



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Appendix 1 of Section 5 of the ICAR Guidelines - The standard trait definition for Dairy Cattle

Appendix 1 of Section 5 – Standard Trait Definition for Dairy Cattle

Version November, 2021

Network. Guidelines. Certification.

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Change Summary

Date of Change	Nature of Change
November 2021	Creation of document. Rewrite of guidelines. Relationship between conformation and functional traits added. Standard trait definitions and relationship between conformation and functional traits moved to separate appendices.

1 Approved Standard Traits

1. Stature
2. Chest Width
3. Body Depth
4. Angularity
5. Rump Angle
6. Rump Width
7. Rear Legs Set
8. Rear Legs Rear View
9. Foot Angle
10. Fore Udder Attachment
11. Rear Udder Height
12. Central Ligament
13. Udder Depth
14. Front Teat Placement
15. Teat Length
16. Rear Teat Placement
17. Locomotion
18. Body condition score

2 Common Standard Traits

19. Hock development
20. Bone structure
21. Rear udder width
22. Teat thickness
23. Muscularity

3 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 a cow in the first lactation. The scale must cover the biological extremes of the current population.

Recommended Scale 1 - 9

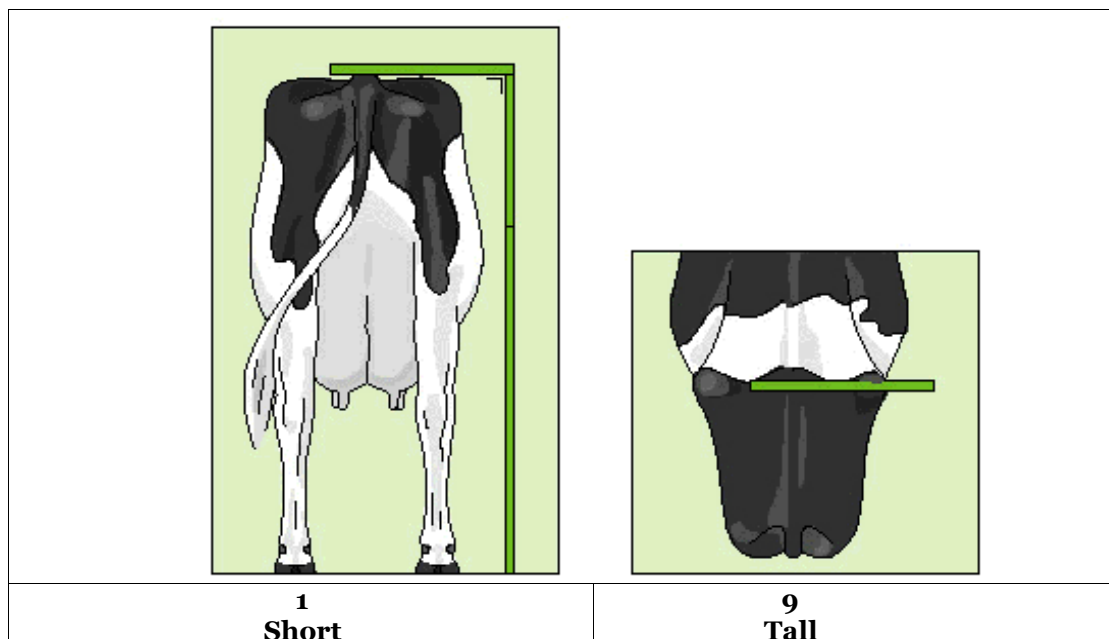
Note:

The linear scale used, must cover the expected biological extremes of the population in the country of assessment.

1. Stature

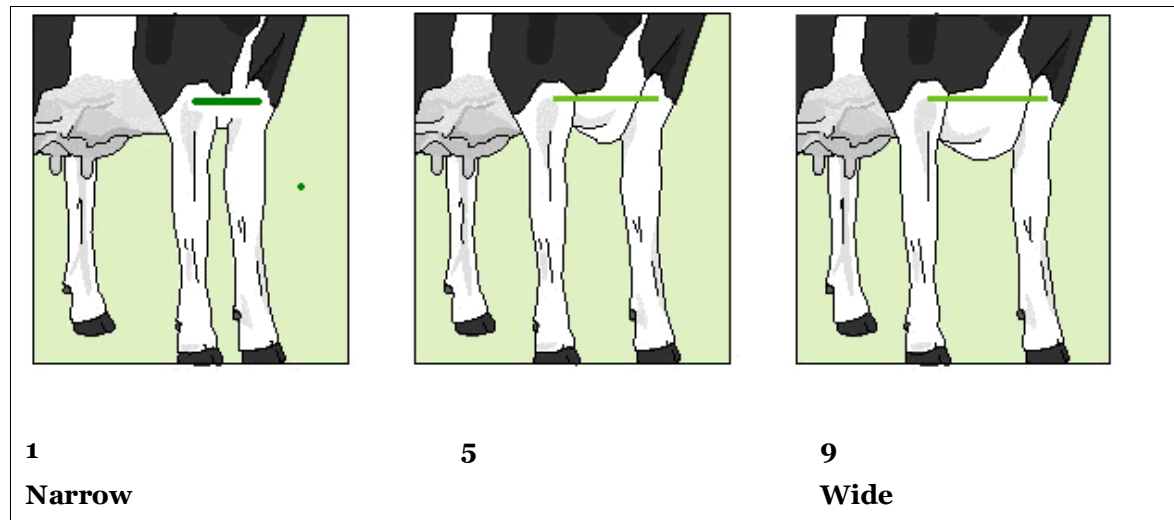
Reference point: Measured from the top of the spine in between hips to ground. Precise measurement in centimetres or inches, or linear scale.

