








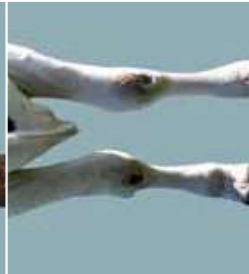




OUTCOME MEASURES – HAIR LOSS AND LESIONS

Source: AHDB Dairy

Scoring hair loss and lesions

Score	No hair loss or lesion	Head and neck	Front leg	Hind leg and hock	Rest of body
0	<ul style="list-style-type: none"> Lesions or hairless patches smaller than 2cm in diameter or no hair loss or lesions 				
Score	Hairless patch				
1	<ul style="list-style-type: none"> One or more hairless patches larger than 2cm in diameter Scars should only be included if they are at least 3mm wide 				
Score	Lesion				
2	<ul style="list-style-type: none"> One or more lesions (areas of skin damage, wound or scab) larger than 2cm in diameter Scratches or cuts should only be included if they are at least 3mm wide 				
<p>Factors which can result in hair loss and/or lesions</p> <ul style="list-style-type: none"> Broken cubicle fittings Protruding/low hanging items in housing or cow flow area Cubicle comfort Amount and type of bedding Cubicle comfort Amount and type of bedding Protruding items Incorrect neck barrier height – cubicles and feed rail Protruding items 					

OUTCOME MEASURES – HAIR LOSS AND LESIONS

Why score hair loss and lesions?

Hair loss and lesions demonstrate some form of damage to the skin and, in some cases, the underlying tissues. Scratches, cuts or scars should only be included if they are at least 3mm wide. Occasional small areas of skin damage may be inevitable among a herd of cattle but areas larger than 2cm may give reason for concern. Hairless patches indicate rubbing on rough surfaces or irritation, ectoparasite presence or previous injuries (scars).

The location of both hair loss and lesions is important in determining the likely causes. For example, legs, knees and hocks with hair loss or lesions are indicative that the lying area is not comfortable, with abrasive surfaces, insufficient bedding and/or hard surfaces. Hair loss or lesions to the neck tend to indicate an inadequate feed barrier or incorrect cubicle neck rail height.

How to score your herd

- Scoring the entire herd is best practice. However, the table below gives guidance on the minimum number of cows you should score to get an accurate picture of your herd. For example, if you have a herd size of 125 cows, you need to score 65 cows.

Herd size	Minimum sample size
Up to 50	30 (or all cows if < 30 in herd)
50–100	50
10–200	65
201+	73

- Visually assess the entire cow according to the following areas:
 - Head and neck
 - Front leg
 - Hind leg and hock
 - Rest of body
- Choose a time and place that will allow you to observe cows, for example, legs and hocks can easily be observed in the milking parlour. Alternatively, observe cows when doing routine management procedures such as hoof trimming, AI, PD checks, routine vaccinations, etc.
- Tally the scores for each body part.

Using the information

- Investigate the causes of hair loss and lesions (scores 1 and 2) in the cow's environment
- Manage necessary changes to assist with reducing the number of hair loss patches
- Regularly score the herd and monitor the scores to determine if the changes have had the desired effect

Key benefits of scoring













- Use as a troubleshooting tool to find areas of discomfort in the cow's environment
- Motivates farm staff to improve the cow's comfort in its environment and, therefore, overall herd health and performance
- Use to meet the recommendations or requirements of assurance schemes
- Suggests areas of the cow's environment which may require attention to reduce risk of injury

Further information

Information and a short film to help understand the score system can be viewed on the AHDB Dairy website at dairy.ahdb.org.uk

