



Guidelines for Assessing Wagyu Cattle in Australia

Introduction

Wagyu beef is known worldwide for its melt-in-your-mouth texture, depth of flavour and tenderness.

Australia was at the forefront of Fullblood Wagyu imports from Japan, through the US, in the early 1990's, establishing a strong base of outstanding Fullblood genetics across each of the three major Wagyu blood lines. Wagyu has been a natural fit with the Japanese orientated long-fed Australian feedlot industry, making Australia the leading Wagyu seedstock and beef producer outside Japan.

The Australian Wagyu breeding industry has very successfully used these genetics to improve the capability of the Australian Fullblood Wagyu cattle to perform in a wide variety of climatic conditions, producing larger carcasses and developing a worldwide recognition of exquisite eating quality.

The Fullblood Wagyu is unsurpassed for its marbling and superb eating quality. This comes from its much higher oleic acid content, compared to other breeds, with this softer unsaturated fat and finer meat texture making Wagyu not only better tasting beef, but also healthier.

Australian beef producers have quickly recognised that the superior genetic qualities of Wagyu are easily cross bred into other breeds. Angus and dairy Holsteins are the predominant breeds for cross breeding, to improve meat quality and dollar value, as marbling is the most influential component of meat taste and tenderness.

Wagyu cattle are typically grain fed for the last 300 – 650 days of production to maximise marbling.

Breed Description

Japanese Wagyu derive from native Asian cattle, which were infused with British and European breeds in the late 1800's. Although the breed was closed to outside breed lines in 1910, regional isolation has produced a number of different blood lines with varying conformation. These breeding differences have produced a Japanese national Wagyu herd which comprises 90% horned black hided, with the remainder being red. The Japanese National Wagyu Registry Association registers three breeds:

- Japanese Black (Wagyu)
- Japanese Brown
- Japanese Polled Black

Three major black blood lines evolved due to regional geographic isolation in Japan:

Tajima or Tajiri – originating from the Hyogo prefecture, these cattle were used to pull carts and ploughs so they developed larger forequarters and lighter hindquarters. They are generally smaller framed with slower growth rates, but produce excellent meat quality with large eye muscle and superior marbling. They are considered ideal for the production of F1 cattle for slaughter.

The Tajima bloodlines are generally regarded as producing the best quality meat in all of Japan.

Shimane or Fujiyoshi – from the Okayama prefecture, Shimane cattle are medium framed with average growth rates and good meat quality.

Kedaka or Tottori – Wagyu from the Tottori prefecture were originally pack animals in the grain industry, so they are larger animals with straight, strong back lines and generally good growth rates. While their meat quality is variable, they provide the best blood lines for milking ability.

A combination of all 3 black bloodlines is often used for Fullblood meat production.

The red Wagyu (Akaushi) blood lines, Kochi and Kumamoto, have been strongly influenced by Korean and European breeds, particularly Simmental.

It is critical for Wagyu breeders to understand the characteristics of each blood line when cross breeding to produce higher quality Wagyu beef.

Quality Assurance

The Australian Wagyu Association maintains a registered cattle herd book to ensure breeding quality and integrity. The Association and its 300 members are responsible for the accurate recording of the Australian Wagyu blood lines, with DNA parent verification a strict requirement for herd book registration. Continual genetic improvement of Wagyu Fullblood and cross bred production traits is delivered through Wagyu BREEDPLAN.

Wagyu cattle are available in five categories from Fullblood through to F1:

Wagyu Fullblood 100%

The offspring of a Fullblood Wagyu sire and a Fullblood Wagyu dam whose forebears originate from Japan and whose pedigrees show no evidence of any cross breeding.

Purebred Wagyu F4 93+%

Has greater than 93% Wagyu genetic content. For example, the result of at least four generations of crossbreeding using a Wagyu Fullblood sire and a Crossbred Wagyu F3 dam.

Crossbred Wagyu F3 87+%

Has greater than 87% Wagyu genetic content. For example is the result of at least three generations of crossbreeding, using a Wagyu Fullblood sire and a Crossbred Wagyu F2 dam.

Crossbred Wagyu F2 75%

Has 75% or higher Wagyu genetic content. For example is the result of at least two generations of crossbreeding, using a Wagyu Fullblood sire and a Crossbred Wagyu F1 dam.

Crossbred Wagyu F1 50%

Has 50% or higher Wagyu genetic content. For example the first generation of crossbreeding a Wagyu Fullblood sire and the dam of another breed.

How to assess/evaluate your cattle

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1. Classification and naming of cattle body parts

