



a useful guide to

Linear Assessment

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SCORING PROCEDURE

Stage of lactation and age of animal must be taken into consideration when assigning classification score and composite box breakdown. The classification benchmark standard is by comparison to the Society's 'Model Cow'.

- **Pointing System**

Excellent	90 – 97
Very Good	85 – 89
Good Plus	80 – 84
Good	79 – 75
Fair	74 – 65
Poor	64 – 50

- **Maximum Points**

1 st Calver	89 points
2 nd Calver	89 points
3 rd Calver	93 points
4 th +	97 points

- **VG Heifer – 4 Box Breakdown**

90 point Maximum
85 point Minimum Mammary, Feet & Legs
83 point Minimum Dairy Strength & Rump
142 cms Minimum Height

- **VG89 Heifers**

Must score a minimum of 89 points in every box
Must have calved before her third birthday

- **2nd Calver VG 89**

Does not have to be VG 89 points in all four composite boxes
Maximum score possible is 90 points for all four boxes

- **3rd Calver Excellent – No restriction on 4 Box Breakdown**

Final score 93 point Maximum

- **4th Calver Excellent – No restriction on 4 Box Breakdown**

Maximum final score 95 points

- **5th Calver Excellent – no restriction on 4 Box Breakdown**

Maximum final score 97

- **Functional Trait Composite – 4 Box Breakdown**

The final class and score will be calculated from the subjective trait breakdown at the following ratio:

Dairy Strength	15 %
Body Conformation	15 %
Legs & Feet	30 %
Mammary	40 %

The hand-held data equipment will display a suggested final class and score, calculated from the functional trait composite breakdown. Classifiers may adjust the final score by one point.

The four functional trait composite areas are as follows:

Dairy Strength

Dairy Strength is not to be focused on size or stature, but as strength through the front end and heart region of the animal, strength of constitution & front rib.

Body Conformation

Body Conformation takes account of, independently, the entire skeletal structure of the animal to identify a 'balanced' animal rather than the extremes. (The Body Conformation composite includes the Rump structure).

Legs & Feet

The shape and quality of the legs & feet, resulting in good locomotion. The classification to take into consideration environment and management factors.

Mammary

The strength and quality of the fore and rear attachment, strength of central ligament and udder texture. The quantity of udder in relation to the size of animal, stage of lactation and time of inspection. Teat quality and position, with equal emphasis on teat position rear view and side view.

Final Score

The final score will be suggested automatically from a calculation of the 4 box breakdown. The classifier must take into consideration the age and stage of lactation when assigning the final score.

LINEAR INSPECTION

Heifer Inspections

Full range of points must be used.

2nd and Later Lactations

For traits not physically measured, the linear code assigned must be relative to a mature female (Society Ideal Model).

All females receive a linear assessment recorded on a 1 – 9 code scale:

Linear Traits

1	Stature	Measured at rump (withers for 2 nd and later lactations)
2	Chest Width	Width of chest between the top of the front legs
3	Body Depth	Depth of rear rib
4	Angularity	Openness of rib, depth of rear rib
5	Rump Angle	Hip to pins
6	Rump Width	Pin width
7	Rear Legs Set	Angle-side view
8	Foot Angle	Diagonal of foot angle – rear hoof
9	Fore Udder Attachment	Strength of attachment
10	Rear Udder Height	Distance from pins to milk secreting tissue
11	Central Ligament	Depth of ligament at base of udder
12	Udder Depth	The distance from the lowest part of the udder floor to the hock
13	Front Teat Placement	Position of the Front teats viewed from the rear
14	Rear Teat Position	Position of the Rear Teats
15	Teat Position	Side view
16	Teat Length	Length of the front teat
17	Locomotion	Movement of the animal
18	Body Condition Score	The covering of fat over the tail head and rump

Heifer Scoring – **DIAGRAMMATICAL DESCRIPTIONS**

Standard Trait Definition

The precise description of each trait is well defined and it is essential that the full range of linear scores to identify the intermediate and extremes of each trait be used. The assessment parameters for the calculations should be based on the expected biological extremes of two year-old heifers. The scale must cover the biological extremes of the population in the Country of assessment.