OUTCOME MEASURES – SWELLING

Scoring swellings

Score	No swelling	Head and neck	Front leg	Hind leg and hock	Rest of body
0	<p>No swelling, or a swelling smaller than 2cm</p> <ul style="list-style-type: none"> No swelling, or a swelling smaller than 2cm 				
Score	Mild swelling				
1	<p>Mild swelling larger than 2cm such that the normal anatomy of the area is enlarged, poorly defined or obscured</p> <p>Lack of definition of joints, 2–5cm swelling on other parts of the body</p>				
Score	Substantial swelling				
2	<p>Abnormal enlargement larger than 5cm which is a prominent/pronounced extension away from the body</p> <p>May be at least 5cm long, rather than round</p>				
<p>Factors which may result in swellings</p> <ul style="list-style-type: none"> Injection sites Incorrect neck rail height – cubicles and feed barrier Protruding items Cubicle comfort Amount and type of bedding Protruding items Cubicle comfort Amount and type of bedding Broken cubicle fittings Protruding/low hanging items in housing or cow flow area 					

OUTCOME MEASURES – SWELLING

Why score swellings?

Swellings demonstrate some form of damage to the skin and, in some cases, the underlying tissue.

Occasional small areas of swelling may be inevitable among a herd of cattle but swellings larger than 2cm should give reason for concern.

Swellings are caused by cows lying down on hard surfaces, uncomfortable cubicles and injection sites; there may also be signs of abscesses or cysts.

Hind leg, hock and front leg swellings are strong indicators that the lying area is not comfortable.

Neck swellings tend to indicate an inadequate feed barrier or incorrect cubicle neck rail height.

Presence of swellings on other body parts may indicate there are areas in the cow's environment that are causing injuries.

How to score your herd

1. Scoring the entire herd is best practice. However, the table below gives guidance on the minimum number of cows you should score to get an accurate picture of your herd. For example, if you have a herd size of 125 cows, you need to score 65 cows.

Herd size	Minimum sample size
Up to 50	30 (or all cows if < 30 in herd)
50–100	50
101–200	65
201+	73

2. Visually assess the entire cow according to the following areas:
 - Head and neck
 - Front leg
 - Hind leg and hock
 - Rest of body
3. Choose a time and place that will allow you to observe cows, for example, legs and hocks can easily be observed in the milking parlour. Alternatively, observe cows when doing routine management procedures such as hoof trimming, AI, PD checks, routine vaccinations, etc.
4. Tally the scores for each body part.

Using the information

- Investigate the causes of swellings (scores 1 and 2) in the cow's environment
- Manage necessary changes to assist with reducing scores 1 and 2
- Regularly score the herd and monitor the number of swellings to determine whether changes have had the desired effect

Key benefits of scoring

- Use as a troubleshooting tool to find possible causes of injury in the cow's environment
- Motivates farm staff to improve the cow's comfort in its environment and, therefore, overall herd health and performance
- Use to meet the recommendations or requirements of assurance schemes

Further information

Information and a short film to help understand the score system can be viewed on the AHDB Dairy website at dairy.ahdb.org.uk/swellings

OUTCOME MEASURES – CLEANLINESS

Scoring cleanliness

Score	Clean	Flank (including tail)	Lower hind leg	Udder
0	<ul style="list-style-type: none"> No dirt or only minor fresh or dried splashing present 			
Score	Dirty			
1	<ul style="list-style-type: none"> An area of dirtiness (ie layer or plaques of fresh or dried dirt) at least palm size (10 x 15cm) 			
Score	Very dirty			
2	<ul style="list-style-type: none"> An area of dirtiness (ie layer or plaques of dried dirt) amounting to at least forearm length (40cm) in any dimension 			
<ul style="list-style-type: none"> Cubicle cleanliness Cubicle comfort Amount and type of bedding Manure consistency and health of the herd 				
<ul style="list-style-type: none"> Frequency of: <ul style="list-style-type: none"> alley cleaning running of automatic scrapers cleaning of crossover alleys cleaning of collecting yard Space allowance per cow 				
<ul style="list-style-type: none"> Cubicle cleanliness Cubicle comfort Amount and type of bedding Amount of hair on udder Manure consistency and 				
<p>Factors that may affect cleanliness</p>				

OUTCOME MEASURES – CLEANLINESS

Why score cleanliness?

