ICAR
THE GLOBAL STANDARD FOR LIVESTOCK DATA

Appendix 2 of Section 5 of the ICAR Guidelines - The standard trait definition for Dual Purpose Cattle

Appendix 2 of Section 5 – Standard Trait Definition for Dual Purpose Cattle
Version March, 2022

Network. Guidelines. Certification.

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Change Summary

Date of Change	Nature of Change
March 2022	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. Rump Angle
5. Rump Width
6. Rump Length
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2   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.
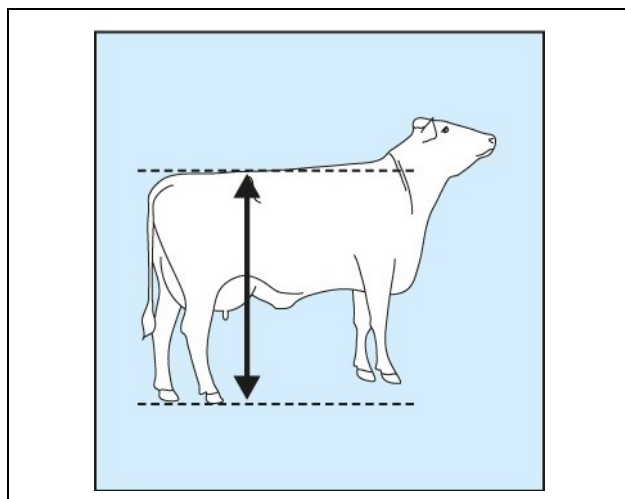
Recommended Scale 1 - 9

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.
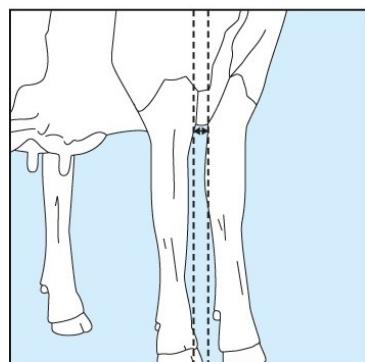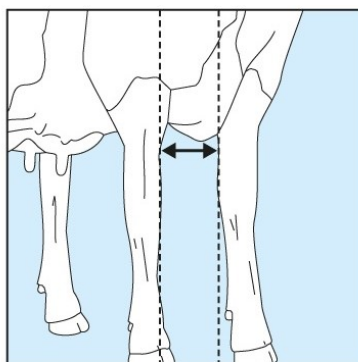1 - Short
5 - Intermediate
9 - Tall

2.   Chest Width

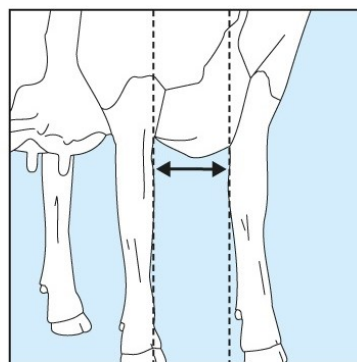***Reference point:***   Measured from the inside surface between the top of the front legs.
1 - Narrow
5 - Intermediate
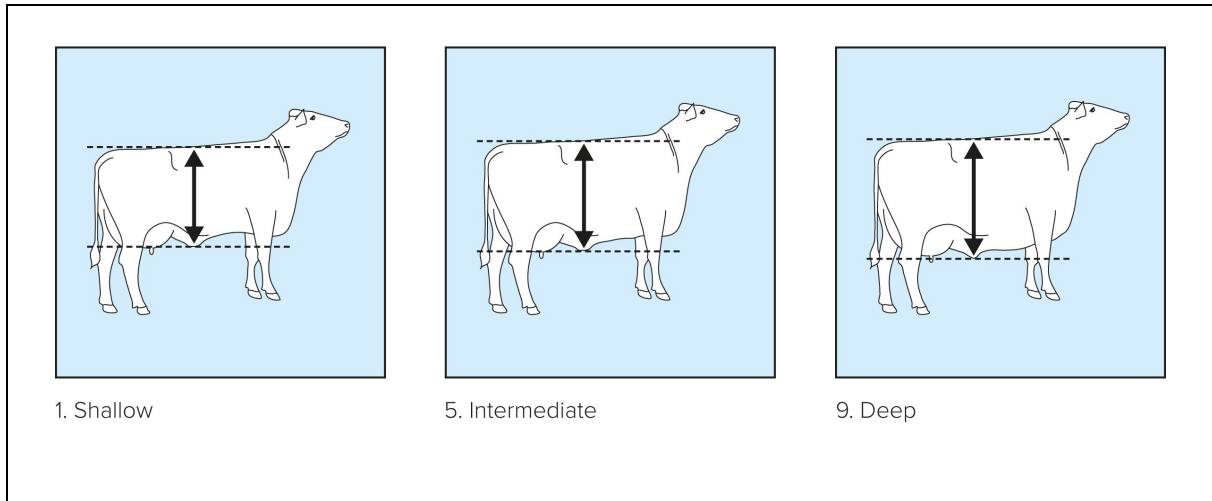9 - Wide