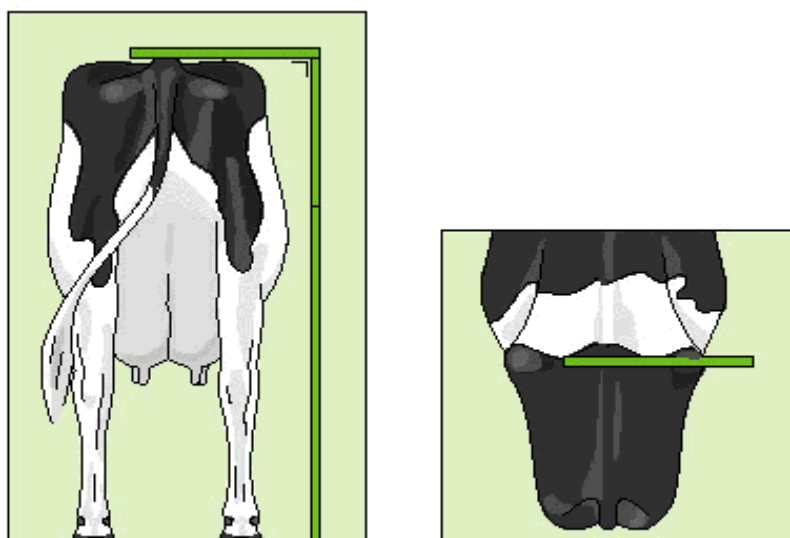
International WHFF Recommended Scale 1 - 9

1: Stature

Ref. Point: Measured from top of the spine in between hips to ground.
Precise measurement in centimetres/inches, or linear scale:

1 Short	(136 cm)
5 Intermediate	(148 cm)
9 Tall	(160 cm)

Reference scale: 136 cm – 160 cm; 3 cm per point

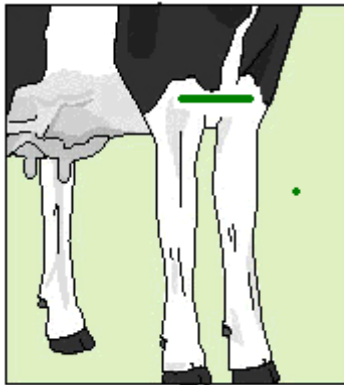


2: Chest Width

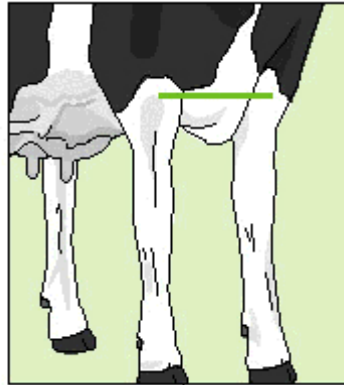
Ref. Point: Measured from the inside surface between the top of the front legs:

- 1 – 3 Narrow
- 4 – 6 Intermediate
- 7 – 9 Wide

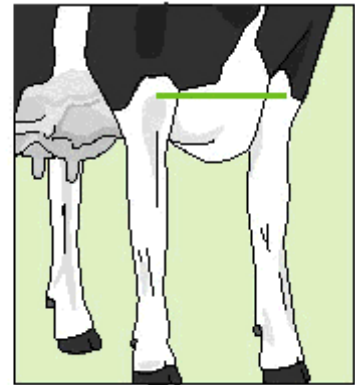
Reference scale: 13 cm – 29 cm; 2 cm per point