Diagram 1: Classification of cattle body

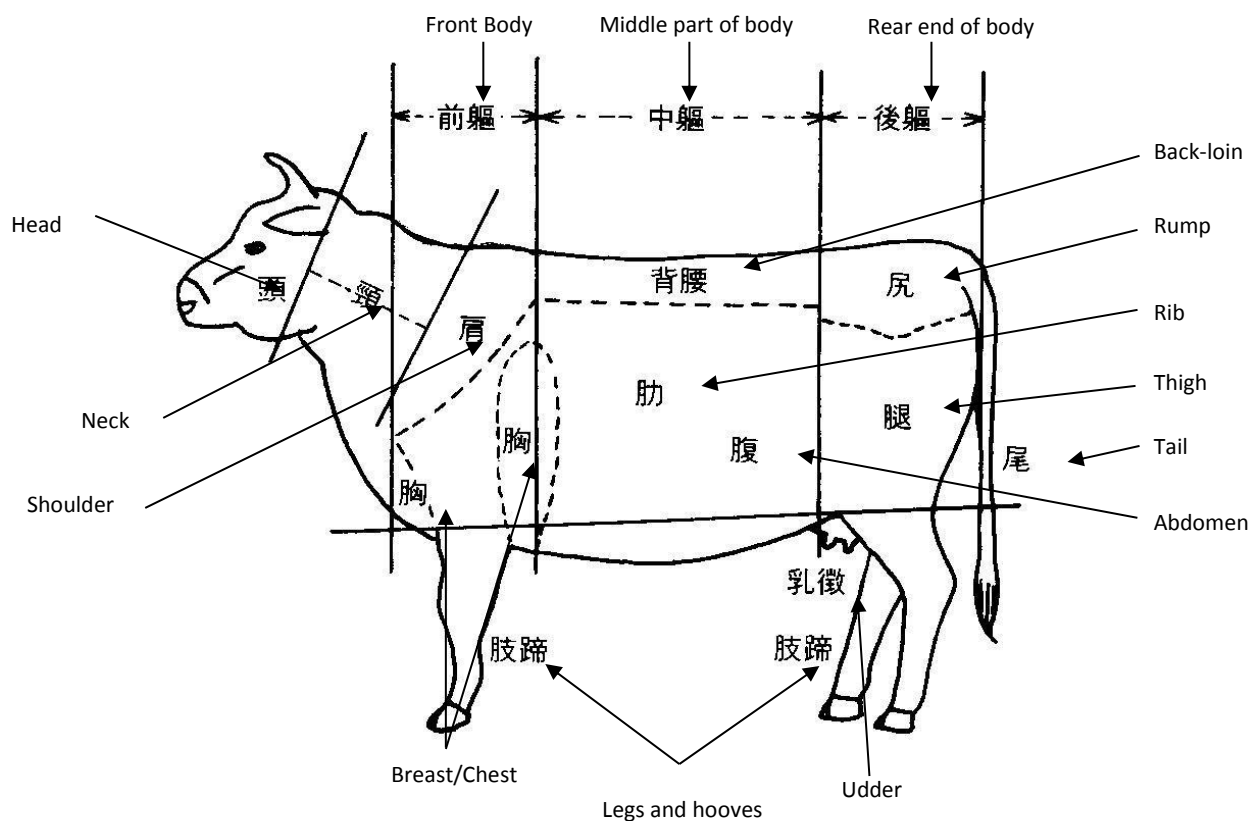


Diagram 2: Name of each part of the body (Side view)

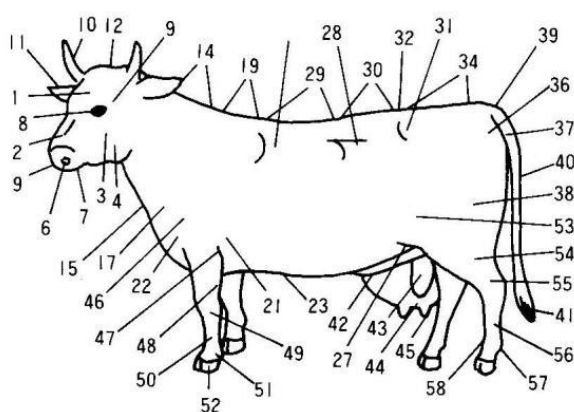
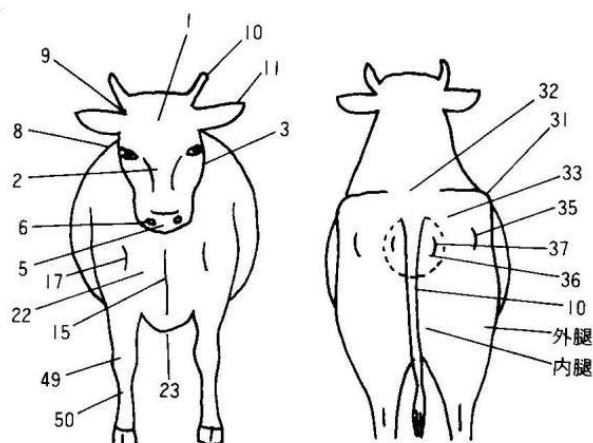


Diagram 3: Name of each part of the body (front and back views)



Name of each body part

1: Forehead 2: Nose 3: cheek 4: Jaw 5: Muzzle 6: Nostril 7: Mouth 8: Eye 9: Temple
 10: Horn 11: Ear 12: Poll 13: Neck 14: Nape of neck
 15: Dewlap 16: Shoulder 17: Point of shoulder 18: Crops 19: Withers 20: No translation 21: No translation 22: Brisket 23:
 Under breast 24: Rib 25: Abdomen 26: Flank 27: No translation

28: No translation 29: Back 30: Loin 31: Hip bone 32: Hip cross 33: Rump 34: Sacrum 35: Thurl 36: Tail end 37: Ischium 38: Thigh 39: Tail head 40: Tail 41: Switch 42: Prepuce 43: Testis 44: Udder 45: Teat 46: Upper leg 47: Elbow 48: Foreleg 49: Knee 50: Shank 51: Pastern 52: Hoof 53: Stifle 54: Second thigh 55: Hock 56: Hind shank 57: Dewclaw 58: Fetlock

2. Methods of measuring the body

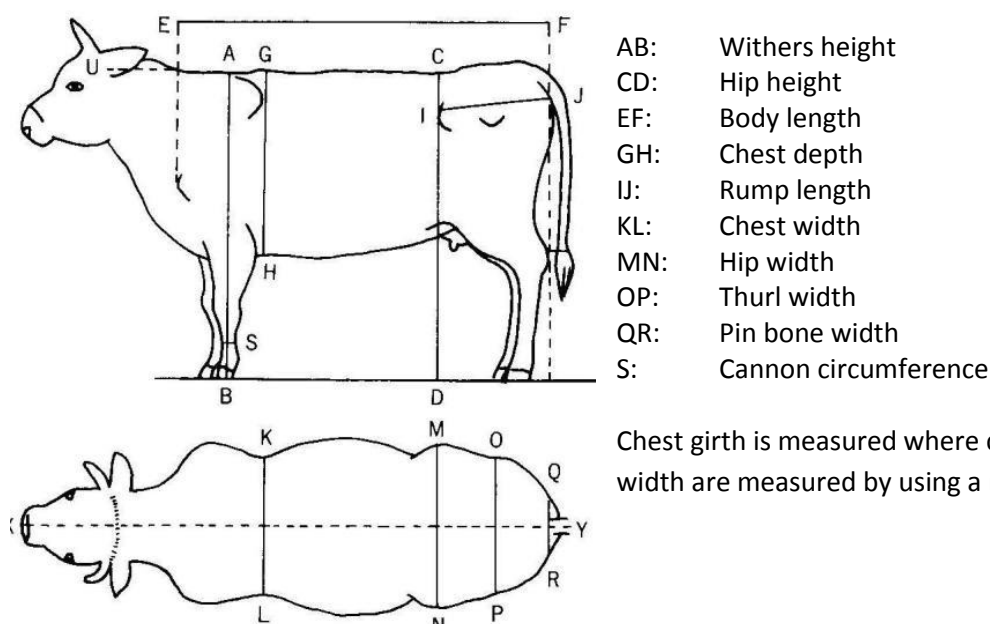
Obtaining quantitative information about individual cattle – such as size, growth condition and proportion of body parts – is essential not only for evaluating cattle, but also for promoting group improvement projects as well as for conducting various experiments and research.

For judging how well or poorly cattle growth is progressing, the growth curve based on withers height can be used, as shown at the bottom of this page.