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
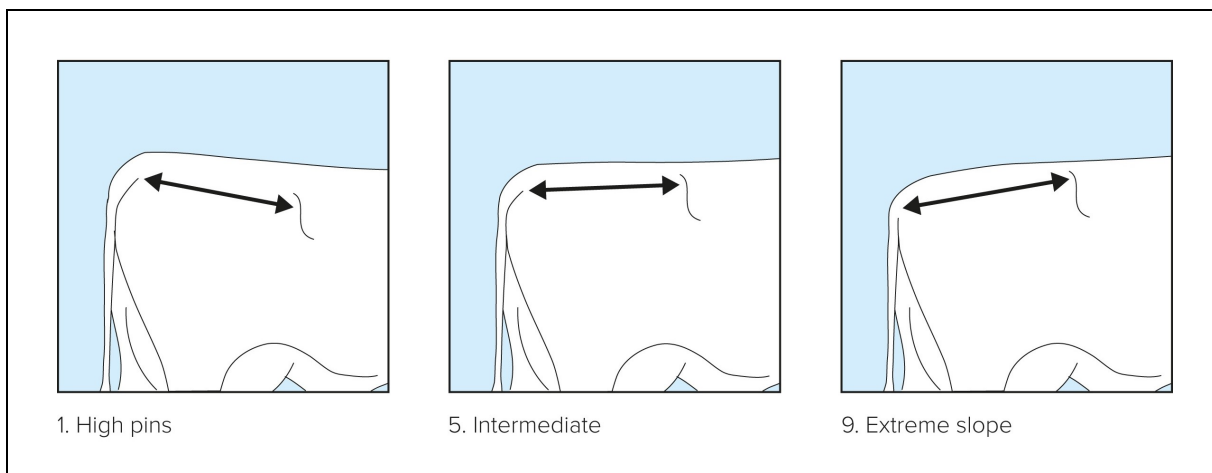   5 - Intermediate
            9 - Deep

1. Shallow   5. Intermediate   9. Deep

4.   Rump Angle

Reference point: Measured as the angle of the rump structure from hooks (hips) to pins.
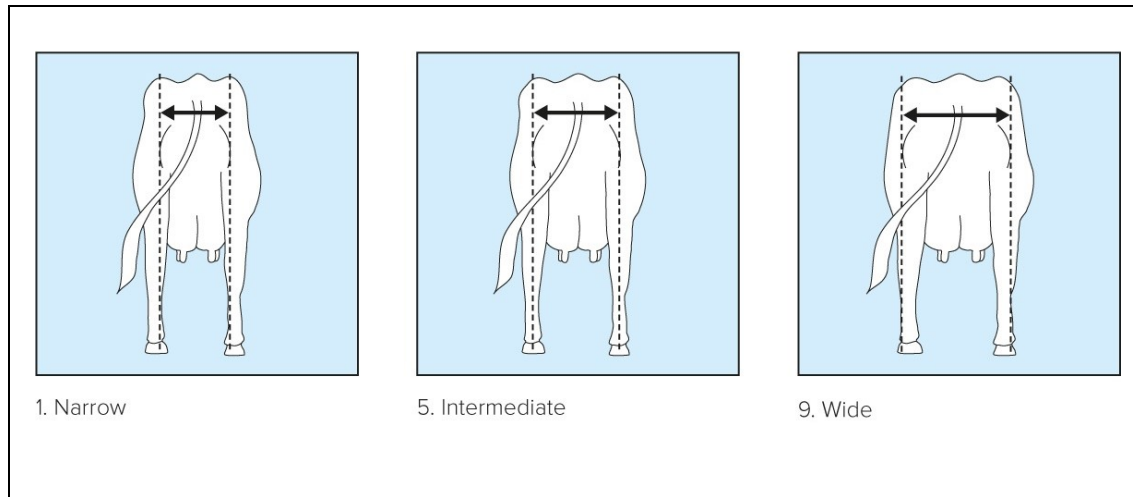
            1 - High Pins
            5 - Intermediate
            9 - Extreme slope

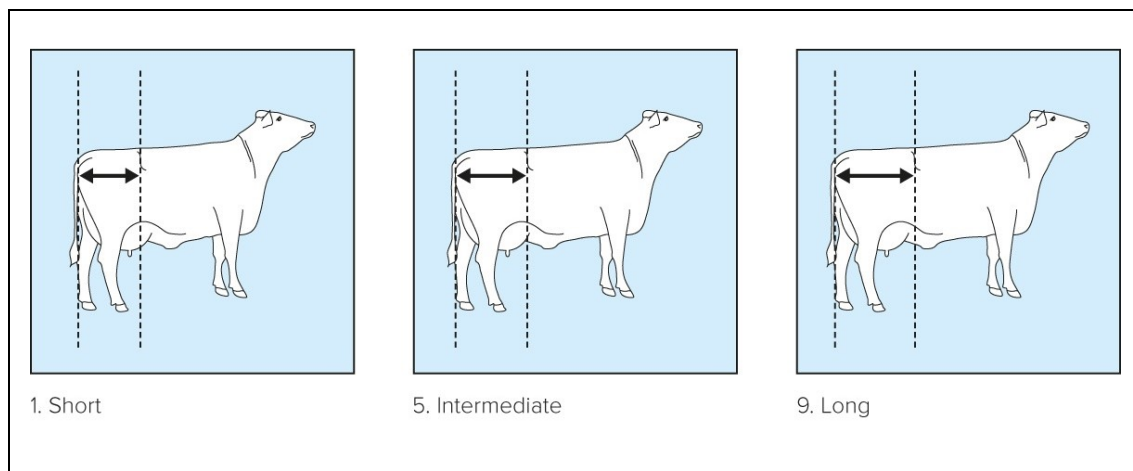Depending on the population rump angle can be scored level with a score in the range of 3-5.