1
Narrow



5



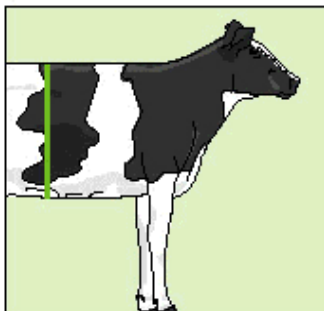
9
Wide

3: Body Depth

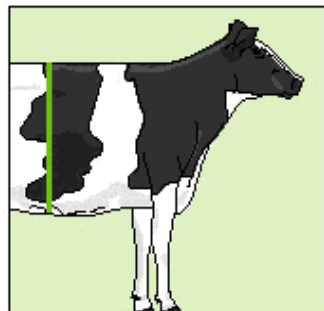
Ref. Point: Distance between top of spine and bottom of barrel at last rib – the deepest point, independent of stature:

- 1 – 3 Shallow
- 4 – 6 Intermediate
- 7 – 9 Deep

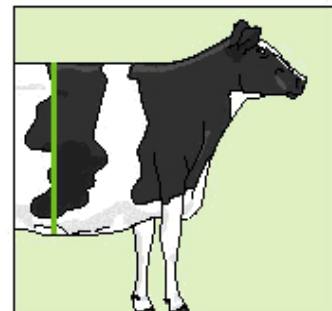
Reference scale: Optical in relation to the balance of the animal. Look always on the same side, because all cows are deeper on one side than the other.



1
Shallow



5



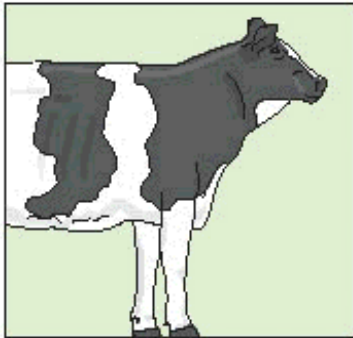
9
Deep

4: Angularity

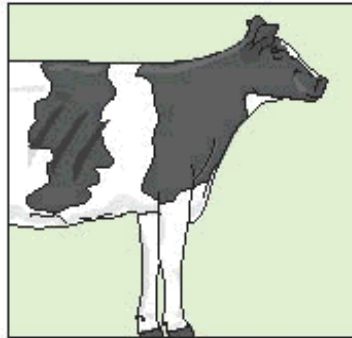
Ref. Point: The angle and spring of the ribs. Not a true linear trait.

- 1 – 3 Lacks angularity
- 4 – 6 Intermediate angle
- 7 – 9 Very angular

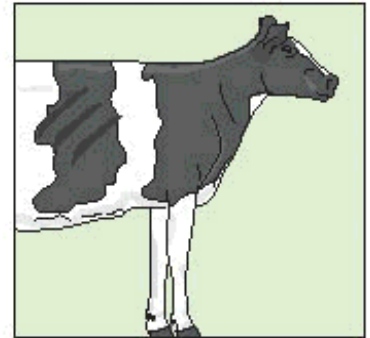
Defining “spring of ribs” is another way of referring to the degree of openness between the ribs. When ribs are tight there is no opening. When the ribs spring apart or expands open, the space between ribs becomes wider.



1
Coarse



5

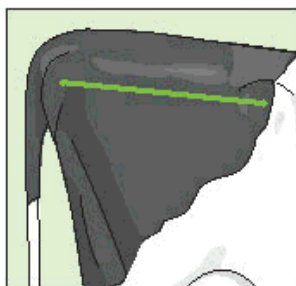


9
Open

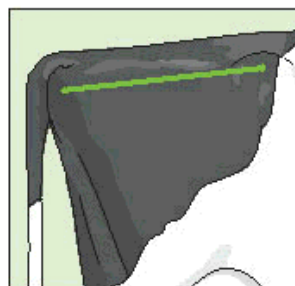
5: Rump Angle

Ref. Point: Measured as the angle of the rump structure from hooks (hips) to pins.