[Caution must be taken to ensure accurate cattle body measurement]

1. Stand cattle on a flat surface.
2. When approaching cattle, speak calmly and naturally to them to avoid surprising them.
3. Maintain correct posture of cattle during measurement (as in the diagram below).
4. Measure the right side of the body (the established convention).
5. Be familiar with and use your measuring tools correctly.
6. Measure the right side of the body using the correct method.
7. One person establish accurate measurements with another carefully recording them (measurements are read out loud when made, and repeated aloud as they are taken down).

Diagram 4: Measurement parts of the body and the correct posture for measurement

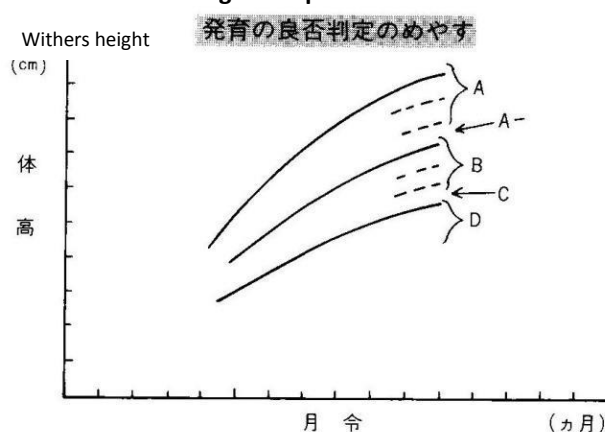


Chest girth is measured where chest depth and chest width are measured by using a measuring tape.

When measuring fore legs and hind legs stand with appropriate gaps between them. The fore legs should stand straight without leaning forwards or backwards.

JT: The hind legs should have a vertical line from the pin bone to the hock.

Yardstick for growth prediction

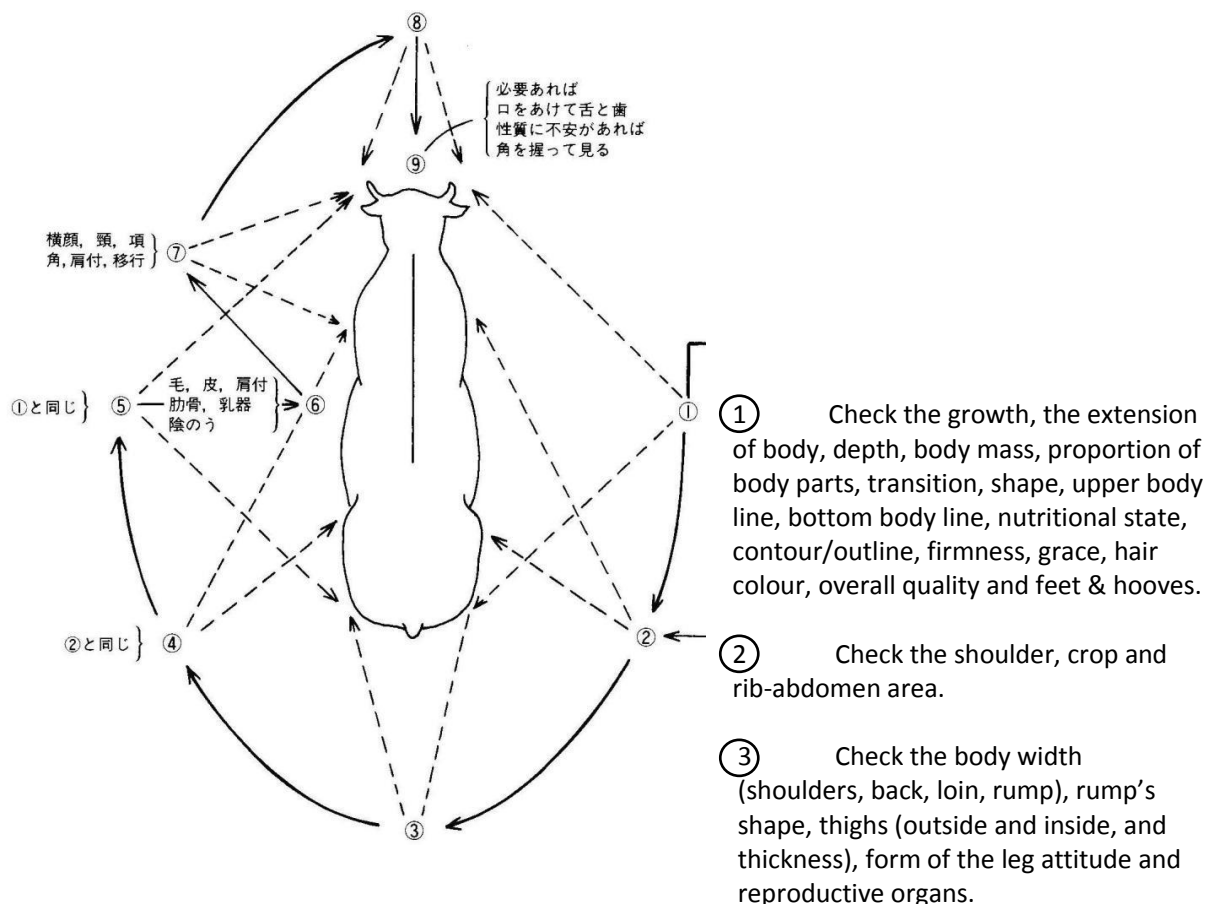


- UA: The head should be in the position so that the base of the ear and the withers remain at the almost same height.
- XY: The mid-spinal line between the muzzle and the tail head should be straight.

3. The order and position for assessing cattle bodies

While assessing cattle, ensure they stand on a flat surface in the correct posture, and maintain a distance of 2 to 2.5 times their withers height from them. Walk around and perform the checks in the order listed – from 1 to 9 – as shown in the diagram below.

