NBDC

NATIONAL BOVINE DATA CENTRE

Dairy Type Classification Guide

Edition 4.0

NBDC classification is based on an internationally recognised scheme, governed by the World Holstein Friesian Federation (WHFF). The NBDC classification team assess a wide number of dairy and beef cattle breeds across the UK and the Channel Islands. The breeds are Ayrshire, British Friesian, Brown Swiss, Dairy Shorthorn, Guernsey Island, Guernsey UK, Holstein, Jersey Island, Jersey UK and Montbeliarde. The scheme has been adapted for each of the dairy breeds scored by NBDC, according to the requirements of the respective breed societies.

Classification is intended to identify animals capable of high lifetime yields and is also used in the calculation of UK genetic evaluations provided by AHDB. NBDC classifiers score a total of 27 individual traits on each animal, using a linear scale of 1 to 9. Details of the scoring for each trait are displayed within the following pages of this guide. Classifiers also score five composite traits, known as 'box breakdowns' for each animal. These take into consideration several linear traits at the same time. Finally an Overall Score and Class is assessed.

Traits Included in Classification

Linear assessment involves the measurement of 27 individual traits on a scale of 1-9, describing the degree of the trait rather than its desirability. The traits are as follows:

Mammary (40%)	Feet & Legs (30%)	Dairy Capacity (10%)	Rump (10%)	Dairy Character (10%)
Udder Depth	Foot Angle	Stature	Rump Angle	Rib Structure
Udder Texture	Rear Leg Side View	Body Depth	Rump Width	
Udder Support	Rear Leg Rear View	Chest Width	Loin Strength	
Fore Udder Attachment	Bone Quality	Height at Front End	Thurl Position	
Front Teat Placement	Front Feet Orientation			
Rear Udder Height	Locomotion			
Rear Udder Width				
Front Teat Length				
Rear Teat Length				
Rear Teat Placement				
Teat Position Side				
Udder Tilt				

Overall Score Points	Class
90+	Excellent (EX)
85-89	Very Good (VG)*
80-84	Good Plus (GP)
75-79	Good (G)
65-74	Fair (F)
50-64	Poor (P)

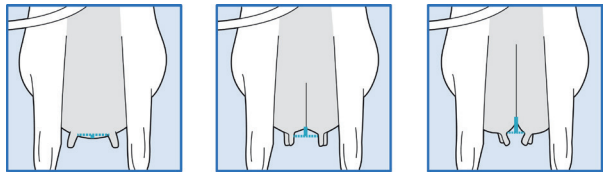
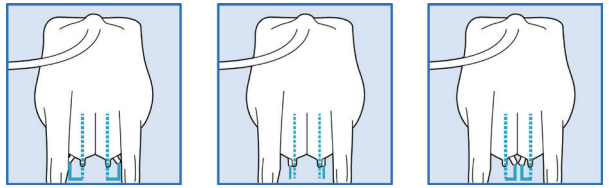
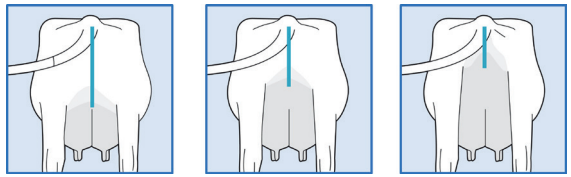
* To achieve VG 85, heifers must also score at least in 85 in Mammary and Legs & feet and one other box, then 83 in the other two boxes. They also need to be a score 3 or over for stature.