1. High pins   5. Intermediate   9. Extreme slope

5.   Rump Width

Reference point: The distance between the most posterior point of pin bones.
1 - Narrow
5 - Intermediate
9 - Wide

1. Narrow   5. Intermediate   9. Wide
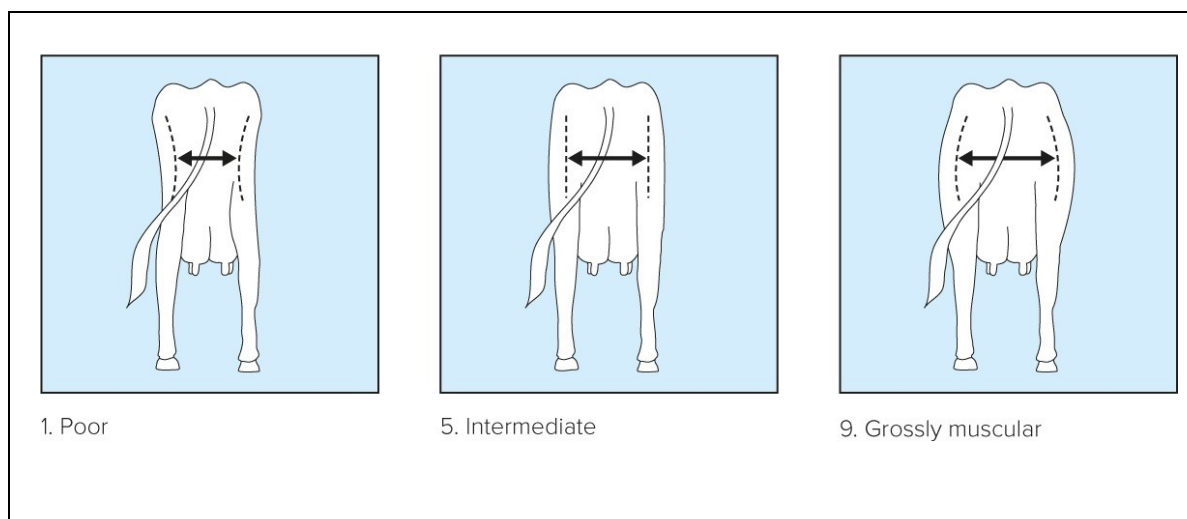
6.   Rump Length

Reference point: The distance between beginning (front) of the hip bone and the end (rear) of the pin bone.
1 - Short
5 - Intermediate
9 - Long

1. Short   5. Intermediate   9. Long

7.   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

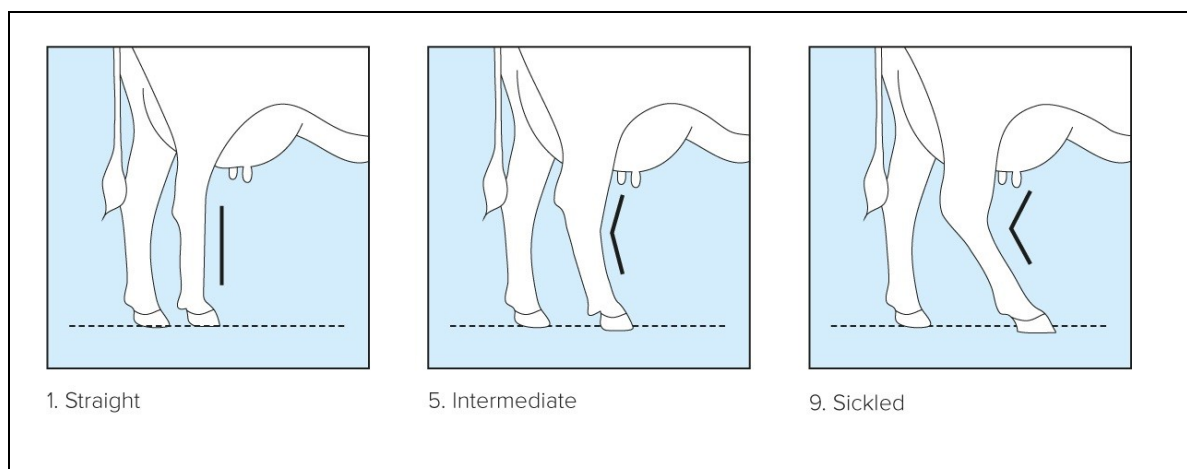1. Poor   5. Intermediate   9. Grossly muscular

