



28 February 2017

**THE BREED DEVELOPMENT AND CONFORMATION COMMITTEE (BDCC)
CLASSIFICATION SYSTEM REVIEW 2017**

Introduction

In late 2016 the BDCC and the Classification team believed it timely to assess the classification system and supported by Holstein Canada engaged in an extensive review.

The result of the review represents the BDCC and classification teams desire to continually improve the Holstein breed through classification and deliver the best outcome for members.

Below is a summary of the changes to the weightings, ideals and defect penalties to the Holstein conformation analysis scorecard. A table of the changes is attached.

These changes take effect from March 1 2017.

Executive Summary

Thurl placement has been added to both Rump and Feet and Leg composites. This is due to its significant effect on fertility and calving. This inclusion means that the defect Thurls Back / Low can be removed. It has been replaced with Rear Legs Back.

The balance between Foot Angle and Heel Depth has been shifted to more emphasis on Heel Depth. This is because increased Heel depth will give cow better protection when walking and is less effected by hoof trimming.

Bone Quality has been taken from Feet and Legs and put into Dairy Strength as this is the best composite to account for it.

The weighting on Teat Length has been increased in line with farmer demands on teat length.

Udder Texture has been removed from Dairy Strength as it was felt it confused Dairy Strength scores. A strong weighting in Mammary System means this trait still receives significant weighting across the classification system.

a) Composite: Rump

Thurl placement has been moved from a Research trait to now be included in the Rump composite with a weighting of 24% with an ideal of 6.

When classifying, we see Thurls Back as undesirable (and is recorded as a defect with a penalty of 1.5). Until now Thurl Placement as a Research trait has had no effect on Rump scores even though it is an integral part of Rump structure, prompting the change.

The practical impact of Thurls Back is that the floor of the pelvic canal is shorter. This can have an adverse effect on:

- a). Calving and other reproductive disorders.
- b). Rear leg conformation and mobility.
- c). Mammary system support due to the attachment of the medial suspensory ligament to the underside of the pelvic floor.

Consequently, there are good reasons for including Thurl Placement as a trait within Rump score. This helps share the importance of the balance of the rump with rump angle and creates a score

that more evenly describes the rump of the cow as she gets older.

To accommodate the change the weightings in the composite are as follows:

- Loin Strength remains at 32%
- Rump Angle from 42% to 24%
- Thurl Placement at 23%
- Pin Width from 26% to 21%

b) Composite: Feet & Legs

Thurl Placement

The inclusion of Thurl Placement is of paramount importance in Feet and Leg structure and function. That is why Thurl Placement is now included in the Feet and Leg composite and allows the repositioning of the defect Thurls Back/Low to Rear Legs Back.

We believe that without exception animals with low linears for Rear Leg – Rear View (i.e. more hocked-in than straight) have mobility issues which usually exacerbate with age.

Foot Angle and Heel Depth

The shallower the heel the more likely that stones and other objects will cause bruising and foot damage with subsequent infections and associated lameness problems. Lack of Foot Angle per se is unlikely to contribute to these problems as much as lack of Heel Depth. Heel Depth is much less affected than Foot Angle by management and hoof trimming.

Thurls Back/Low defect

Canada includes Thurl Placement as a trait for both the Rump and Feet and Legs composites and do not use the defect we use; Thurls Back/Low. Canada include the defect Rear Legs Back with 1.5 penalty.

Rear Legs Back is widely recognised within the Australian dairy population as a concern and must be acknowledged and discriminated against as it severely affects the comfort and productivity of the animals showing this defect.

The following changes have been made to the Feet & Legs composite and defective characteristics and includes removing bone quality:

- Include Thurl Placement with a weighting of 12% and an Ideal of 9
- Remove Bone Quality from Feet and Legs and incorporate in Dairy Strength
- Increase the weighting on Heel Depth from 12% to 24%
- Include the defect Rear Legs Back and remove Thurls Back/Low. Penalty remains at 1.5.

To accommodate the changes the weightings in the composite are as follows:

- Foot Angle from 18% to 12%
- Heel Depth from 12% to 24%
- Bone Quality from 18% to 0%
- Rear Legs – Side View remains at 22%
- Rear Legs – Rear View remains at 30%
- Thurl Placement at 12%
- Locomotion (remains a research trait)

c) Composite: Mammary System

Teat length

Teat Length with a weighting of just 2% in a composite of 40% of Final score was reviewed. Short teats, particularly short rear teats are a common farmer complaint. Yet this low weighting has negligible impact on both Mammary Score and Final Score and so should not be so readily dismissed.

Reviewing Teat Length was opportune and we concluded the weighting should be increased from 2% to 7%.

The weightings for both Rear Teat Placement (RTP) and Front Teat Placement (FTP) have been standardised due to the high correlation between these two traits; RTP from 10% to 8% and FTP from 6% to 8%.

The following changes have been made to the Mammary System composite trait weightings:

- Udder Depth from 14% to 13%
- Udder Texture from 15% to 14%
- Median Suspensory from 13% to 12%
- Fore Attachment remains at 16%
- Front Teat Placement from 6% to 8%
- Rear Attachment Height from 13% to 11%
- Rear Attachment Width remains at 11%
- Rear Teat Placement from 10% to 8%
- Teat length from 2% to 7%

d) Composite: Dairy Strength

Bone Quality can often have a confusing impact on Feet and Leg composite scores and is better positioned in Dairy Strength. The correlation between Bone Quality and milking ability is well recognised so it seems logical that the Bone Quality trait is included in the Dairy Strength composite.

The following changes have been made to the Dairy Strength composite:

- Include Bone Quality with a weighting of 13% and an Ideal of 7
- Remove Udder Texture from Dairy Strength

To accommodate the changes the weightings in the composite are as follows:

- Stature from 6% to 5%
- Muzzle Width from 13% to 12%
- Chest Width remains at 22%
- Body Depth remains at 18%
- Angularity from 30% to 25%
- Body Condition Score (remain a research trait)
- Udder Texture from 5% to 0%
- Loin Strength from 6% to 5%
- Bone Quality at 13%

We would like to acknowledge the classification team with their assistance in this review.

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