The cleanliness of a cow's coat is an important indicator of cow comfort. In general, given the choice, cows will choose to lie in clean, dry areas, and dirt on a cow's coat can have various causes.

Excessive layers of dried dirt provide optimal conditions for ectoparasites and can irritate the skin, increase cold stress and the risk of disease and may cause issues at or prior to slaughter. This layering of dried dirt indicates a long-term build-up and highlights weaknesses in the cleaning routine of the alleys and/or cubicles or lack of grooming facilities.

A high level of dirtiness on the legs and flank is associated with increased risk of lameness, digital dermatitis, interdigital dermatitis, slurry heel and mastitis. It can also obscure skin damage and foot lesions, preventing early detection and increasing recovery times. Dirtiness can be caused by poor slurry systems, lack of bedding, overstocking, or poached paddocks.

A high level of dirtiness on the udder is strongly associated with the development of mastitis, adds to pre-milking cleaning and increases the risk of poor milk quality. Frequent and strategic cleaning of the alleys and cubicles will reduce the amount of manure on cows and the amount of manure tracked into the cubicle.

How to score your herd

- Scoring the entire herd is best practice. However, the table below gives guidance on the minimum number of cows you should score to get an accurate picture of your herd. For example, if you have a herd size of 125 cows, you need to score 65 cows.

Herd size	Minimum sample size
Up to 50	30 (or all cows if < 30 in herd)
50–100	50
101–200	65
201+	73

- Visually assess the entire cow according to the following areas:
 - Flank (including tail)
 - Hind leg
 - Udder
- Choose a time and place that will allow you to observe cows, for example, legs and udder can easily be observed in the milking parlour. Alternatively, observe cows when doing routine management procedures such as hoof trimming, AI, PD checks, routine vaccinations, etc.
- Tally the scores for each body part.

Using the information

- Investigate the causes of very dirty cows (score 2) in the cow's environment
- Manage necessary changes to assist with reducing the number of 'score 2' cows
- Regularly score the herd and monitor the number of very dirty cows to determine if changes have had the desired effect

Key benefits of scoring

- Use as a troubleshooting tool to measure cleanliness of your cows and as a way to assess improvements in hygiene management
- Observing cows and noting body parts that are too dirty can help identify places in the cow's environment that may need action in order to help reduce the risk of disease
- Clean cows have clean udders and are healthier
- Motivates farm staff to improve cleanliness and, therefore, overall herd health and performance
- Use to meet the recommendations or requirements of assurance schemes

Further information

Information and a short film to help understand the score system can be viewed on the AHDB Dairy website at dairy.ahdb.org.uk

Body condition scoring (BCS)

What is body condition scoring (BCS)?

BCS was developed around 20 years ago and is widely accepted as a practical means of assessing the impact of negative energy balance in early lactation. Scores range from 1 to 5 in increments of 0.25.

This system concentrates on the accurate determination of scores between 2.0 and 4.0 as these are the most critical for management decisions. Scores outside these values are extreme; those below 2.0 are seriously underconditioned and require immediate attention, as do those at 4.0 and above which are overconditioned and require controlled weight loss.

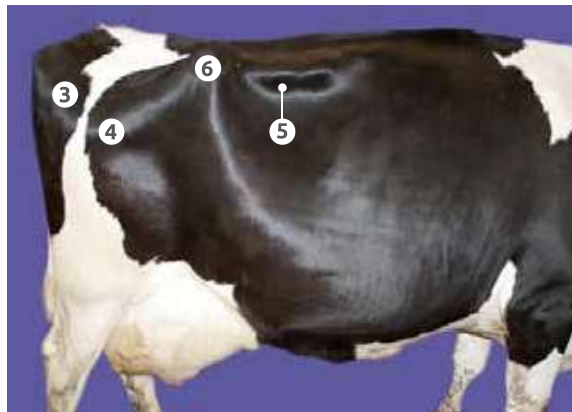
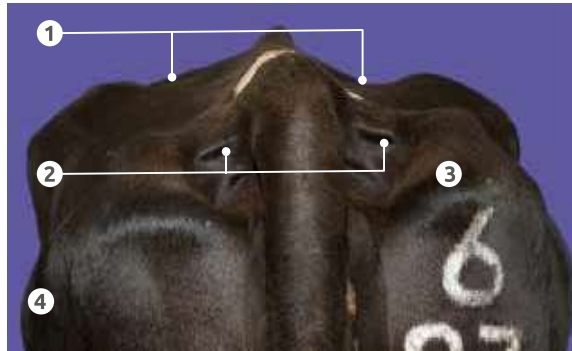
Scorers using this system will be able to assign BCS consistently and accurately.