8.   Rear Legs Set

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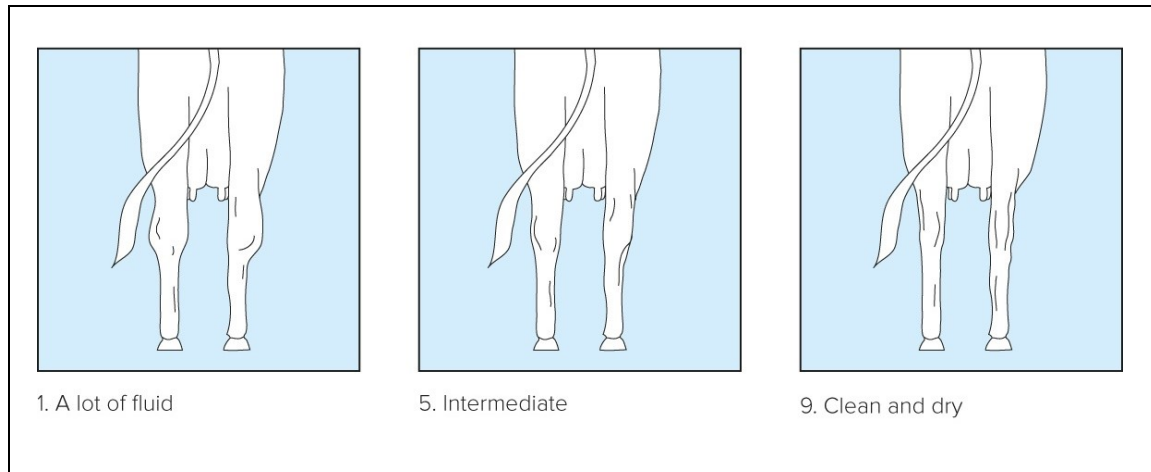1 - Straight
5 - Intermediate
9 - Sickled

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

1. Straight   5. Intermediate   9. Sickled

9. Hock development

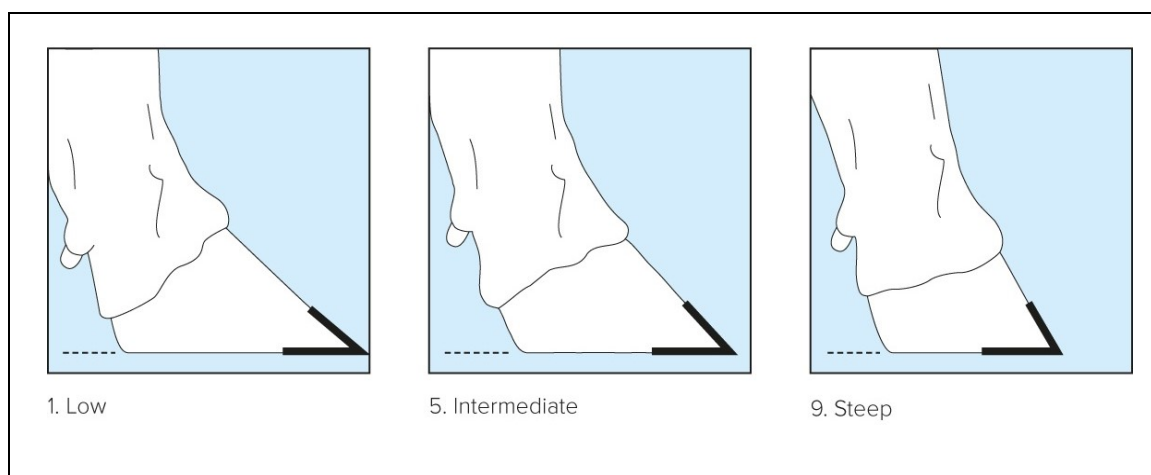***Reference point:*** Cleanness and dryness of the hock.
1 - Hock with a lot of fluid
5 - Intermediate
9 - Complete clean and dry

1. A lot of fluid   5. Intermediate   9. Clean and dry

10. 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.
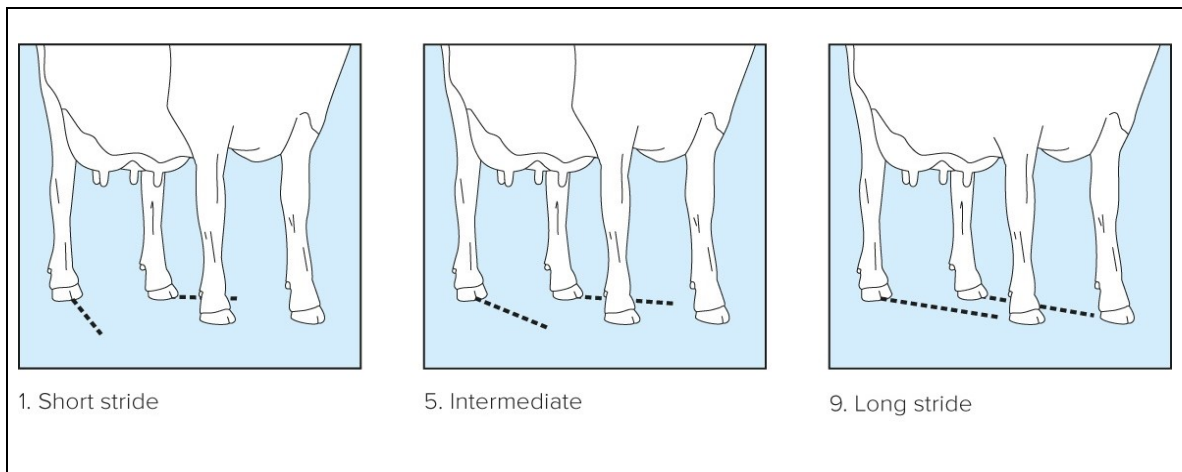