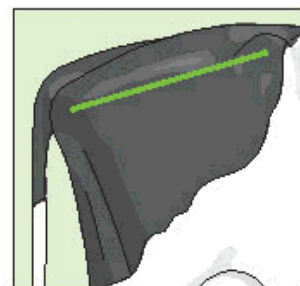
- | | |
|-----------------|----------|
| 1 High Pins | (+4 cm) |
| 2 | (+2 cm) |
| 3 Level | (+0 cm) |
| 4 Slight slope | (-2 cm) |
| 5 Intermediate | (-4 cm) |
| 6 | (-6 cm) |
| 7 | (-8 cm) |
| 8 | (-10 cm) |
| 9 Extreme slope | (-12 cm) |



1
High Pins



5



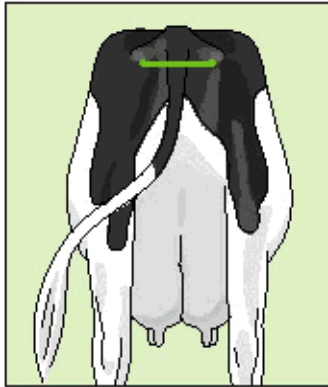
9
Sloped

6: Rump Width

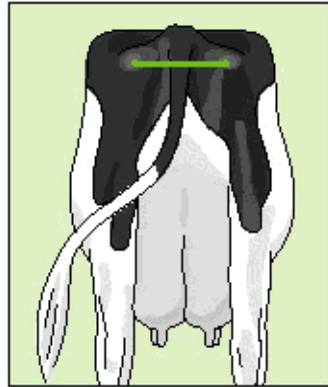
Ref. Point: Distance between the most posterior point of pin bones:

- 1 – 3 Narrow
- 4 – 6 Intermediate
- 7 – 9 Wide

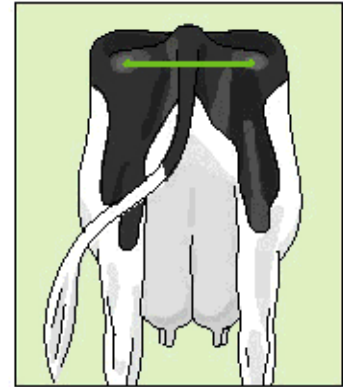
Reference scale: 10 cm – 26 cm; 2 cm per point



1
Narrow



5



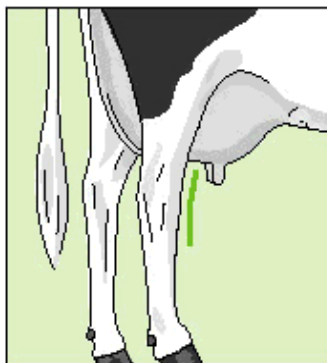
9
Wide

7: Rear Legs Side View

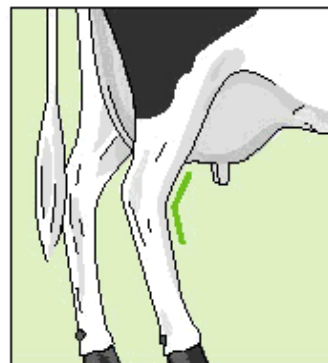
Ref. Point: Angle measured at the front of the hock:

- 1 – 3 Straight (160 degrees)
- 4 – 6 Intermediate (147 degrees)
- 7 – 9 Sickled (134 degrees)

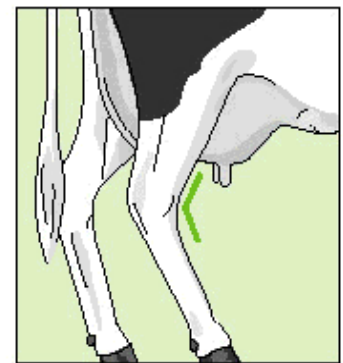
In case of a significant difference the worst/extreme side must be scored.



1
Straight



5



9
Sickled

8: Foot Angle

Ref. Point: Angle at the front of the rear hoof measured from the floor to the hairline at the right hoof.