- 1 - Short
- 5 - Intermediate
- 9 - Tall



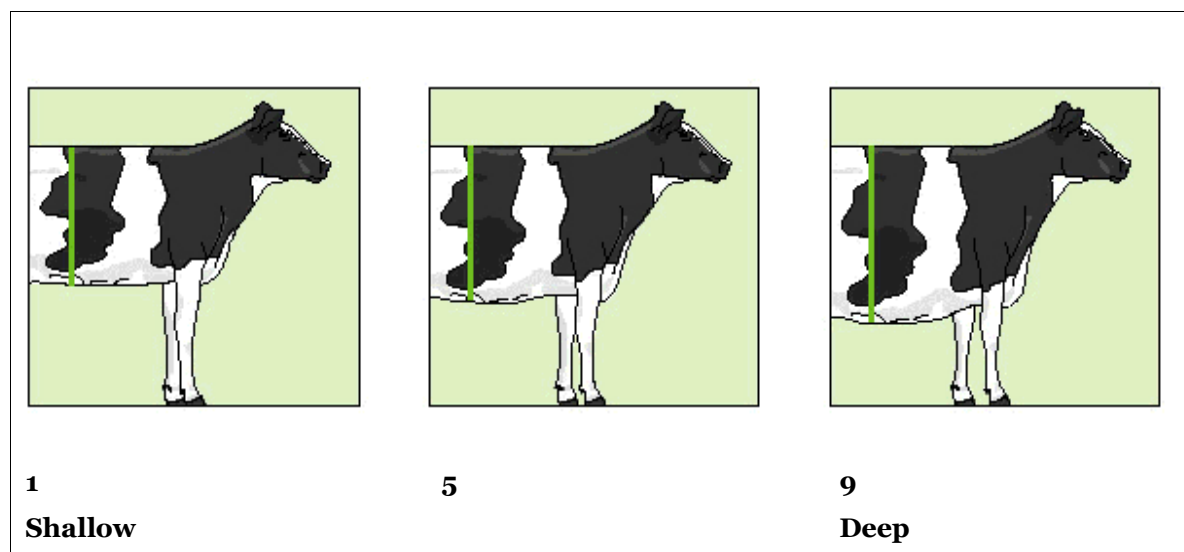
2. Chest Width

Reference point: Measured from the inside surface between the top of the front legs.
1 - Narrow
5 - Intermediate
9 - Wide



3. Body Depth

Reference point: Distance between top of spine and bottom of barrel at last rib - the deepest point: independent of stature.
1 - Shallow
5 - Intermediate
9 - Deep

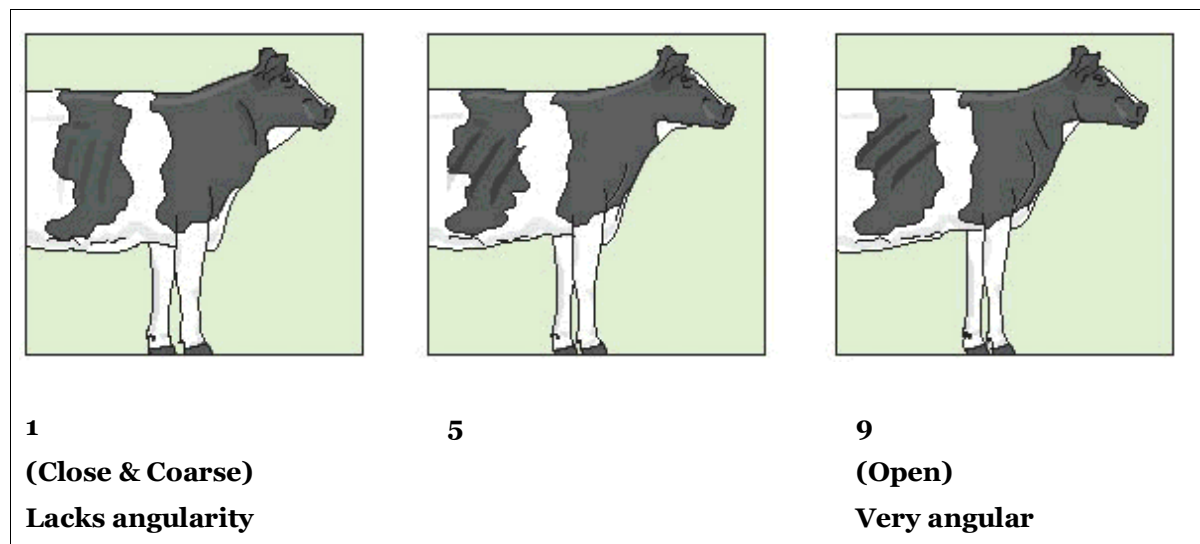


4. Angularity

Reference point: The angle and spring of the ribs; not a true linear trait.

- 1 - Lacks angularity: close ribs, coarse bone
- 5 - Intermediate: with open rib
- 9 - Very angular: open ribbed flat bone