1. Low   5. Intermediate   9. Steep

11. Locomotion

Reference point: The use of legs and feet, length and direction of the step.
1 - Severe Abduction - Short Stride
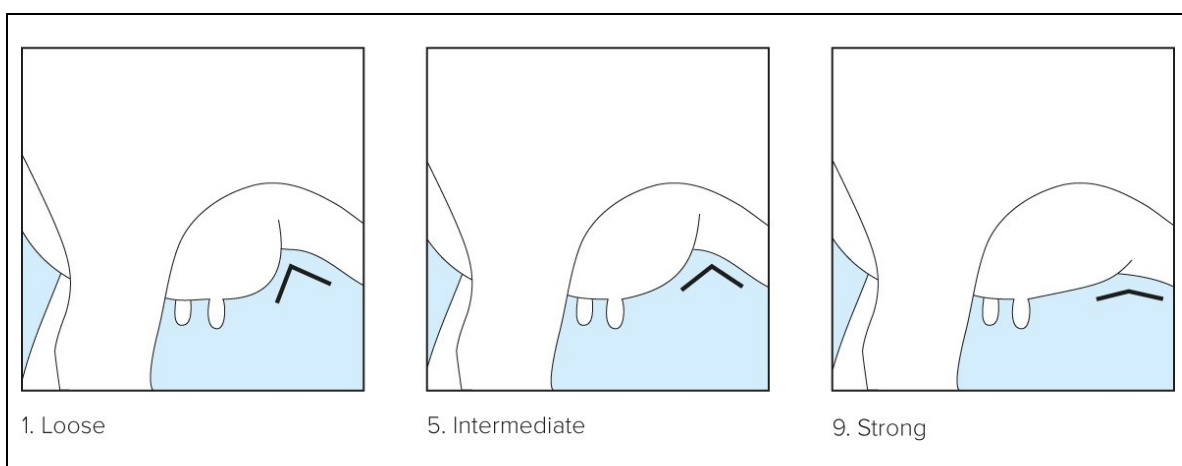5 - Slight Abduction - Medium Stride
9 - No Abduction - Long stride

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

1. Short stride   5. Intermediate   9. Long stride

12. Fore Udder Attachment

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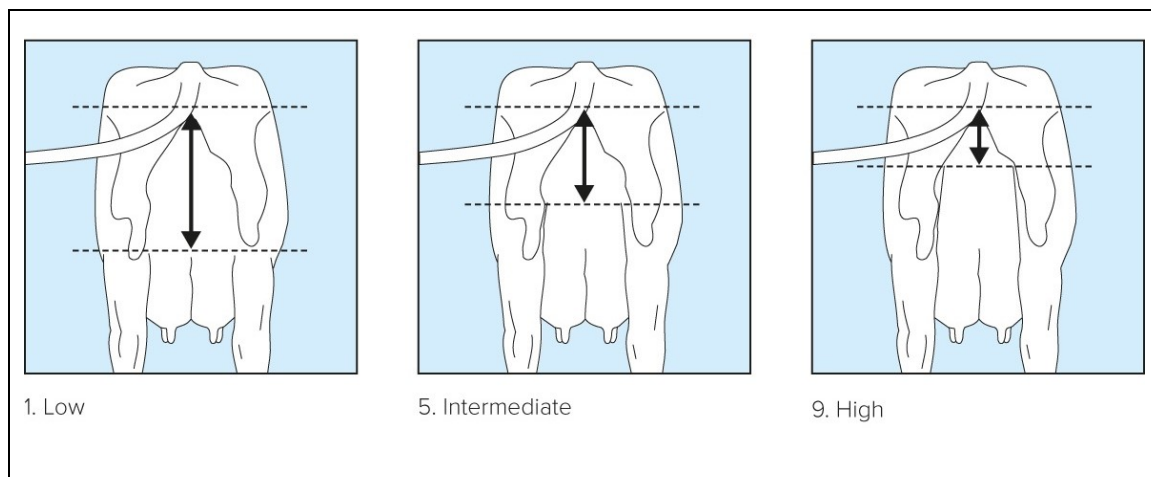1 - Weak and loose
5 - Intermediate
9 - Extremely strong and tight