- 1 – 3 Very low angle
- 4 – 6 Intermediate angle
- 7 – 9 Very steep

Reference scale: 1=15 degrees; 5=45 degrees; 9=65 degrees

If the Foot Angle is difficult to score because of hoof trimming, bedding, manure etc. it is possible to look at the Angle of Hairline. In case of a significant difference the worst/extreme side must be scored.



1
Low



5



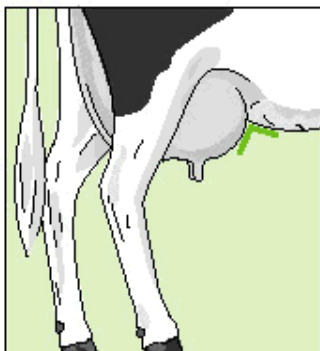
9
Steep

9: Fore Udder Attachment

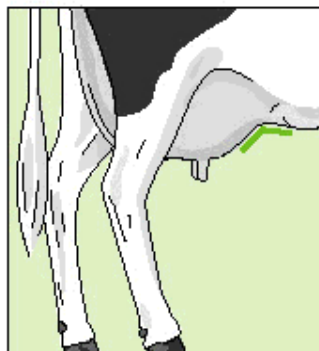
Ref. Point: The strength of attachment of the fore udder to the abdominal wall:
Not a true linear trait - Optical

- 1 – 3 Weak and loose
- 4 – 6 Intermediate acceptable
- 7 – 9 Extremely strong and tight.

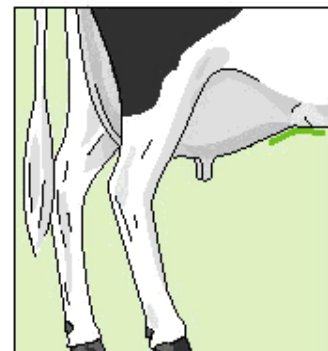
In cases of significant difference in the quality of udder attachment of either side the worse side must be scored. (Only if the udder is healthy).



1
Loose



5



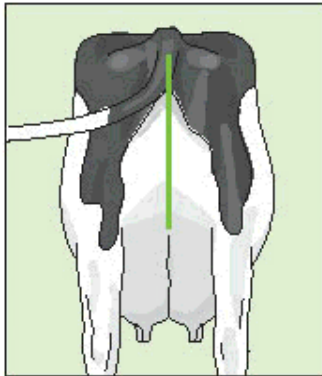
9
Strong

10: Rear Udder Height

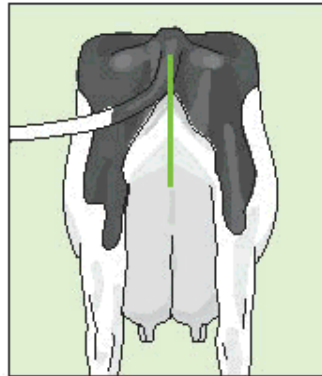
Ref. Point: The distance between the bottom of the vulva (pin bone) and the milk secreting tissue: in relation to height of the animal:

- 1 – 3 Very low
- 4 – 6 Intermediate
- 7 – 9 High

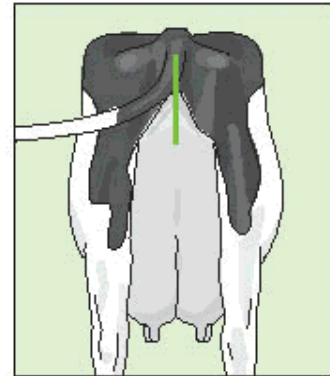
Reference scale: Measured on a scale between the bottom of the vulva and the hock; the midpoint represents a score 4 (29 cm); 2 cm per point