Maximum Overall Score	
1st calver (heifer)	88*
2nd calver	89*
3rd calver	93*
4th calver	95
5th calver	97

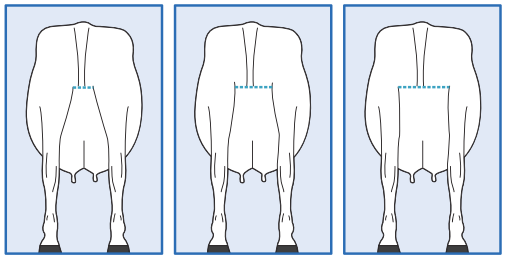
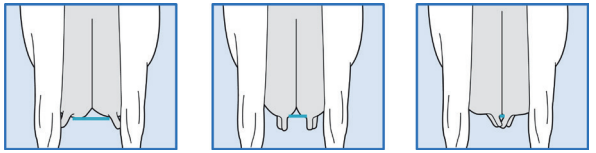
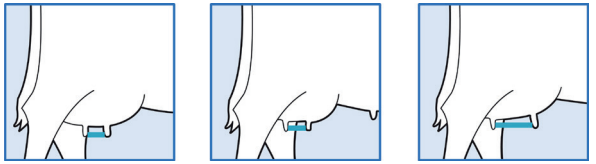
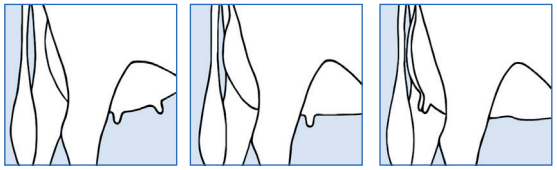
* To achieve the max score for 1st to 3rd calvers, animals must also achieve that score in each of the five box boxes.

Dairy Breeds Classified by NBDC
Ayrshire
British Friesian
Brown Swiss
Dairy Shorthorn
Guernsey Island
Guernsey UK
Holstein
Jersey Island
Jersey UK
Montbeliarde

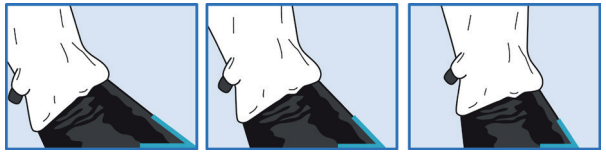
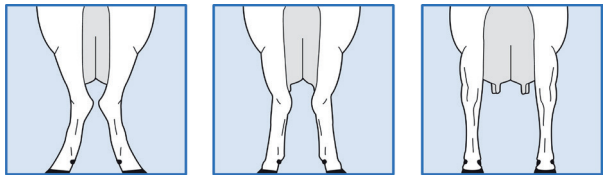
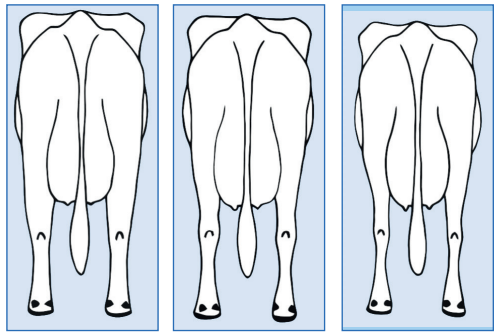
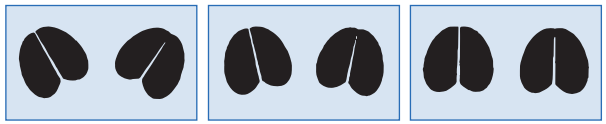
Dairy Type Classification Guide: Mammary Traits (40%)

Trait	Reference Point	Score Breakdown	Reference Scale	Visual Aid
Udder Depth	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)	Score 2 = (0 cm); 3cm per point.	
Udder Texture	The texture of the udder.	1 Thick heavy meaty texture 5 Intermediate 9 Silky texture with vein definition		
Udder Support	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)		
Fore Udder Attachment	The strength of attachment of the fore udder to the abdominal wall.	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.	
Front Teat Placement (Rear View)	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		
Rear Udder Height	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	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.	