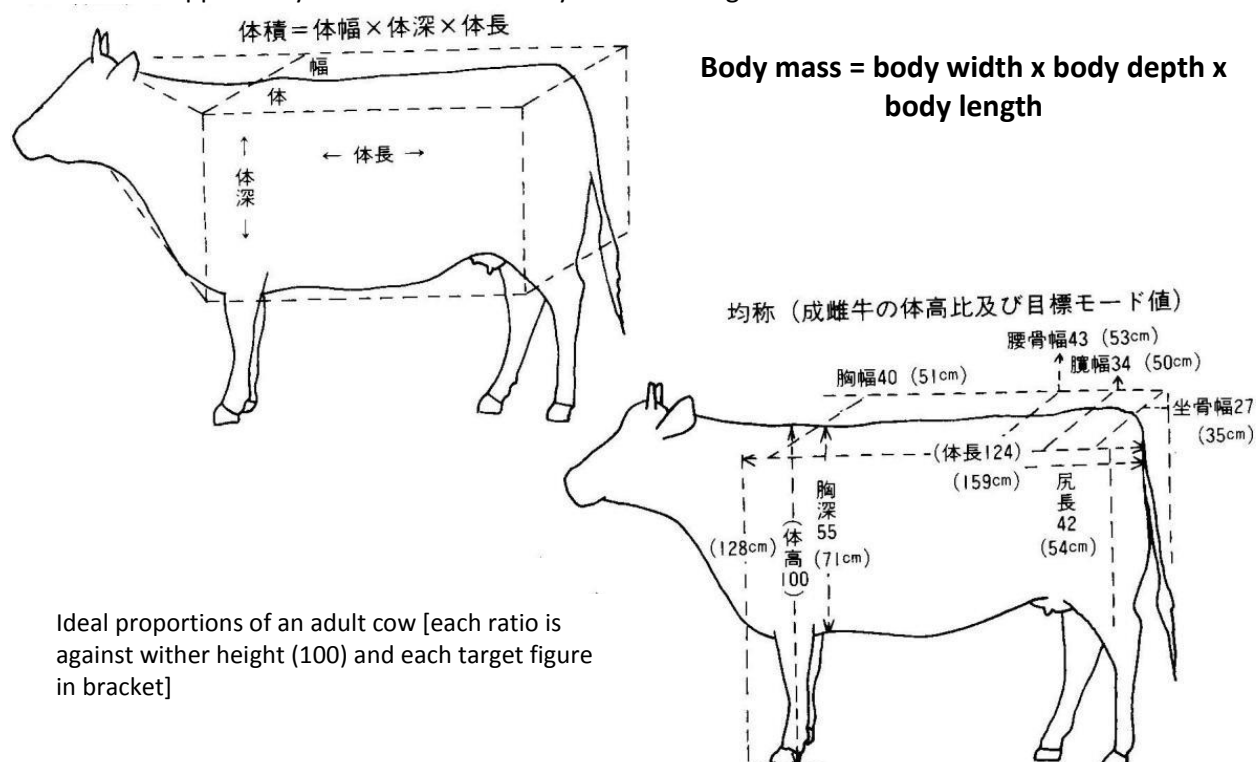
When approaching cattle and touching them, it is important to make sure they feel safe. To accomplish this quietly talk to them when approaching and handling them. It is also important to touch them continuously, gently maintaining contact.



4. How to assess each part of the body

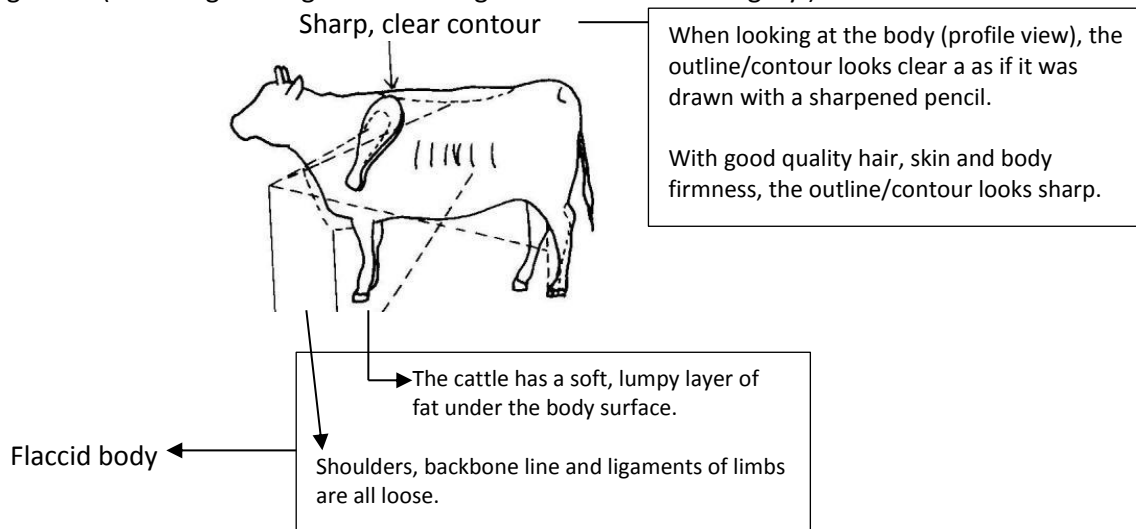
Size/dimension and proportion

1. Growth: Check whether the animal is growing well according to its age of months, referring to the growth curve based on the withers height.
2. Body mass/Size: Check whether the animal has good body width (back view), body depth and body length (side view).
3. Proportion: Check whether the animal has the good proportion of body and head, the body and limbs, and front, middle and hind parts of the body, according to its age of months.
4. Both upper body line and bottom body line are straight.



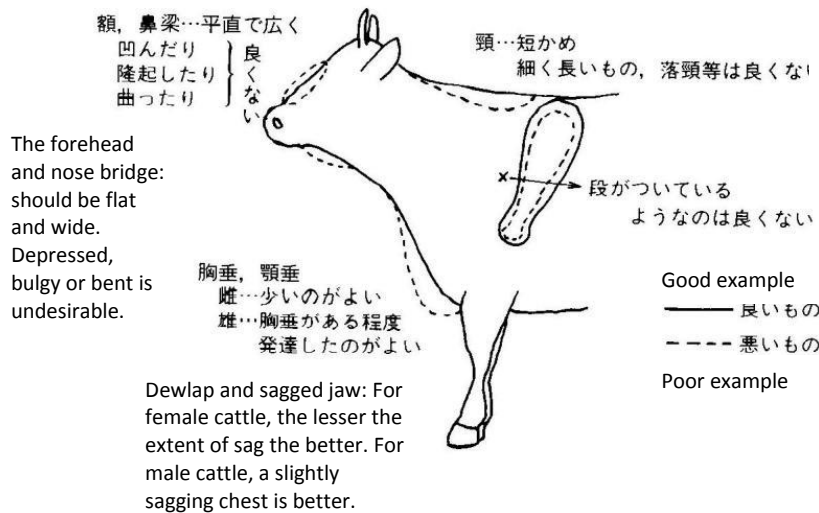
Exterior/Appearance quality

1. Contours: sharply defined, not floppy.
2. Quality: good quality coat/hair (colour, gloss, softness, hair density), skin (thickness and elasticity), horns, hooves and bone (shape, size and quality).
3. Grace/elegance: appropriate body shape, quality and face for its gender with high quality as breeding cattle (overweight is regarded as a negative even in this category.)