1. Loose   5. Intermediate   9. Strong

13.   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.
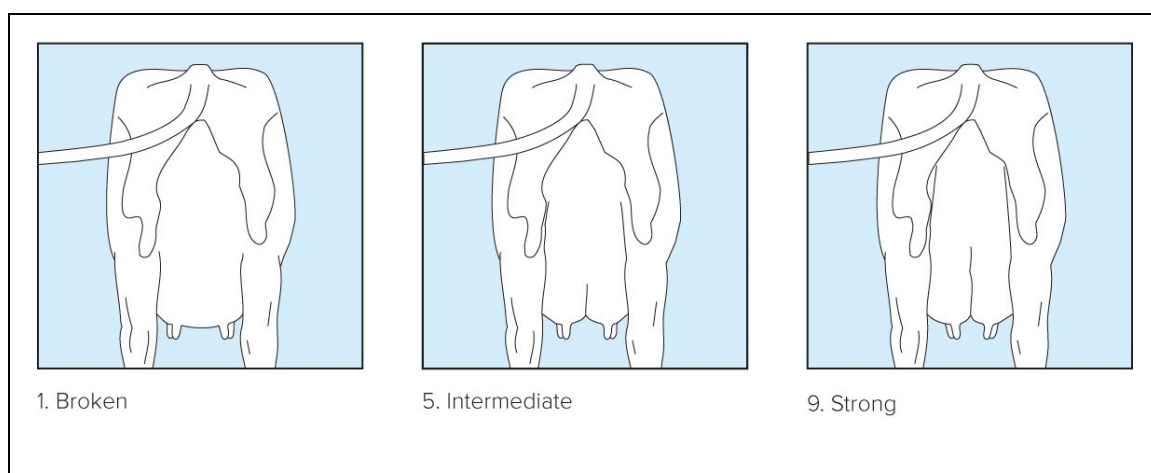1 - Low
5 - Intermediate
9 - High

1. Low

5. Intermediate

9. High

14.   Central Ligament

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

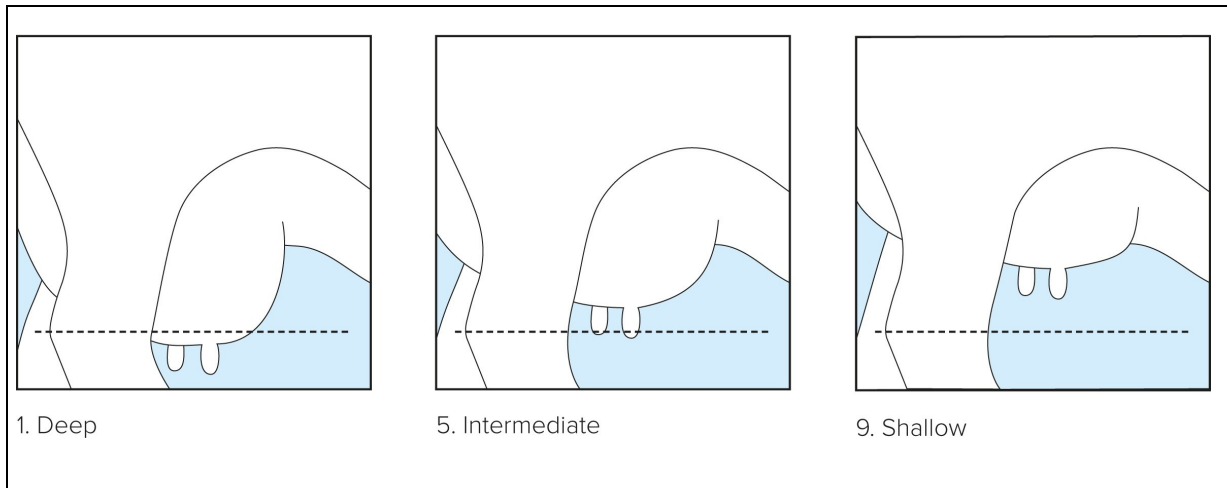1 - Convex to flat floor (flat), broken ligament
5 - Intermediate
9 - Deep cleft/strong ligament

1. Broken

5. Intermediate

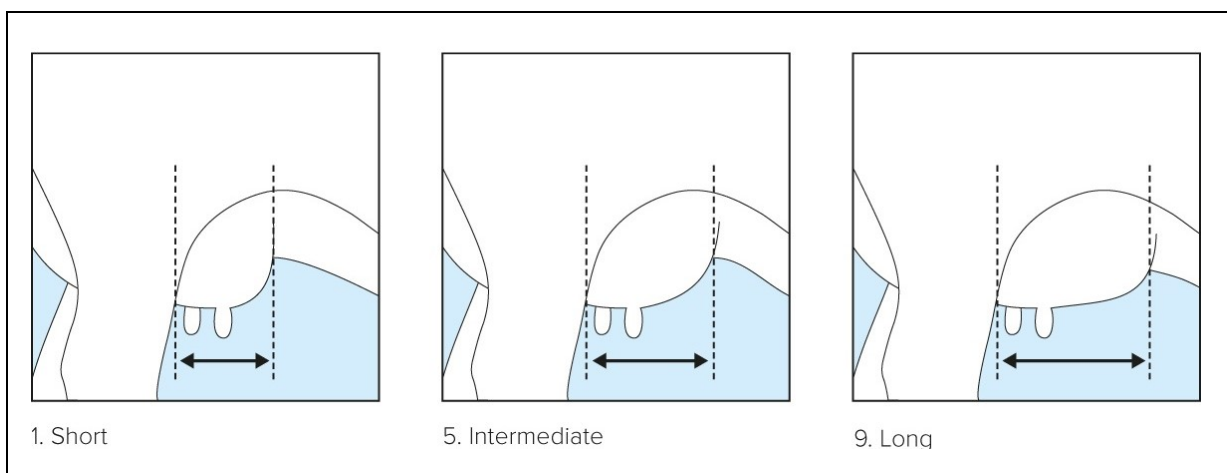9. Strong

15.   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.