Dairy Type Classification Guide: Mammary Traits (40%)

Trait	Reference Point	Score Breakdown	Reference Scale	Visual Aid
Rear Udder Width	The width of the milk secreting tissue as measured from the rear.	1 Very Narrow Rear Udder 5 Intermediate Rear Udder 9 Wide Rear Udder		
Teat Length (Front & Rear)	The length of the front or rear teat.	1 - 3 Short 4 - 6 Intermediate 7 - 9 Long	1cm per classification point	
Rear Teat Placement	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	4 represents midpoint of the quarter.	
Teat Position Side	The distance between the front and rear teats.	1 - 3 Close 4 - 6 Intermediate 7 - 9 Far Apart		
Udder Tilt	The position of the rear udder compared to the position of the fore udder	1 - 3 Lower 4 - 6 intermediate 7 - 9 Higher		

Dairy Type Classification Guide: Feet & Legs Traits (30%)

Trait	Reference Point	Score Breakdown	Reference Scale	Visual Aid
Foot Angle	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	1= 15 degrees 5= 45 degrees 9= 65 degrees If the Foot Angle is difficult to score because of hoof trimming, flooring etc. it is possible to look at the angle of hairline. In case of a significant difference the worst/extreme side must be scored.	
Rear Leg Side View	Angle measured at the front of the hock.	1-3 Straight (160 degrees) 4-6 Intermediate (147 degrees) 7-9 Sickle (134 degrees)	In case of a significant difference the worst/extreme side must be scored.	
Rear Leg Rear View	As measured from the rear.	1 Severely outward pointing toe with hocks touching 5 Slight toe out with hocks slightly further apart 9 Feet point forward with hocks straight from the rear		
Bone Quality	The flatness of bone viewed from the rear	1 - 3 Coarse 4 - 6 Intermediate 7 - 9 Flat		
Front Feet Orientation	The orientation of the front feet from a ¾ rear view	1 - 3 Toe out 4 - 6 Intermediate 7 - 9 Towards parallel		

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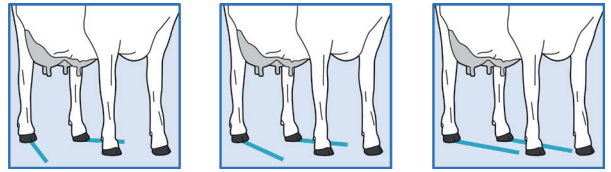
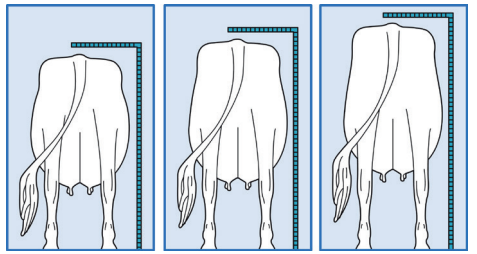
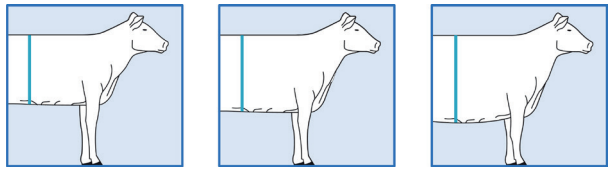
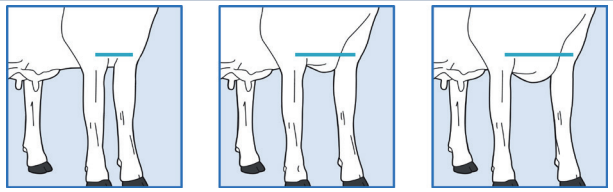
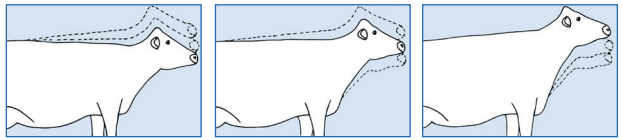
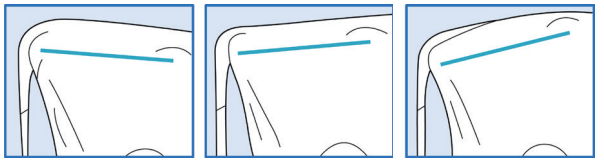
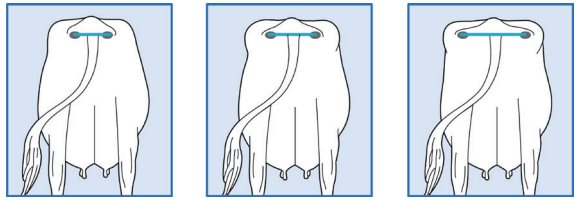
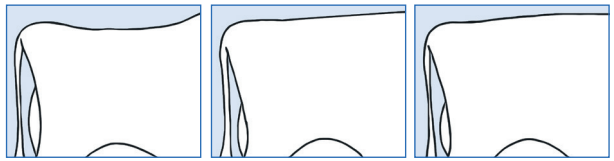
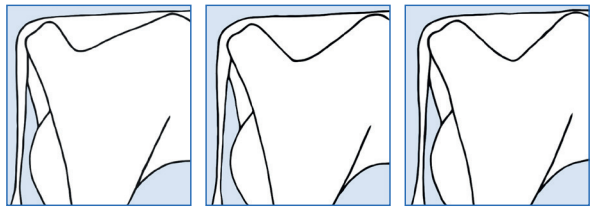
Dairy Type Classification Guide: Feet & Legs Traits (30%) *continued*