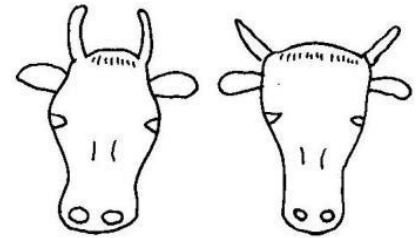


Head and neck

1. The proportion of the head and neck: it is preferable for the head to look slightly smaller.
2. The face should have gracefulness.
3. The face should have a good proportion of the face length and width.
4. The neck should be short and well integrated to the body.



The neck: short; a long neck and sharp dropped neckline are undesirable.

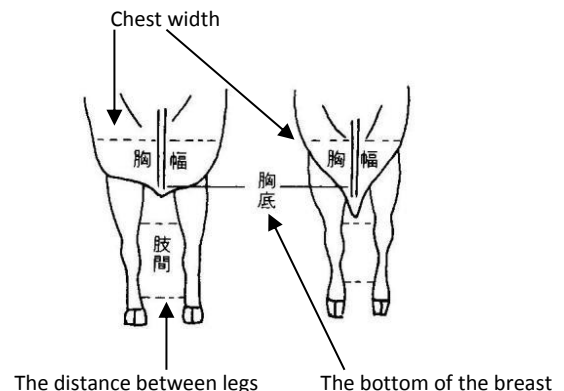
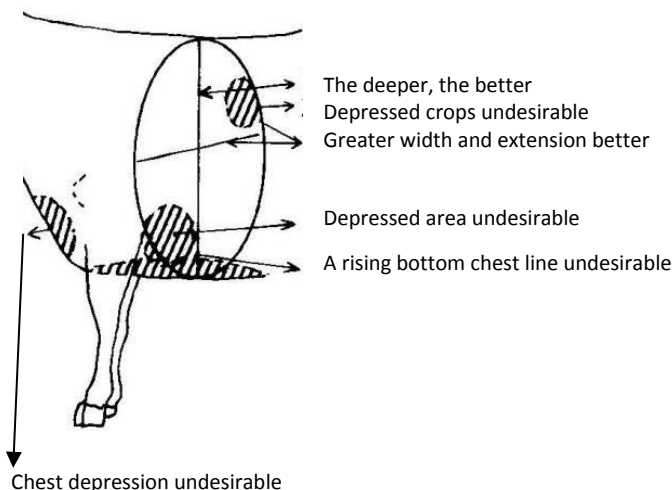


Appropriately proportioned facial features – width and length – a wide mouth, and large muzzle and nostrils.

Poorly proportioned features – narrow width – a small mouth, and small muzzle and nostrils.

Front part of the body

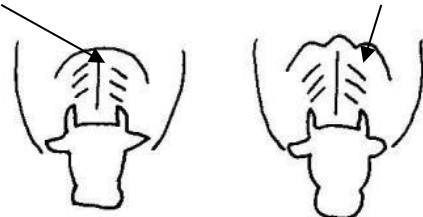
1. The whole front part of the body: should have sufficient width and depth, with tension and fullness.
2. The chest: wide, deep and solid with a flat under brisket.
3. Shoulders: the withers should be thick, the shoulders not bulging, and the crops solid.
4. The ratio of the chest to shoulders: 2:1



A deeper, wider chest (the width of the chest extends to the bottom of the breast) and greater distance between the legs are better.

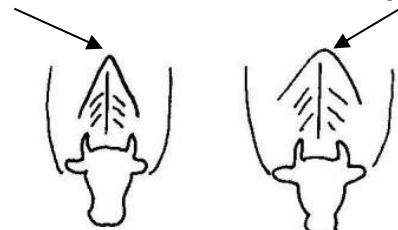
Thick shoulders are expected in beef cattle

The shoulders are thick, but not sufficiently firm (three shoulders)



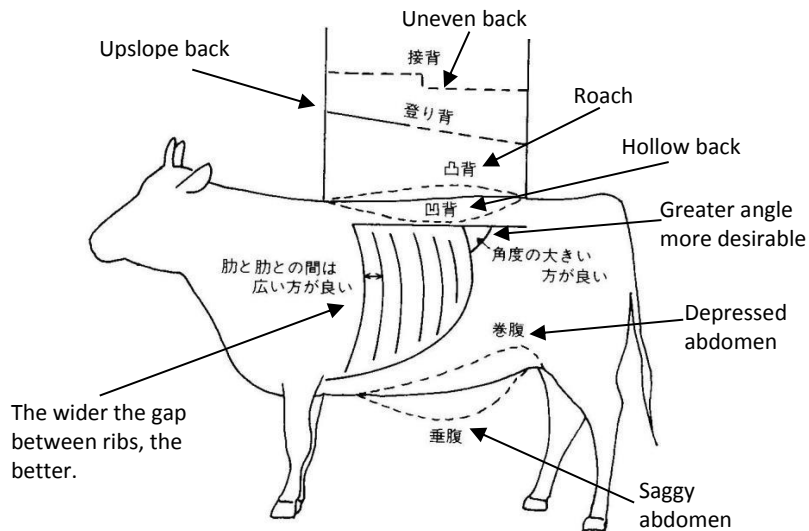
Shoulders too thin

Shoulders lacking breadth



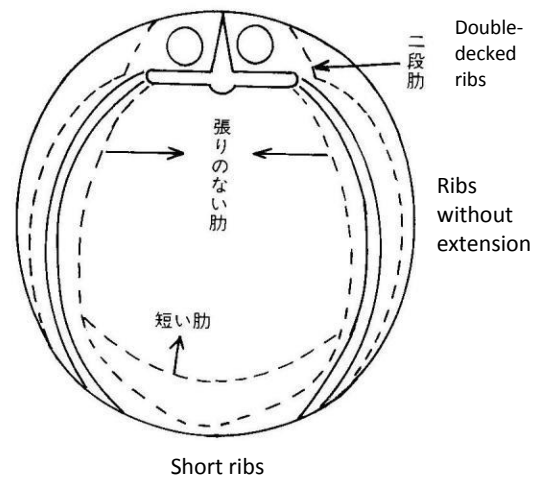
Middle part of the body

1. The entire middle part of the body: wide and full, and well extended.
2. The back-loin: wide, long and strong, horizontally straight with a smooth transition to the rear part of the body.
3. The ribs-belly: high rib angle with extension and wide gaps between ribs. A firm belly with firm/full lower flank.
4. The proportion of the back-loin to the ribs-belly: 2:1