Reference scale: weighing of the two components; angle and spring of the ribs

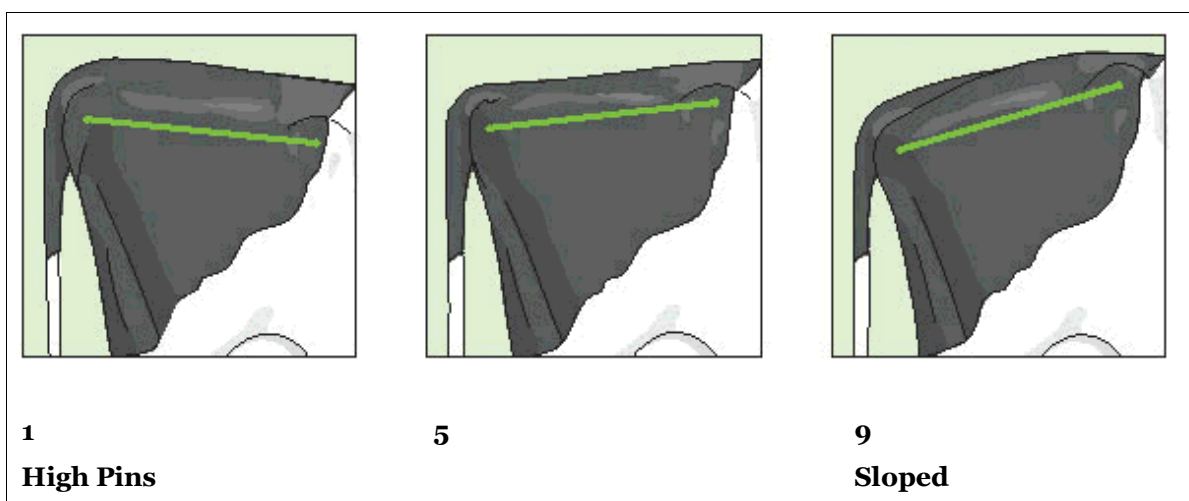


5. Rump Angle

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

- 1 - High Pins
- 5 - Intermediate
- 9 - Extreme slope

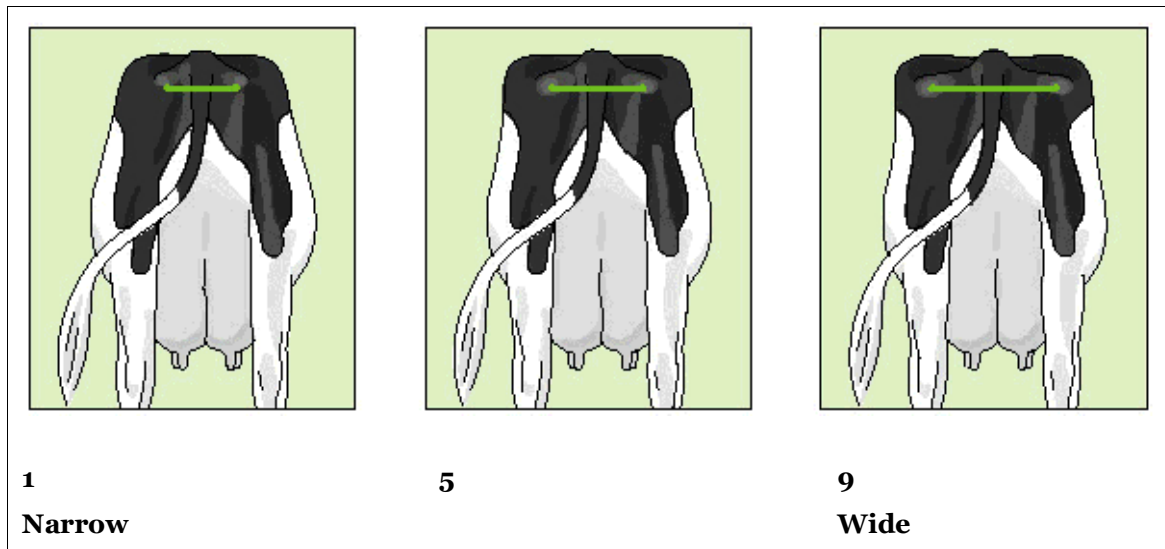
Depending on the population rump angle can be scored level with a score in the range of 3-5.



6. Rump Width

Reference point: The distance between the most posterior point of pin bones.

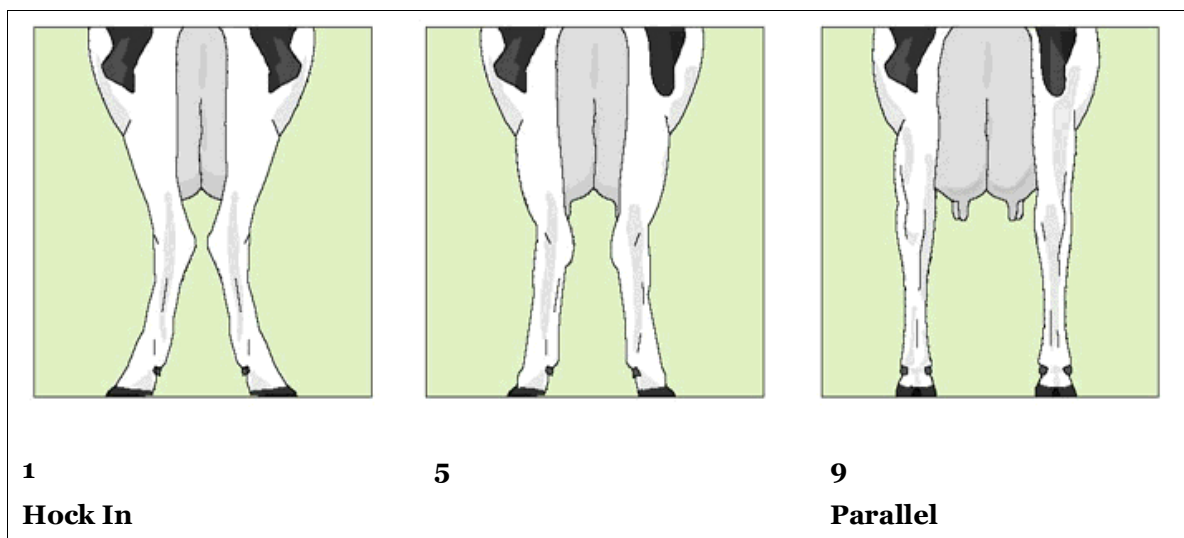
- 1 - Narrow
- 5 - Intermediate
- 9 - Wide



7. Rear Legs Rear View

Reference point: Direction of rear feet when viewed from the rear.