1
Low



5

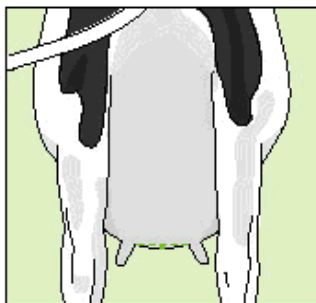


9
High

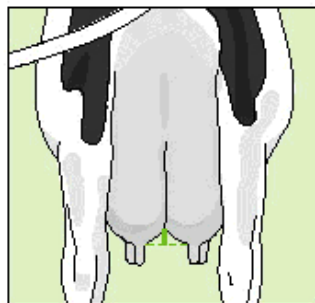
11: Central Ligament

Ref. Point: The depth of cleft, measured at the base of the rear udder:

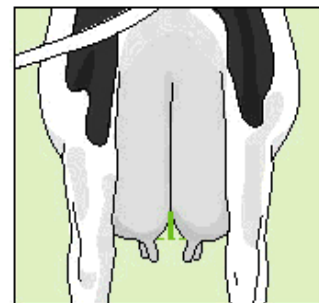
- 1 Convex to flat floor (+1 cm)
- 2 (+0.5 cm)
- 3 (+0 cm)
- 4 Slight definition (-1 cm)
- 5 (-2 cm)
- 6 (-3 cm)
- 7 Deep definition (-4 cm)
- 8 (-5 cm)
- 9 (-6 cm)



1
Broken



5



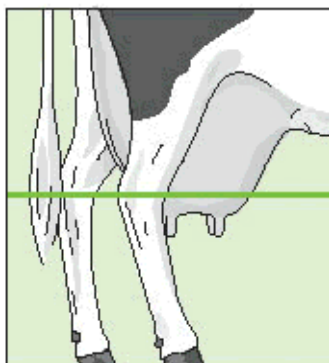
9
Strong

12: Udder Depth

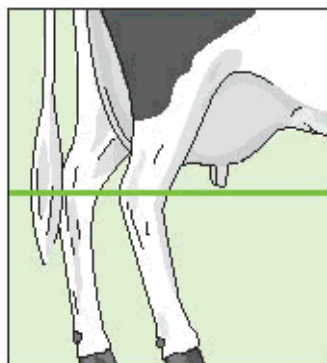
Ref. Point: The distance from the lowest part of the udder floor to the hock:

- 1 Below hock
- 2 Level with hock
- 5 Intermediate
- 9 Shallow (22cms Above Hocks)

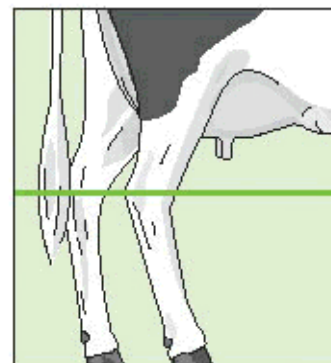
Reference scale: level=2 (0 cm); 3 per point



1
Deep



5

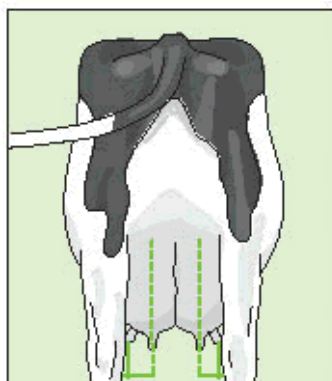


9
Shallow

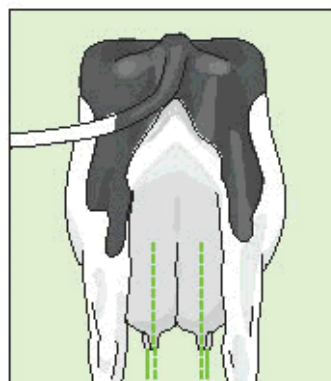
13: Front Teat Placement (FTP)

Ref. Point: The position of the front teat from the centre of the quarter as viewed from the rear:

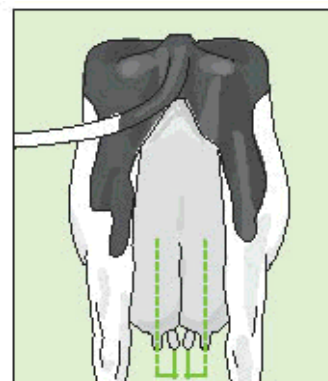
- 1 – 3 Outside of quarter
- 4 – 6 Middle of quarter
- 7 – 9 Inside of quarter.