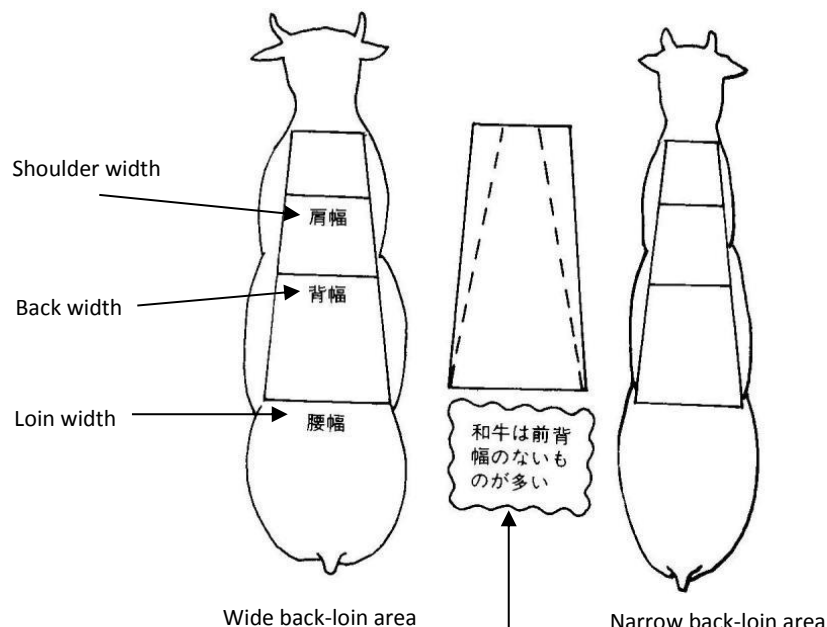


—— Good example - - - - - Poor example

Section of the Rib-belly area: it should look like a sliced beer barrel in rounds



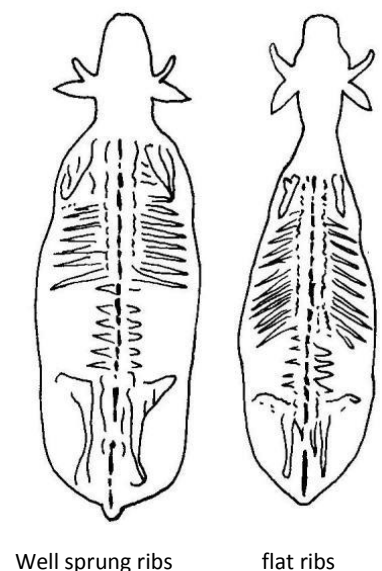
—— Good example - - - - - Poor example



Wagyu cattle tend to have narrow shoulder width.

The ribs should be more vertical against the back bone

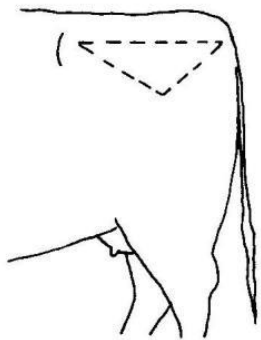
肋は良く立ったものがよい。



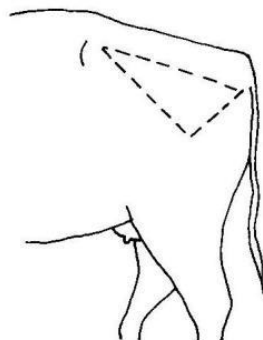
Well sprung ribs flat ribs

Rump

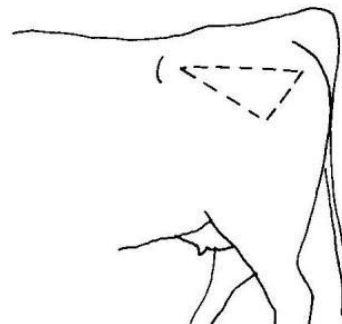
1. The whole rump: firm, wide (including hip width, thurl width and pin bone width) and long.
2. Shape: flat from both the side view and behind, without too much fat around the tail head and ischium.
3. Hip: not 'sticking out' (females with a more square shaped hip, males with a rounder hip).
4. Hip cross: flat.



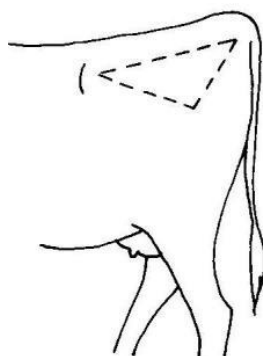
Ideal shaped rump



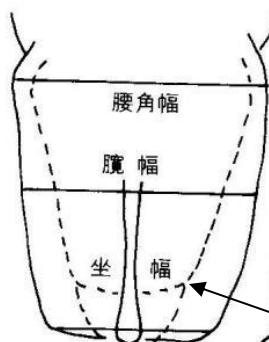
Declining rump



Rump with high sacrum



Inclining rump



Rump width (hip width, thurl width
pin bone width) x rump length

Hip width

—— Good example

----- Poor example

Thurl width

Pin bone width



Good hip and hip
cross (female)



Bulging hip cross



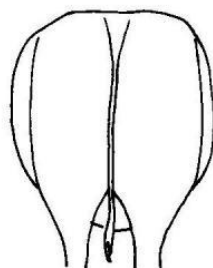
Hip cross with a lack of
muscle and raised hip



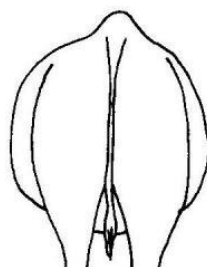
Raised hip



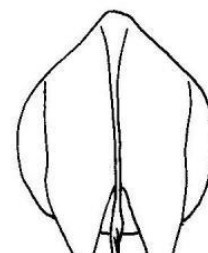
The worst shape of
hip and hip cross



Ideal rump



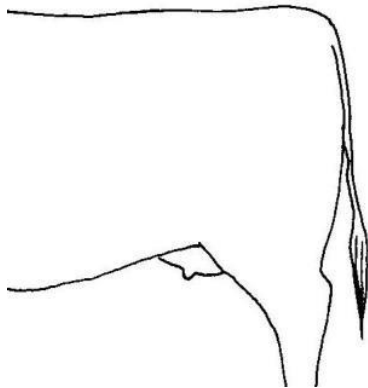
Declining rump with high sacrum



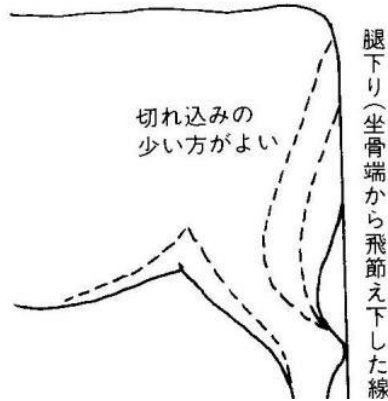
Sharp declining rump with low
and narrow thurl

Thigh

1. The whole thigh: firm, wide and thick.
2. Side view: Upper thigh – and especially bottom thigh – should be wide with a good/straight plumb line.
3. View from behind: both upper and bottom thighs should be thick and full/plump, and the inner thigh areas should not extend too high.