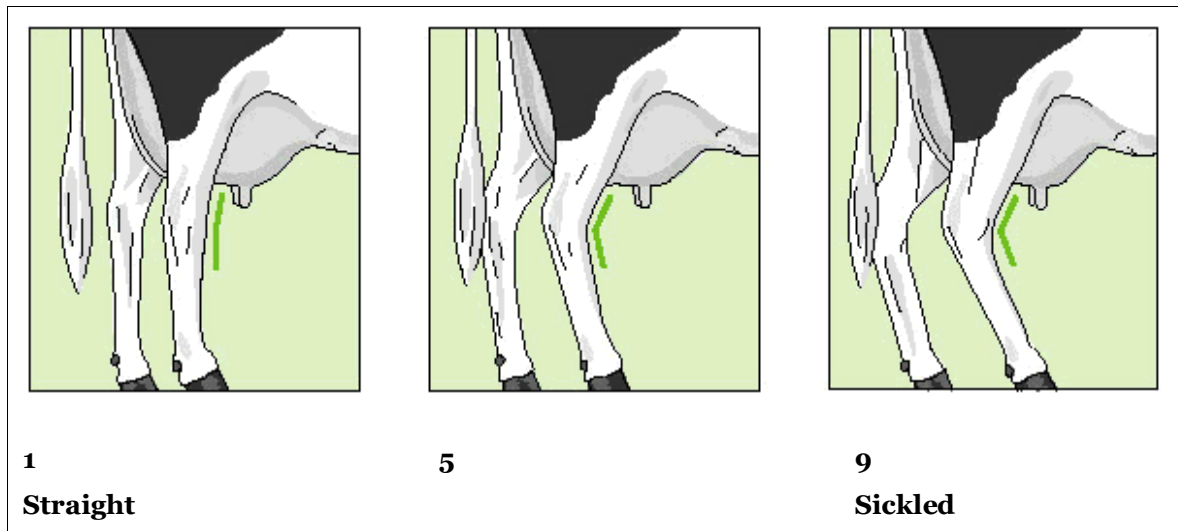
- 1 - Extreme toe-out
- 5 - Intermediate; slight toe-out
- 9 - Parallel feet



8. Rear Legs Set

Reference point: Angle measured at the front of the hock.
1 - Straight
5 - Intermediate
9 - Sickled

If the rear legs set is different, the most extreme one should be scored.

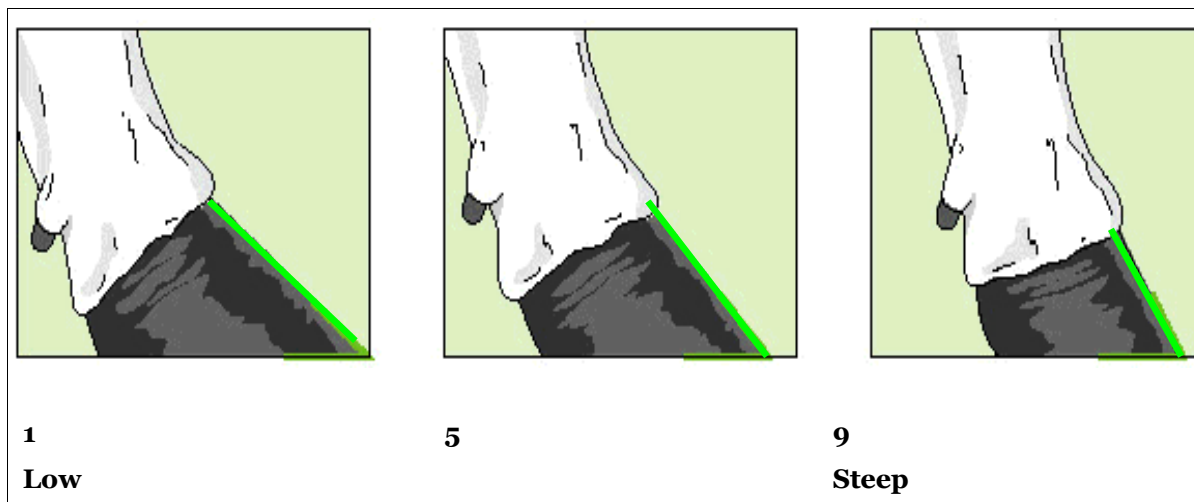


9. Foot Angle

Reference point: Angle at the front of the rear hoof measured from the floor to the hairline at the right hoof.
1 - Very low angle
5 - Intermediate
9 - Very steep

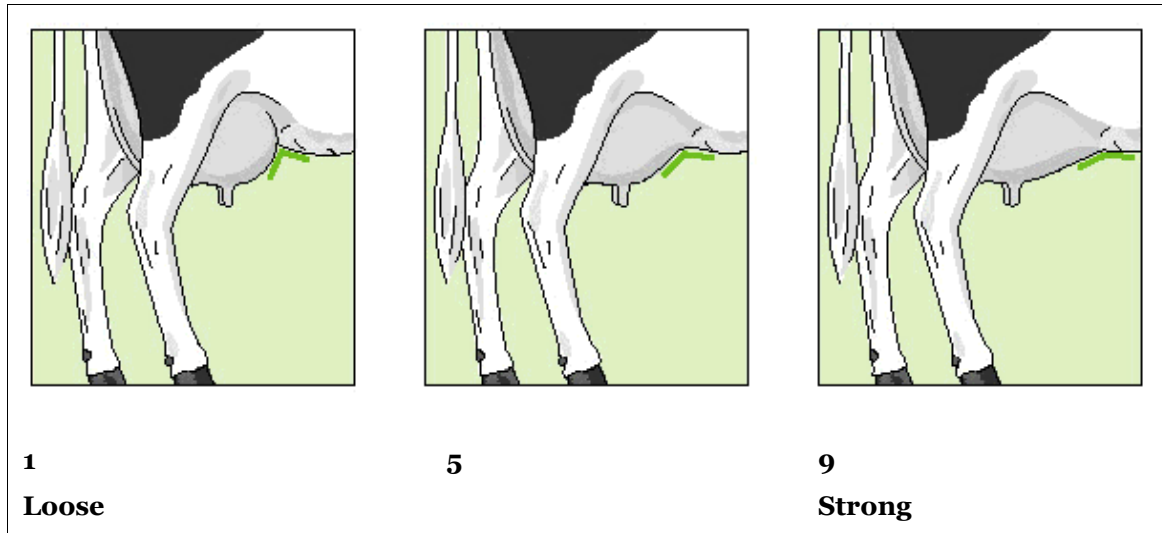
If the foot angle is different, the most extreme one should be scored.