When to condition score

The change in body condition score is more important than the absolute value, therefore scoring should be undertaken regularly. A good routine involves scoring:

Stage of lactation	Target BCS
At calving	2.5–3.0
60 days post-calving	2.0–2.5
100 days before drying off	2.5–3.0
At drying off	2.5–3.0

Further information on how to body condition score can be found on the AHDB website, including a short training video.



1. Sacral ligament 2. Tailhead ligament
3. Pins 4. Thurl 5. Short ribs 6. Hooks

1 Assess the angle between the hooks and pins.

- The first decision you make will divide cows into two groups: those with a BCS less than or equal to 3, and those with a BCS greater than 3
- This decision may be the most difficult one in the BCS process, especially if the cow is near a 3.0 or 3.25 BCS



V – angle has a BCS less than or equal to 3. Follow the orange steps.



U – angle has a BCS greater than 3. Follow the green steps.

OUTCOME MEASURES – BODY CONDITION

BCS less than or equal to 3

2 Standing at the rear of the cow, assess whether the hooks are rounded or angular.



Rounded hooks:
• BCS = 3.0



Angular hooks:
• BCS = 2.75 or less

3 Refine the score '2.75 or less' by evaluating the pins.

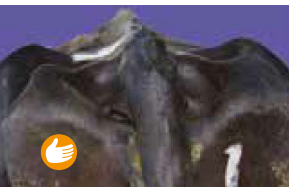


Padded pins:
• BCS = 2.75

4 Now we need to feel the pins to assess the presence of a palpable fat pad (one that is not visible to the eye but can be felt) to refine the score of '2.5 or less'.



Palpable fat pad on pins:
• Fat pad present
• BCS = 2.5



No fat pad on pins:
• No Fat pad present
• BCS = 2.25 or less

5 Evaluate the visibility of the short ribs:

- Look for the bony ridges of the short ribs
- Estimate the distance these ridges are easily seen from the tip of the short ribs to the spine
- Are the ridges visible half of the distance, three-quarters of the distance, or more?



Ribs visible halfway to the spine
• BCS = 2.25



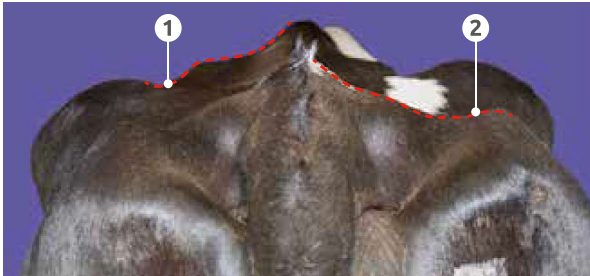
Ribs visible three-quarters of the distance to the spine
• BCS = 2.0

