fat; heavy fat deposits in the thoracic cavity.

External
Very thick fat cover, patches of fat sometimes visible. The flank will be very thick, firm to the touch, with very heavy flank fat deposits.

Internal
Abdominal: kidneys enveloped in thick layer of fat.

Thoracic: muscle between the ribs infiltrated with fat; deposits visible on the ribs.

U3H Classification example

Conformation

Profiles generally convex; very good muscle development.

Legs
Full, profiles convex.

Loin
Wide and full to the shoulder.

Shoulder
Convex and full.

Fat

Flesh, with the exception of the leg and shoulder, almost entirely covered with thickening fat cover; increasing deposits in the thoracic cavity.
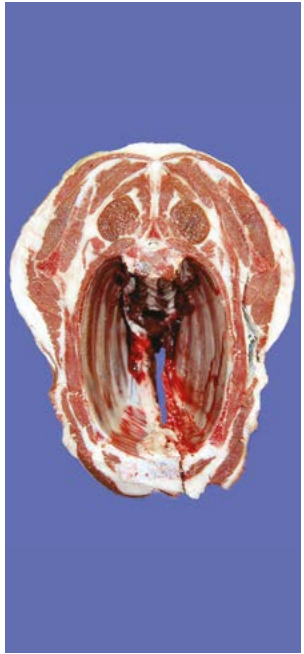
External
A light layer of fat covering most or the entire carcase; thickened fat zones at the base of the tail, over the chump loin and shoulder.

Internal
Abdominal: thicker layer of fat envelops part or all of the kidneys.

Thoracic: slight fat deposits may be visible between the ribs.

U4H Classification example

Conformation

Profiles generally convex; very good muscle development.

Legs
Full, profiles convex.

Loin
Wide and full to the shoulder.

Shoulder
Convex and full.

Fat

Flesh covered with fat; distinctive fat deposits in the thoracic cavity.

External
A thick layer of fat covering most or the entire carcase. The flank will be thick, firm to the touch, with heavy flank fat deposits.

Internal
Abdominal: kidneys enveloped in fat.

Thoracic: muscle between the ribs infiltrated with fat; deposits may be visible on the ribs.

Produced for you by:

Better Returns Programme
AHDB Beef & Lamb
Stoneleigh Park
Kenilworth
Warwickshire
CV8 2TL

T **024 7647 8834**
E **brp@ahdb.org.uk**
W **ahdb.org.uk**
🐦 **@AHDB_BeefLamb**

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

AHDB