If the foot angle is difficult to score because of hoof trimming, bedding, manure etc. It is also possible to look at the angle of hairline.



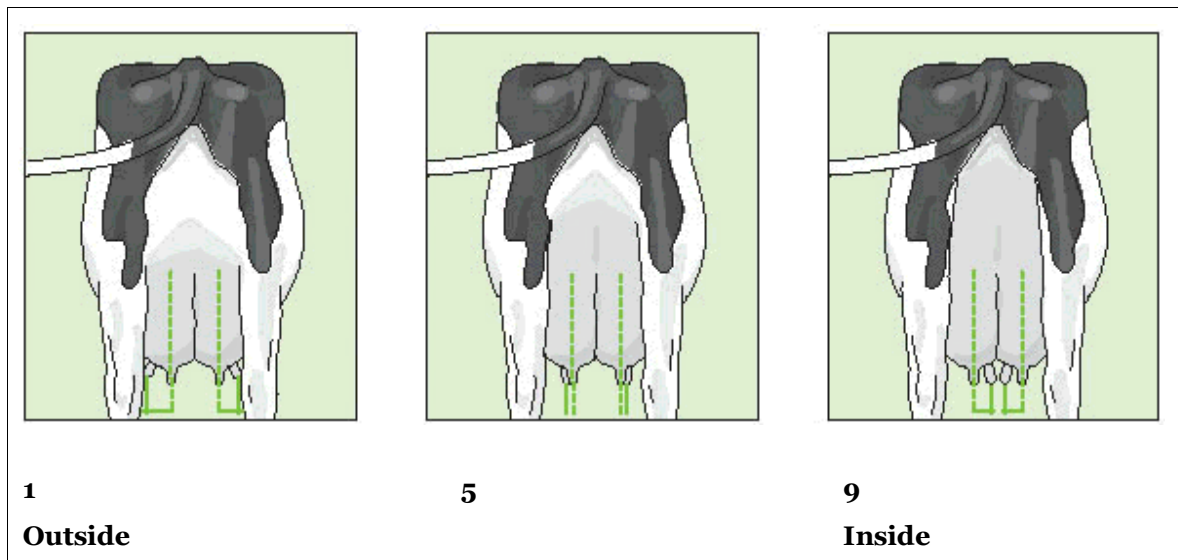
10. Fore Udder Attachment

Reference point: The strength of attachment of the fore udder to the abdominal wall.
Not a true linear trait.
1 - Weak and loose
5 - Intermediate
9 - Extremely strong and tight



11. Front Teat Placement

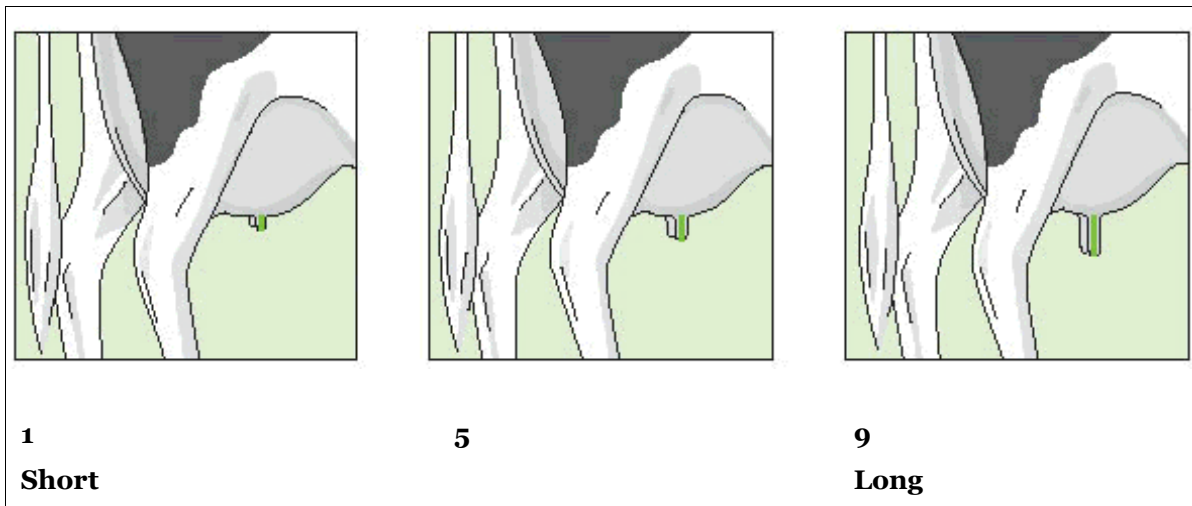
Reference point: The position of the front teat from the centre of quarter as viewed from the rear.
1 - Outside of quarter
5 - Intermediate
9 - Inside of quarter



12. Teat Length

Reference point: The length of the front teat.
1 - Short
5 - Intermediate
9 - Long