6 Cows with sawtooth spine and ribs are severely underconditioned and will score less than 2.0.

BCS greater than 3

2 Standing at the rear of the cow, assess whether both the sacral and tailhead ligaments are fully visible.

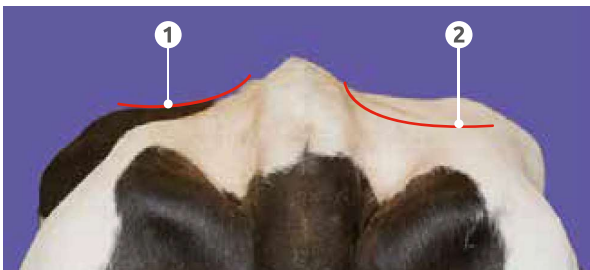
1. Sacral ligament 2. Tailhead ligament



Sacral visible. Tailhead visible.
Both ligaments easily seen. BCS = 3.25

3 Continue to assess the visibility of the ligaments. The tailhead ligament will become covered in fat first.

1. Sacral ligament 2. Tailhead ligament



Sacral visible. Tailhead barely visible.
Tailhead ligament partly covered in fat. BCS = 3.50

4 The tailhead is now completely covered. Assess the visibility of the sacral ligament to determine a score of 3.75 or 4.0 or more.

• Sacral barely visible
• Tailhead not visible
• Neither ligament easily seen
• BCS = 3.75



• Sacral not visible
• Tailhead not visible
• Neither ligament visible
• Will score 4.0 or more



• All bony prominences rounded and covered in fat
• Tailhead buried in fat
• Fat deposits readily seen on rump and legs
• BCS = 5.0







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OUTCOME MEASURES – LAMENESS

Mobility score

Category of score		Score	Description of cow behaviour	Suggested actions
Good mobility				
		0	<ul style="list-style-type: none"> Walks with even weight-bearing and rhythm on all four feet, with a flat back Long, fluid strides possible 	<ul style="list-style-type: none"> No action needed Routine (preventative) foot trimming when/if required Record mobility at next scoring session
Imperfect mobility				
		1	<ul style="list-style-type: none"> Steps uneven (rhythm or weight-bearing) or strides shortened; affected limb or limbs not immediately identifiable 	<ul style="list-style-type: none"> Could benefit from routine (preventative) foot trimming when/if required Further observation recommended
Impaired mobility				
		2	<ul style="list-style-type: none"> Uneven weight-bearing on a limb that is immediately identifiable and/or obviously shortened strides (usually with an arch to the centre of the back) 	<ul style="list-style-type: none"> Lame and likely to benefit from treatment Foot should be lifted to establish the cause of lameness before treatment Should be attended to as soon as practically possible
Severely impaired mobility				
		3	<ul style="list-style-type: none"> Unable to walk as fast as a brisk human pace (cannot keep up with the healthy herd) Lame leg easy to identify – limping; may barely stand on lame leg/s; back arched when standing and walking Very lame 	<ul style="list-style-type: none"> This cow is very lame and requires urgent attention, nursing and further professional advice Examine as soon as possible Cow will benefit from treatment Cow should not be made to walk far and kept on a straw yard or at grass In the most severe cases, culling may be the only possible solution

OUTCOME MEASURES – LAMENESS

How to score your herd

If you haven't scored your herd for a while, information and film clips can be viewed on the AHDB website: ahdb.org.uk/dairy

In general

- Check your herd, ideally, at least once a month
- Choose a time and a place which will allow you to observe cows, ideally on a hard (i.e. concrete) non-slip surface. Monitor each cow individually, allowing them to make between 6–10 uninterrupted strides. Watch the cow from the side and the rear, and, if possible, ensure the cow turns a corner as part of her test
- Record the identities of cows scoring 2 or 3 and schedule treatment within 48 hours for score 2 cows and as soon as possible for score 3 cows. Check regularly to ensure treatment is working
- Keep a tally of cows that are score 0 and 1
- If you are uncertain about the exact score of a cow, make repeat observations. If you are still unsure, examine her feet

Key benefits of scoring

- Every cow is regularly assessed for the early signs of poor mobility, prompting foot trimming and action lists
- Mobility trends can be monitored to identify new problems at an early stage
- Provision of figures for benchmarking performance
- General foot health awareness is increased
- Motivates farm staff to improve herd mobility and therefore overall herd health

Further information

For more information visit ahdb.org.uk/healthyfeetprogramme or email healthyfeet@ahdb.org.uk