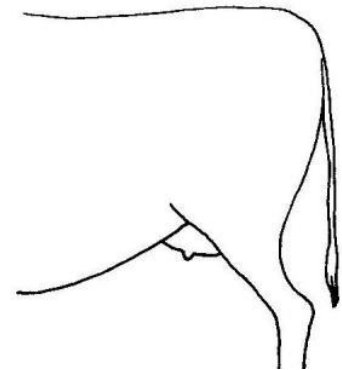


A good wide thigh, with a plump lower flank area

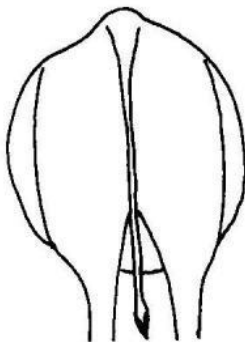


Plumb line (the straight line from the tip of hip bone down to the hock): the less indented the plumb line is, the better.

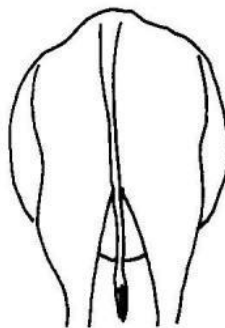
———— Good example
 ----- Poor example



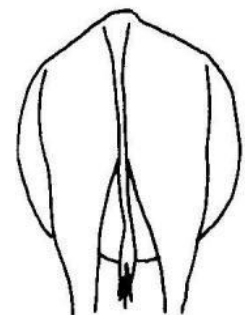
Narrow, insubstantial thigh with the lower flank lacking fullness



Good plump thighs



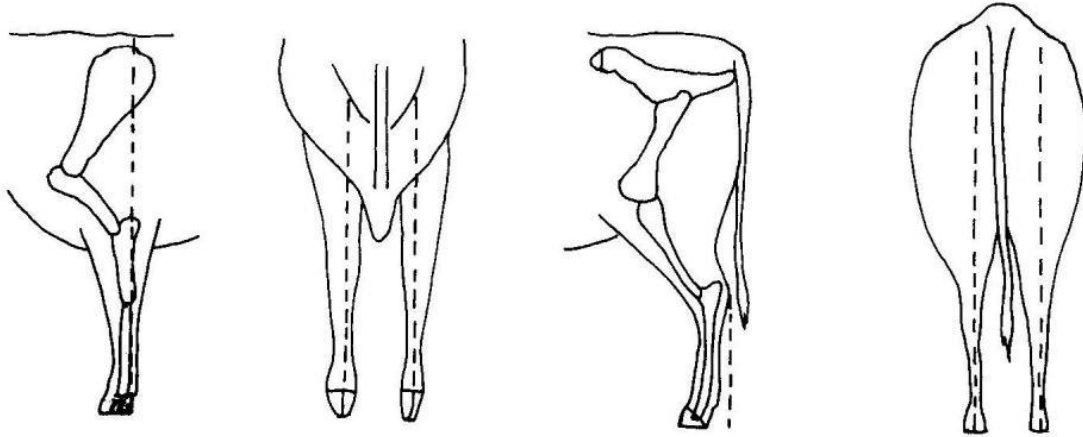
Thighs lacking fullness under the thurl



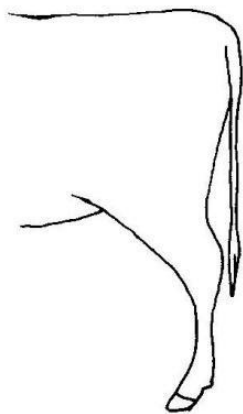
Thin thighs with the inner thigh areas extending too high

Leg-hoof and gait

1. Proportions: the necessary and appropriate proportions derive from the age in months.
2. Legs: muscle tendons and joints must properly develop.
3. Hooves: should be black in colour, large and of high quality.



Good leg stance



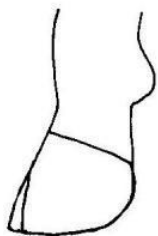
Properly developed hock



Too straight in the hock



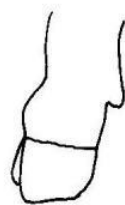
Sickle-hocked legs (hocks are low and weak.)



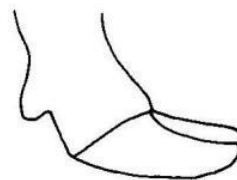
Good hoof and pastern



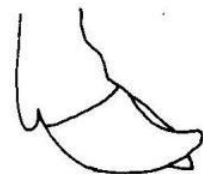
Small hoof with the joint of the hoof and pastern not sufficiently straight



Small and upright hoof, and upright pastern



Long, thin hoof as a result of poor management

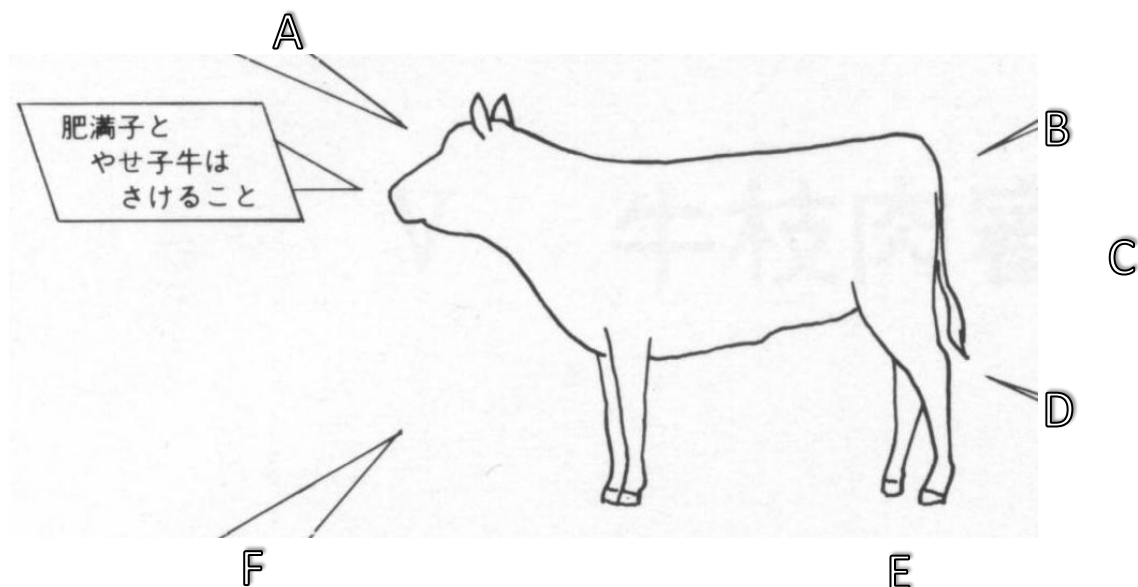


Scissor-like hoof

5. How to examine and select calves

A It is important to choose healthy, well developing calves.