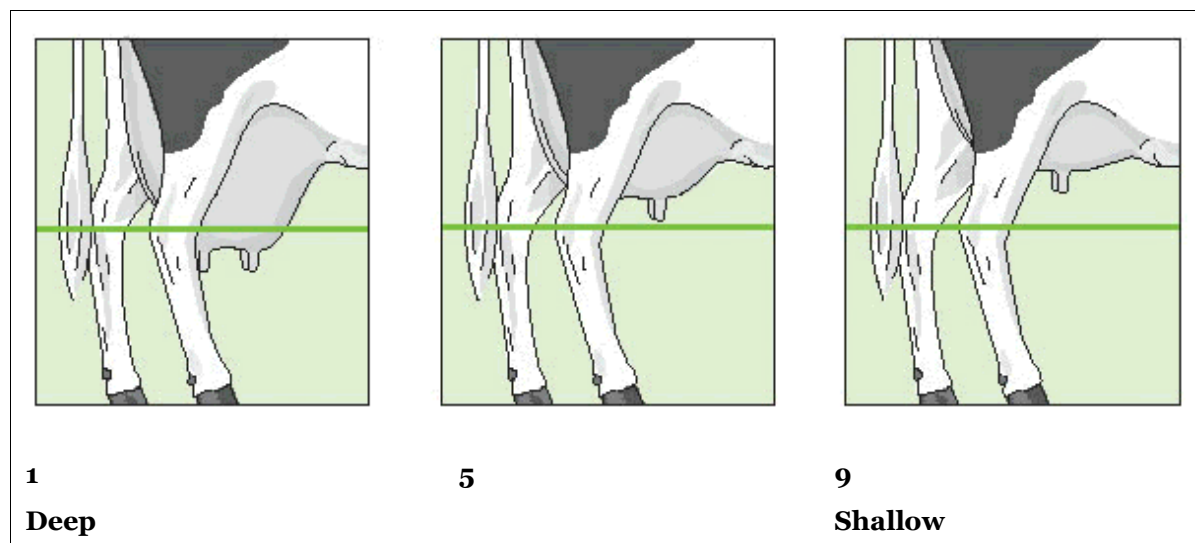
Instead of scoring front teat, the rear teat can be scored. The choice of front teat or rear teat should be consistent in the whole system.



13. Udder Depth

Reference point: The distance from the lowest part of the udder floor to the hock.
1 - Deep
5 - Intermediate
9 - Shallow

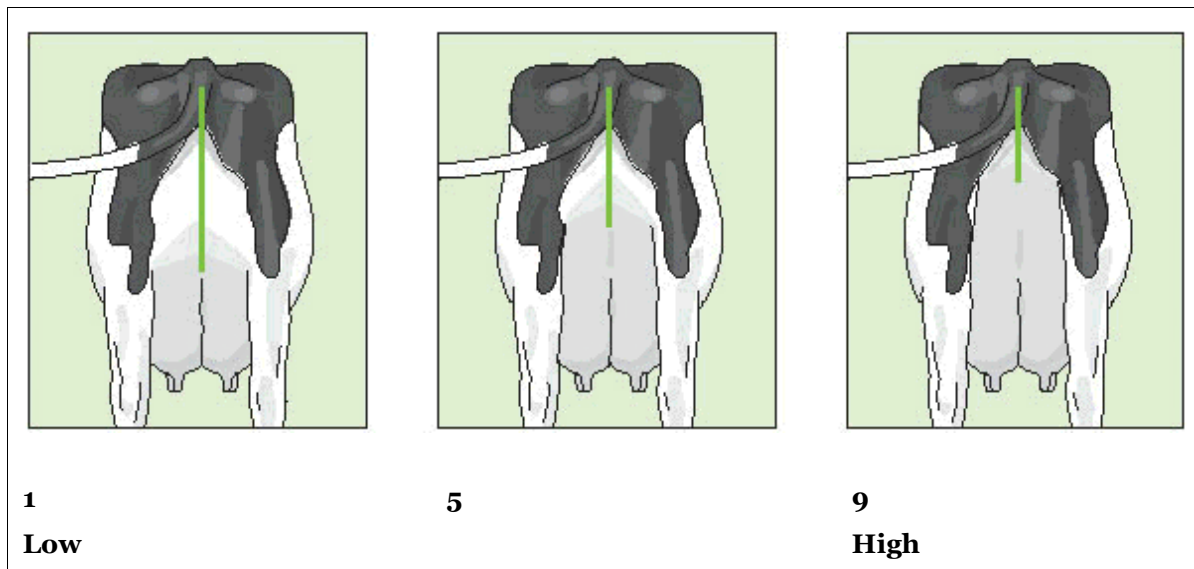
Potential point of reference is the level with the hock.



14. Rear Udder Height

Reference point: The distance between the bottom of the vulva and the milk secreting tissue: in relation to the height of the animal.

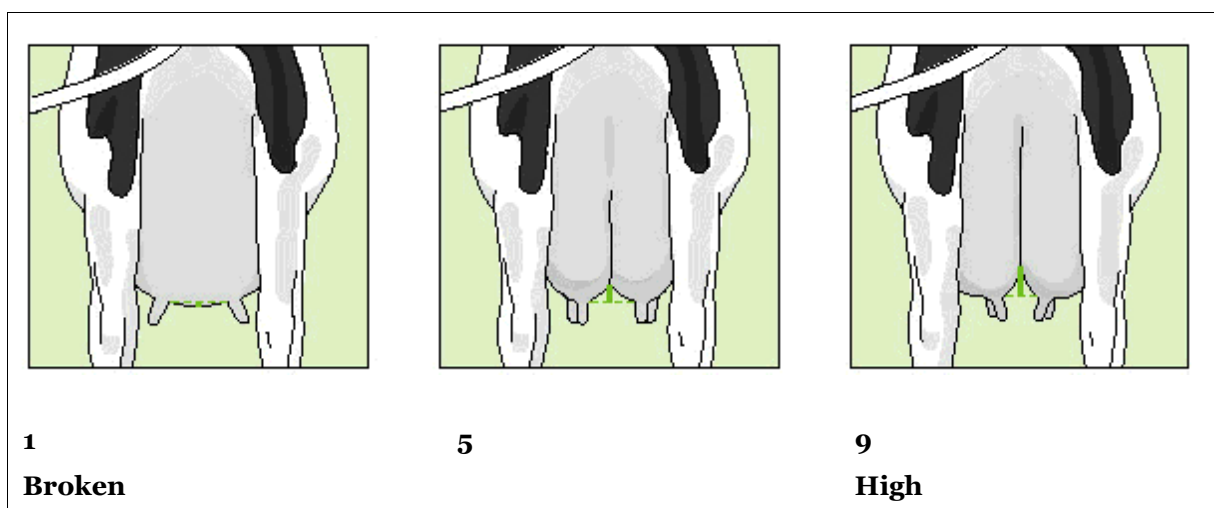
- 1 - Low
- 5 - Intermediate
- 9 - High



15. Central Ligament

Reference point: The depth of cleft at the base of the rear udder.