1. Deep   5. Intermediate   9. Shallow

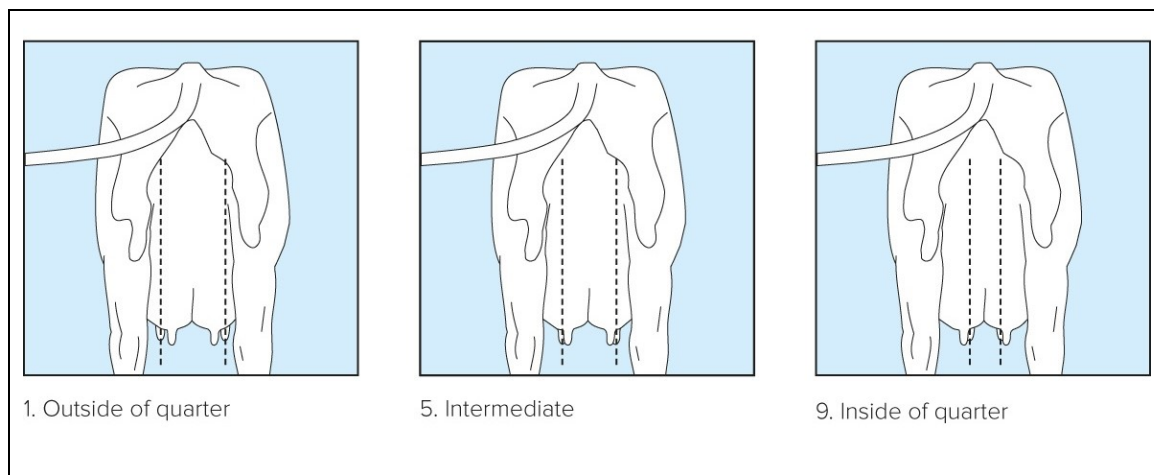### 16.   Fore Udder Length

Reference point: The distance between attachment point. of udder to abdominal wall to the midpoint between front and rear teat.
1 - Short
5 - Intermediate
9 - Long

1. Short   5. Intermediate   9. Long

17.   Front Teat Placement

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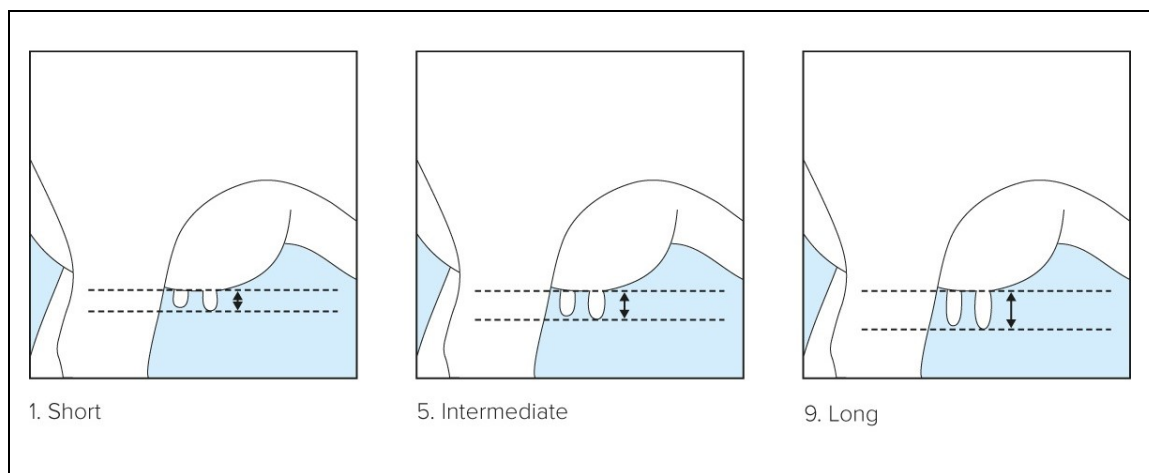1 - Outside of quarter
5 - Intermediate
9 - Inside of quarter