Trait	Reference Point	Score Breakdown	Reference Scale	Visual Aid
Locomotion	When walking, the use of legs, feet, length and direction of the step.	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. 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.	

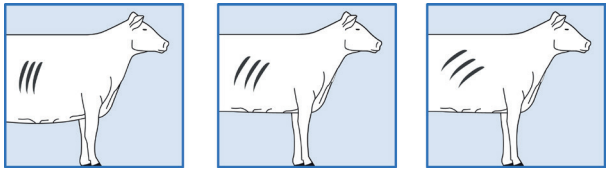
Dairy Type Classification Guide: Dairy Capacity Traits (10%)

Trait	Reference Point	Score Breakdown	Reference Scale	Visual Aid
Stature	Measured from the top of the spine in between the hips to the ground. Please note that the following measurements are for the **Holstein** Breed.	1 Short (136cm) 5 Intermediate (148cm) 9 Tall (160cm)	136cm -160cm 3cm per point.	
Body Depth	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	Optical in relation to the balance of the animal. Always look on the same side, because all cows are deeper on one side than the other.	
Chest Width	Measured from the inside surface between the top of the front legs.	1-3 Narrow 4-6 Intermediate 7-9 Wide	13cm – 29cm 2cm per point.	
Height at Front End	The height of the withers in relation to the hooks	1 - 3 Below hooks 4 - 6 Level with hooks 7 - 9 Above hooks		

Dairy Type Classification Guide: Rump Traits (10%)

Trait	Reference Point	Score Breakdown	Reference Scale	Visual Aid
Rump Angle	Measured as the angle of the rump structure from hooks (hips) to pins.	1 High Pins (+4cm) 5 Intermediate (-4cm) 9 Extreme Slope (-12cm)	(+) 4cm – (-) 12cm (-)2cm per point from Score 1.	
Rump Width	Distance between the most posterior point of pin bones.	1-3 Narrow 4-6 Intermediate 7-9 Wide	10cm – 26cm 2cm per point.	
Loin Strength	The strength of the loin	1 - 3 Weak 4 - 6 Intermediate 7 - 9 Strong		
Thurl Position	The horizontal position of the thurl between the hook and the pin bones	1 - 3 Back 4 - 6 Intermediate 7 - 9 Ahead		

Dairy Type Classification Guide: Dairy Character Traits (10%)

Trait	Reference Point	Score Breakdown	Reference Scale	Visual Aid
Rib Structure	The spring of the ribs or the degree of openness between the ribs.	1 No spring and close ribbed 9 Well sprung and open ribbed	When ribs are tight there is no opening. When the ribs spring apart or expand open, the space between ribs becomes wider.	

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