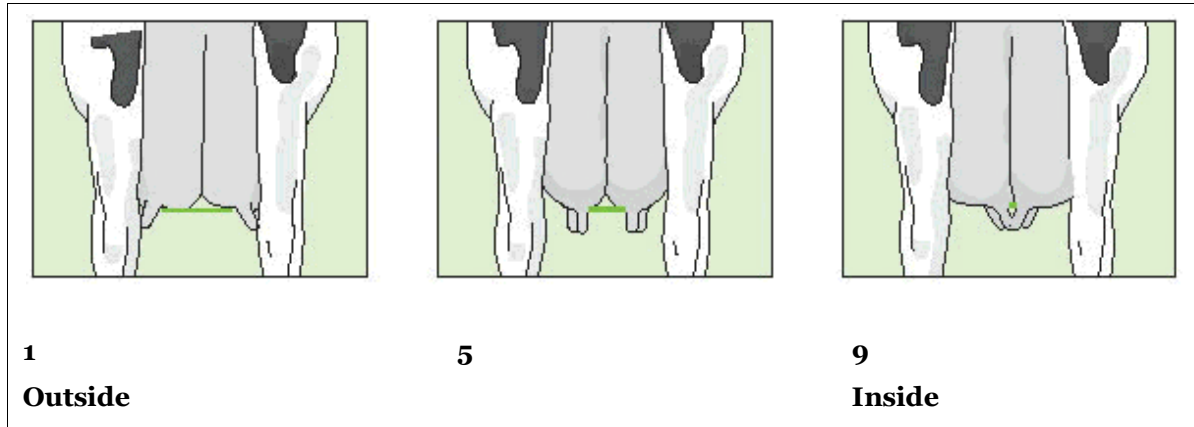
- 1 - Convex to flat floor (flat), broken ligament
- 5 - Intermediate
- 9 - Deep cleft/strong ligament



16. Rear Teat Placement

Reference point: The position of the rear teat from the centre of quarter:

- 1 - Outside of quarter
- 5 - Intermediate
- 9 - Inside of quarter

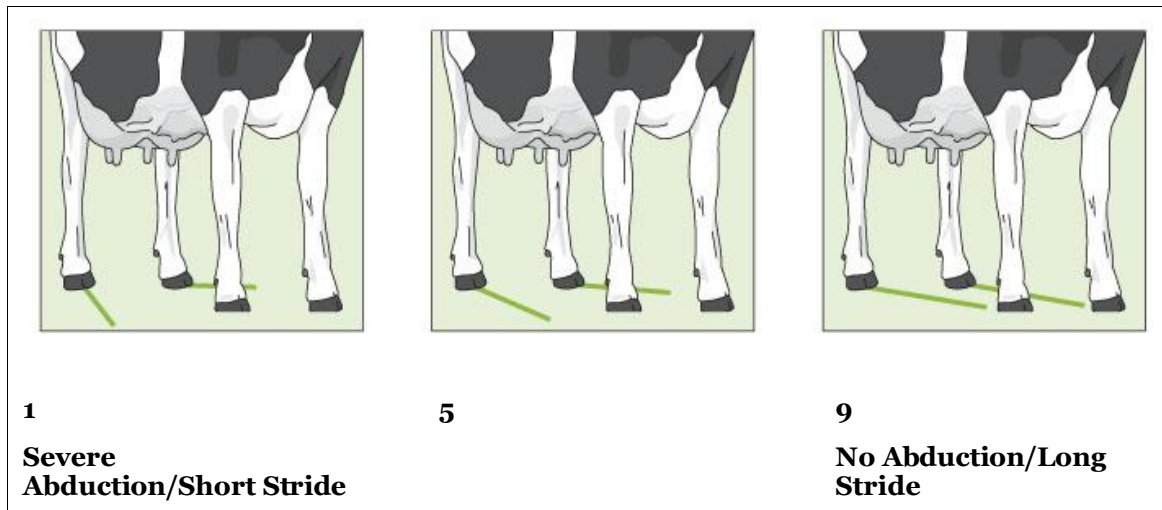


17. Locomotion

Reference point: The use of legs and feet, length and direction of the step.

- 1 - Severe Abduction - Short Stride
- 5 - Slight Abduction - Medium Stride
- 9 - No Abduction - Long stride

Score only if the cow can walk (cow has no lameness).

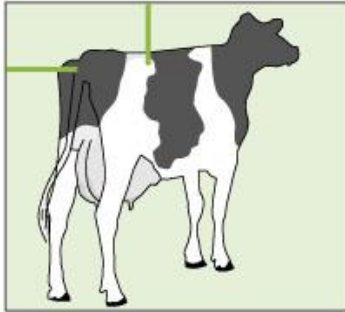


18. Body Condition Score

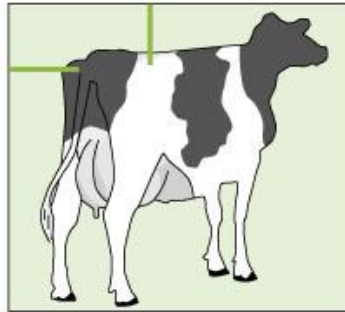
Reference point: The covering of fat over the tail head & rump. Not a true linear trait.

- 1 - Poor
5 - Intermediate
9 - Grossly fat

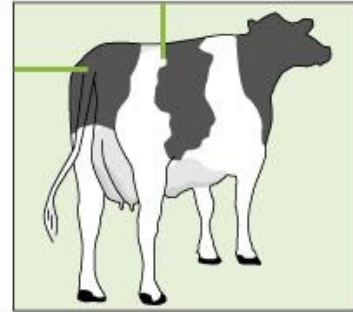
With a score from 1-6 there mainly has to be looked at the loin, while the tail implant is important with the higher score (7-9).