1
Outside



5



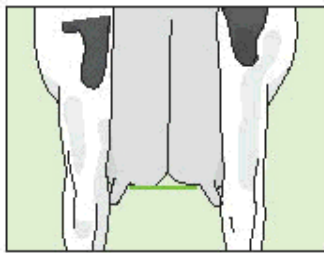
9
Inside

14: Rear Teat Position (RTP)

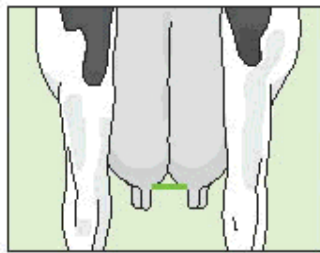
Ref. Point: The position of the Rear Teat from the centre of the quarter as viewed from the rear:

- 1 – 3 Outside of quarter
- 4 – 7 Middle of quarter
- 8 Touching
- 9 Crossing

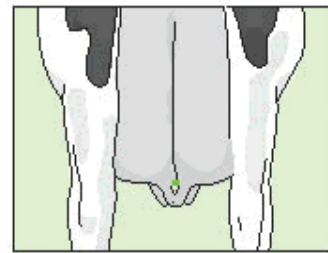
Reference scale: To obtain population distribution it is recommended that 4 represents mid point of the quarter



1
Outside



5



9
Inside

15: Teat Placement Side View (Unique to the UK)

Ref. Point: The distance between the front and rear teats

- 1 – 3 Close
- 4 – 6 Intermediate
- 7 – 9 Far Apart

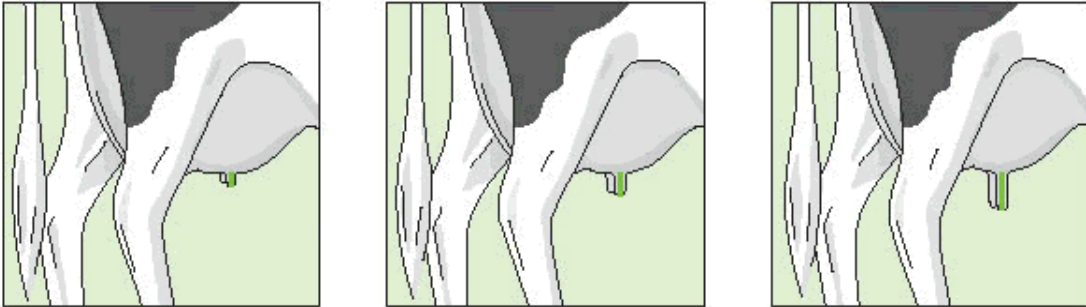
No Picture Available

16: Teat Length

Ref. Point: The length of the front or rear teat:

- 1 – 3 Short
- 4 – 6 Intermediate
- 7 – 9 Long

Reference scale: 1-9 cm; 1 cm per point by front teat and 0.75 cm by rear teat.



1
Short

5

9
Long

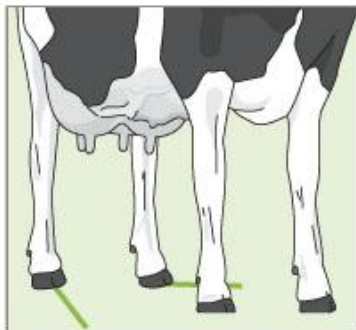
17: Locomotion

Ref. Point: When walking, the use of legs, feet, length and direction of the step.
Not a true linear trait.