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

18.   Teat Length

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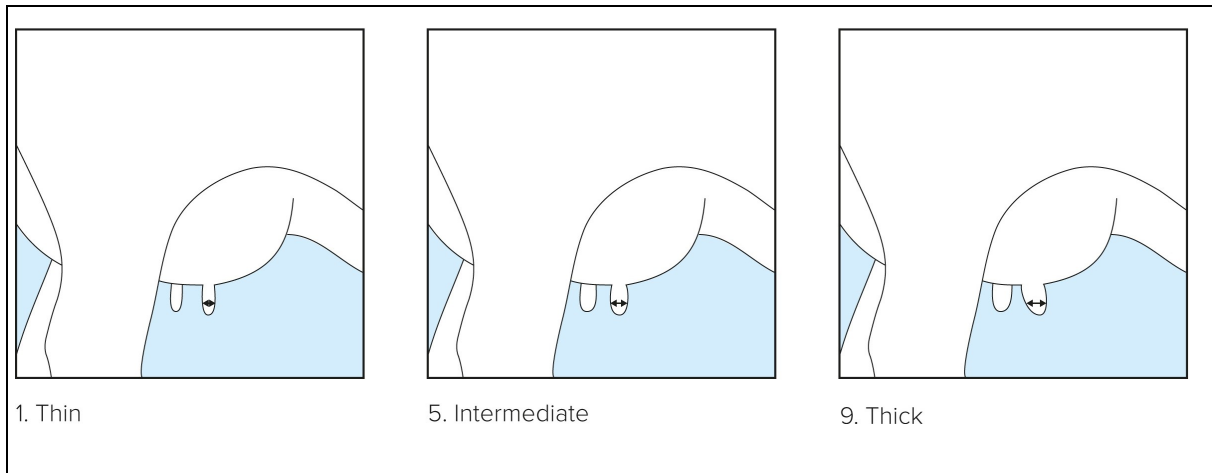1 - Short
5 - Intermediate
9 - Long

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.

1. Short   5. Intermediate   9. Long

19. Teat thickness

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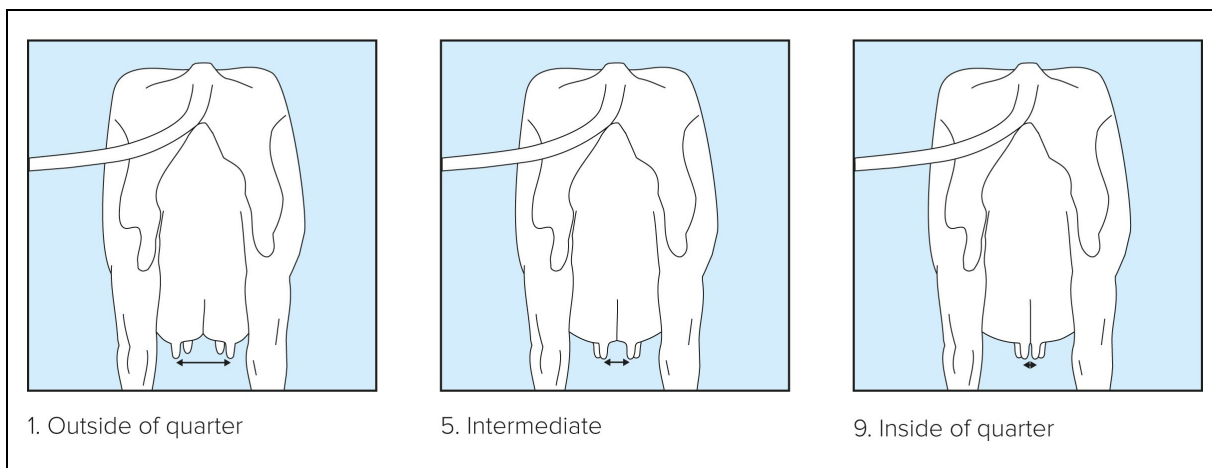9 - Thick

1. Thin   5. Intermediate   9. Thick

20. 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
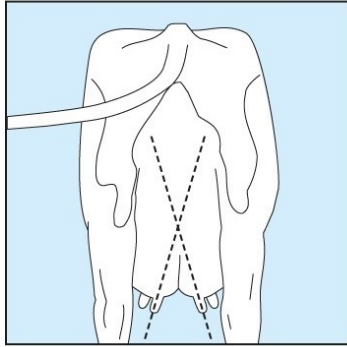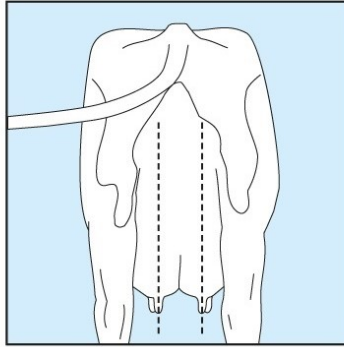

1. Outside of quarter   5. Intermediate   9. Inside of quarter

21.   Teat Direction

Reference point: The direction of the rear teats viewed from behind.
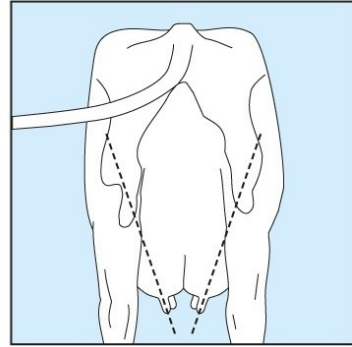1 - Outside
5 - Intermediate
9 - Inside

1. Outside   5. Intermediate   9. Inside