1
Poor



5

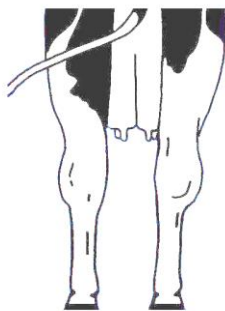


9 Grossly Fat

19. Hock development

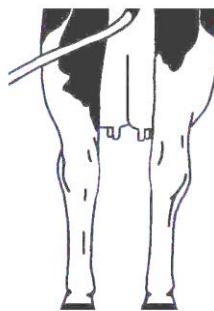
Reference point: Cleanness and dryness of the hock.

- 1 - Hock with a lot of fluid
5 - Intermediate
9 - Complete clean and dry

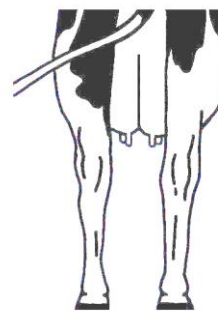


1

A Lot of Fluid



5

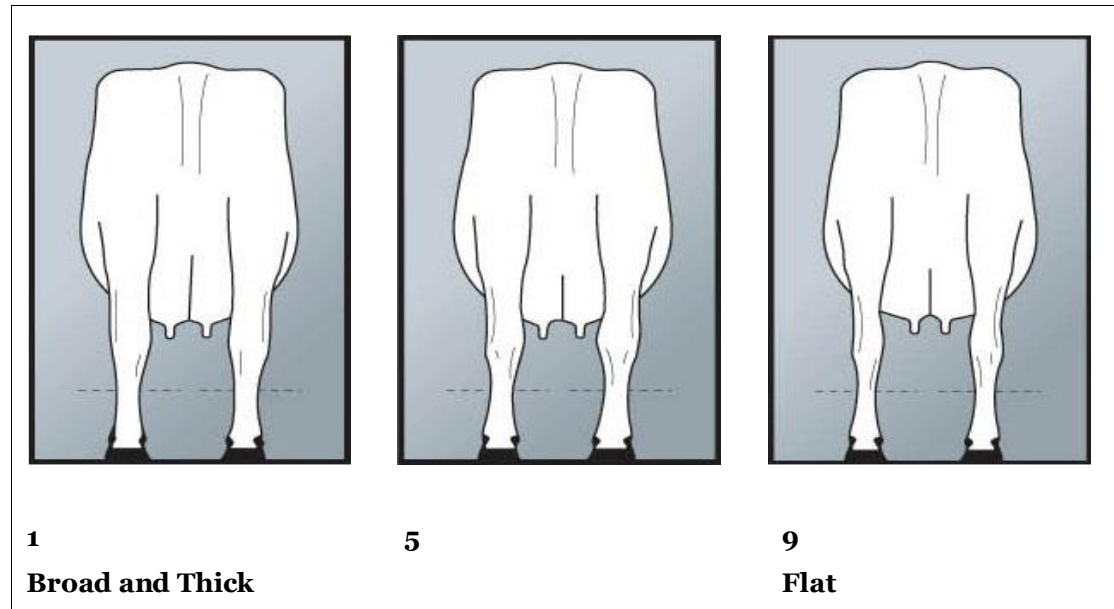


9 Clean and Dry

20. Bone structure

Reference point: The thickness and width of the bone structure, assessed by both examining the rear leg from the rear and from the side.

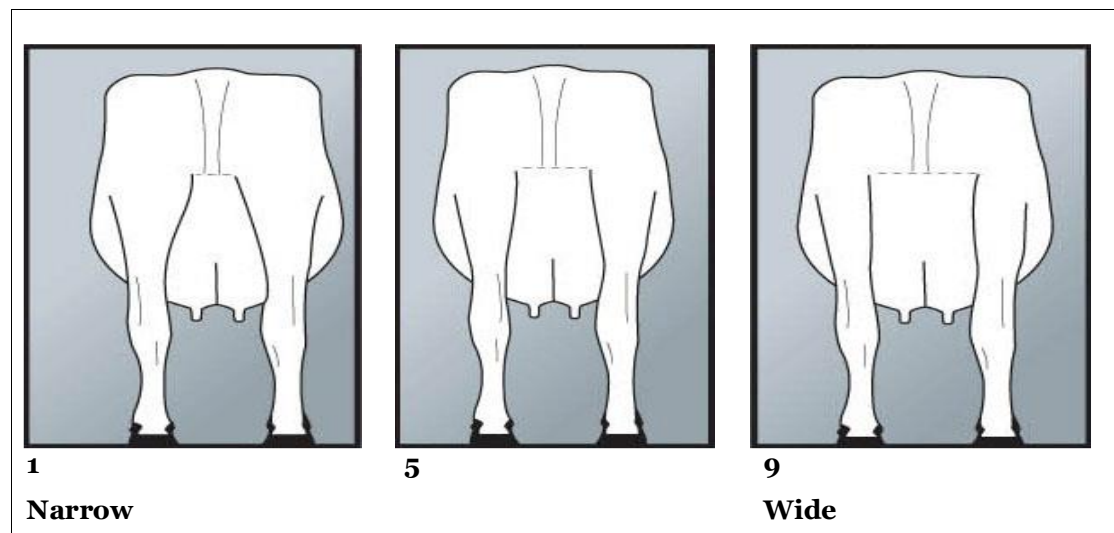
- 1 - Broad and thick
- 5 - Intermediate
- 9 - Flat



21. Rear udder width

Reference point: Width of the udder at the point where the milk secretion tissue is attached to the body.

- 1 - Narrow
- 5 - Intermediate
- 9 - Wide



22. Teat thickness

Reference point: Thickness of the teat in the middle of the front teat.
1 - Thin
5 - Intermediate
9 - Thick

23. Muscularity

Reference point: The amount of muscles as seen in the loins and thighs. Not a linear trait.
1 - Poor
5 - Intermediate
9 - Grossly muscular