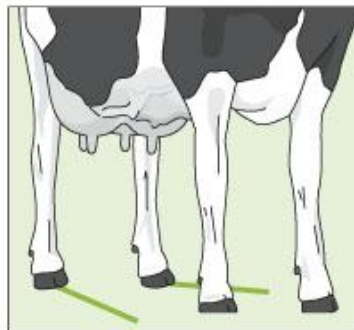
- 1-3 = Severe Abduction and/or Short Stride
- 4-6 = Slight Abduction and Medium Stride
- 7-9 = No Abduction and long stride

Abduction is the lateral deviation in respect to the straight line.

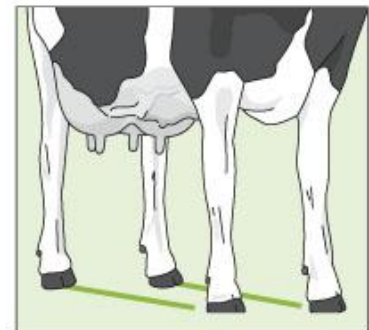
Should only be scored in herds where cow regularly walk. If so, score all cows to be classified that day. The score of 9 means that the rear leg is put straight forward with force to the step of the foreleg, and (extreme) lame cows getting score 1 because they have short strides.



1
Severe Abduction/Short Stride



5



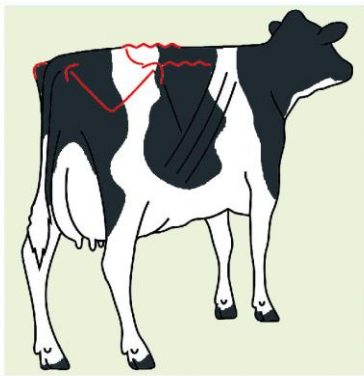
9
No Abduction/Long Stride

18: Body Condition Score

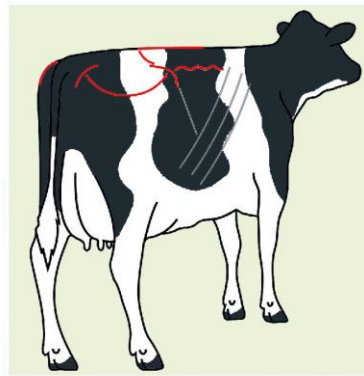
Ref. Point: The covering of fat over the tail head and rump, not a true linear trait

- 1 Poor
- 5 Intermediate
- 9 Grossly Fat

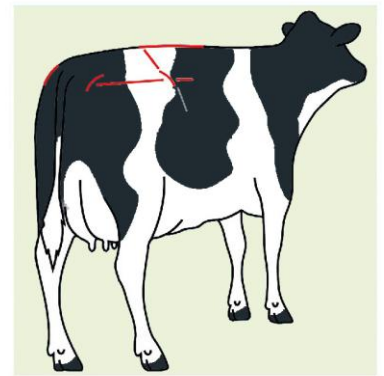
With a score from 1-6 primarily observed at the loin, while the tail implant is important with the higher scores (7 – 9)



1
Poor



5



9
Grossly Fat

RECORDING OF ADDITIONAL HEIFER TRAITS

Temperament

- | | |
|---|------------------------|
| 1 | Vicious |
| 2 | Very nervous |
| 3 | Nervous |
| 4 | Slightly nervous |
| 5 | Average |
| 6 | Slightly above average |
| 7 | Quiet |
| 8 | Very quiet |
| 9 | Placid |

Milking Speed

- | | |
|---|------------------------|
| 1 | Very hard |
| 2 | Hard |
| 3 | Slow |
| 4 | Slightly below average |
| 5 | Average |
| 6 | Slightly above average |
| 7 | Fast |
| 8 | Very fast |
| 9 | Runs milk |

BULL CLASSIFICATION

Bulls must be 15 month old to be eligible for scoring.
Bulls must be a minimum of two years old to score EX.

Bulls will be scored in four composite boxes

Rump
Body conformation
Dairy strength
Legs/feet

Visit may be for bull classification only – not part of female TCS.

Classification by region.

Registration certificates must be produced for identification and endorsement, with appropriate classification.

Bulls may be presented for up-pointing or re-classification and cannot be down-pointed/down-graded.