Body part	Sex	Age (month)	Growth of calves (Unit: cm)			
			A (Excellent)	B (Good)	C (Average)	D (Poor)
Withers height	Male	6	And more 107.6	And more ~ under 104.5 ~ 107.6	And more ~ under 102.9 ~ 104.5	Under 102.9
		7	111.6	108.5 ~ 111.6	106.9 ~ 108.5	106.9
		8	115.1	112.0 ~ 115.1	110.4 ~ 112.0	110.4
	Female	6	103.5	100.4 ~ 103.5	98.8 ~ 100.4	98.8
		7	106.8	103.6 ~ 106.8	102.0 ~ 103.6	102.0
		8	109.7	106.4 ~ 109.7	104.7 ~ 106.4	104.7
Chest girth	Male	6	140.8	134.9 ~ 140.8	132.0 ~ 134.9	132.0
		7	148.5	142.3 ~ 148.5	139.2 ~ 142.3	139.2
		8	155.6	149.0 ~ 155.6	145.7 ~ 149.0	145.7
	Female	6	134.1	128.2 ~ 134.1	125.3 ~ 128.2	125.3
		7	140.5	134.3 ~ 140.5	131.2 ~ 134.3	131.2
		8	146.2	139.7 ~ 146.2	136.4 ~ 139.7	136.4

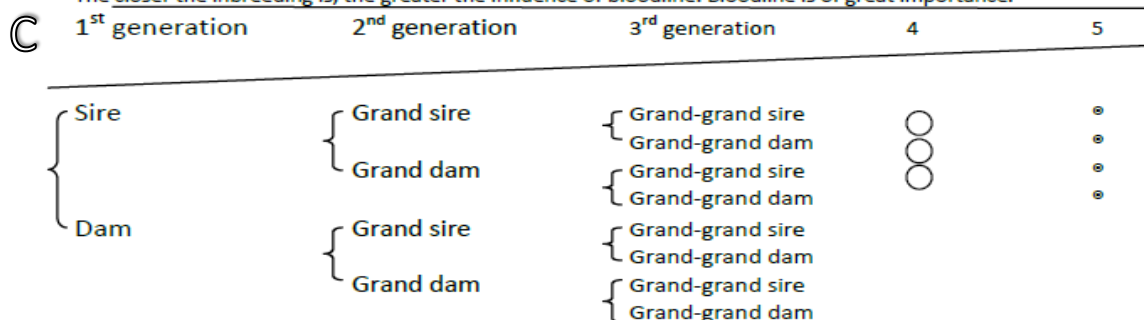


B It is important to choose calves with an excellent bloodline and strain, which:

- 1) Should have many advanced registered breeding animals in the calf's ancestors.
- 2) Should have good results for reproduction and meat production performance tests.
- 3) Preferably has information on the calf's dam's meat production.

Pay attention to characteristics of the calf's bloodline and strain.

The closer the inbreeding is, the greater the influence of bloodline. Bloodline is of great importance.



D It is important to choose a calf that will stay in shape.

- (1) The calf should have strong back-loins and a straight top-line.
- (2) The angle of shoulder should not be loose.
- (3) The hock should be sound with hind limbs that stand properly.
- (4) The neck line should not be dropping.
- (5) The pastern should be firm and the hooves should be large.
- (6) The calf should not have a sagging abdomen.

E Calf's body shape and quality

❖ Slight differences from adult cattle

- (1) Longer limbs compared with adult cattle and insufficient length of rear cannon bone
- (2) The hip cross is higher than the withers height.
- (3) The thurl width is wider than hip width.
- (4) The hair colour is lighter than adult's, but will get darker later on.
- (5) As flaws/defects will become worse, they require careful attention by touching and feeling them.
- (6) Some calves have a dropping rump, but as their hind limbs strengthen, their rump will improve.
- (7) If the calf has good ribs – at right angles to the top-line – the rib cage will extend as the rumens develop.

The age when each measurement of a calf reaches at 90% of that of matured cattle (Months)

	Withers height	Hip height	Body length	Chest girth	Chest depth	Chest width	Hip width	Thurl width	Ischium width	Rump length	Cannon circumference
Male	13.9	11.3	17.2	19.5	18.4	23.5	25.6	18.0	21.3	19.9	13.8
Female	17.2	13.3	23.8	30.5	26.4	28.0	32.7	24.0	26.5	23.8	31.1

F Choose a calf that is easy to look after and will grow well in the future.

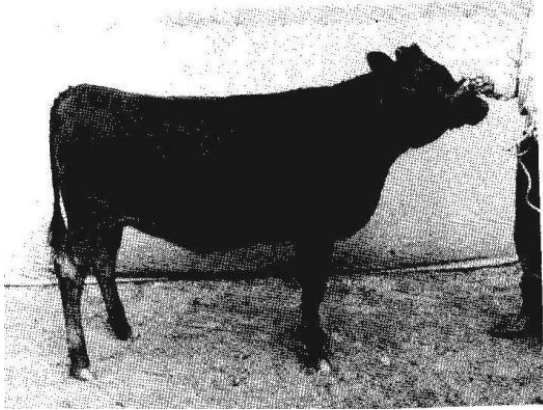
❖ Calves that will grow into large cattle have:

- (1) Large bone structure.
- (2) A higher hip cross than its withers height.
- (3) Longer limbs compared to adult cattle.
- (4) A prominent hock and long pastern.

❖ Calves that are easy to look after with high feed efficiency have:

- (1) Good body width and depth, in terms of a calf.
- (2) A short face and neck, a large mouth and snout and a wide chin.
- (3) High withers.
- (4) Extended ribs with a good angle to the top-line and a good rib length, and an abdomen with a large capacity.
- (5) Flexible skin.
- (6) Strong, thick bones in the limbs.
- (7) A good temperament without nervousness.

Calf with a sound body structure (5 months of age)



The top-line, limbs and hooves and neck are all strong. The shoulder attachment is also good. The all-round good features of this calf indicate its excellent development.

Calf difficult to raise (5 months of age)



The mouth is small, and the neck is narrow. This calf has too high withers for a calf.