

Risk Assessment Tool Guide

Action Planner

Instructions

- Look at each risk score card. Identify areas that can be improved, especially where you allocated a risk score of 4 or above
- Write down possible actions or interventions that can be done for each Success Factor
- Prioritise the most important with asterisks or numbers
- Make sure you are addressing the areas that will have the most significant impact on lameness

1



Low infection pressure

2



Good hoof shape, horn quality and digital cushion

3



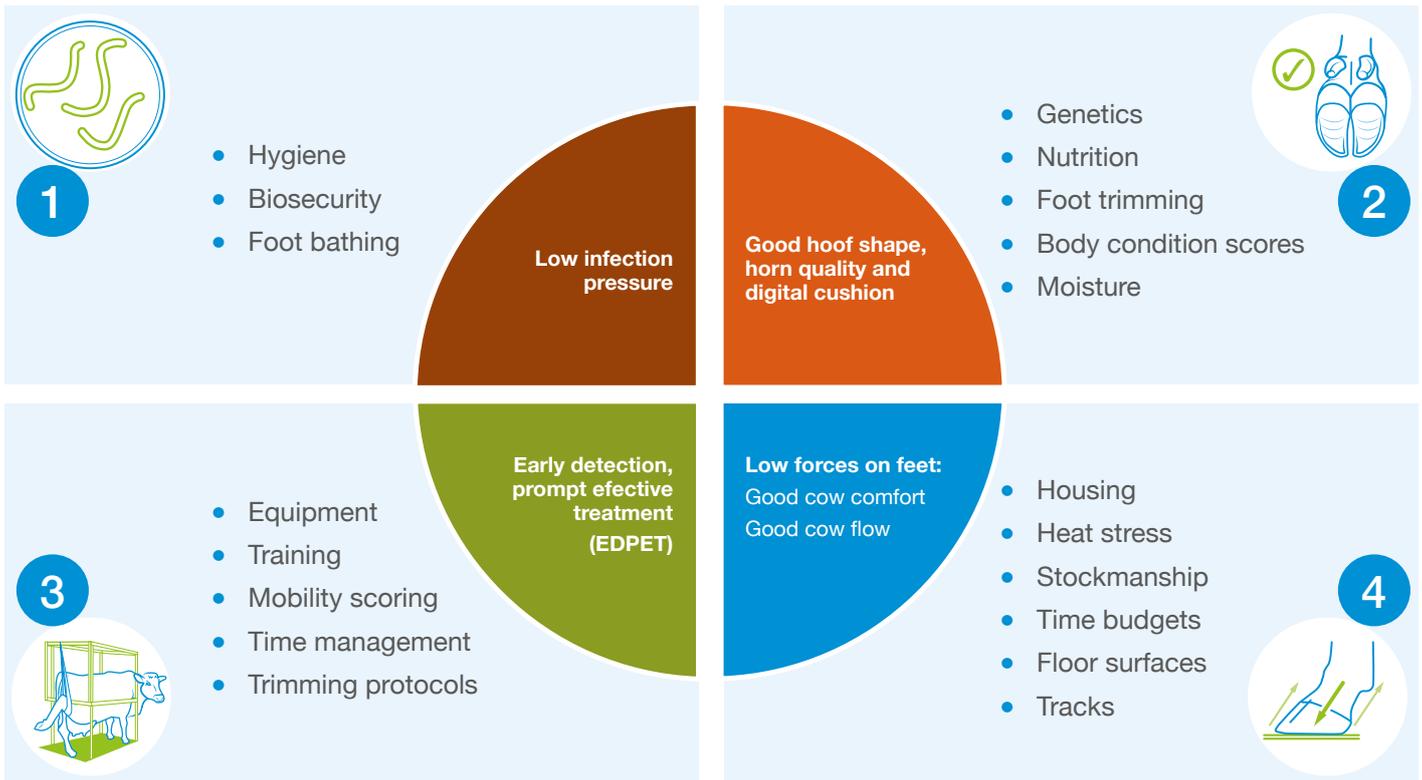
Early detection and prompt, effective treatment of lame cows

4



Low forces on the feet (good cow comfort and good cow flow)

Healthy Feet Programme Risk Assessment Tool Guide



The Four Success Factors for Healthy Feet

- There are four score cards, one for each of the Success Factors (see above)
- The cards show a series of questions as a checklist. For each question, score the farm's risk with a number between 0 (zero risk) and 10 (highest risk). Use the risk assessment matrix below, alongside your own judgement to help you allocate an appropriate score
- After assessing and scoring the risks for each card, you will be able to calculate an overall risk score (expressed as a percentage) for each of the four Success Factors
- Mark the scores on the balanced score card on page 3 to show the overall risk pattern
- Ensure that for each Red-rated risk you devise an action or intervention. Write all potential interventions on the action planner. Agree on the ones that will be implemented; it is useful to prioritise them and agree a time frame and person responsible

Using the risk assessment matrix

- Score each risk on a scale of 0–10 using the risk assessment matrix
- Score 0 is zero/negligible risk
- Score 10, the highest score, is a risk that has a continuous effect on the foot health of the herd and which has a severe impact
- Write your score assessment next to each question. The higher the score you attribute, the more important you judge the risk to be

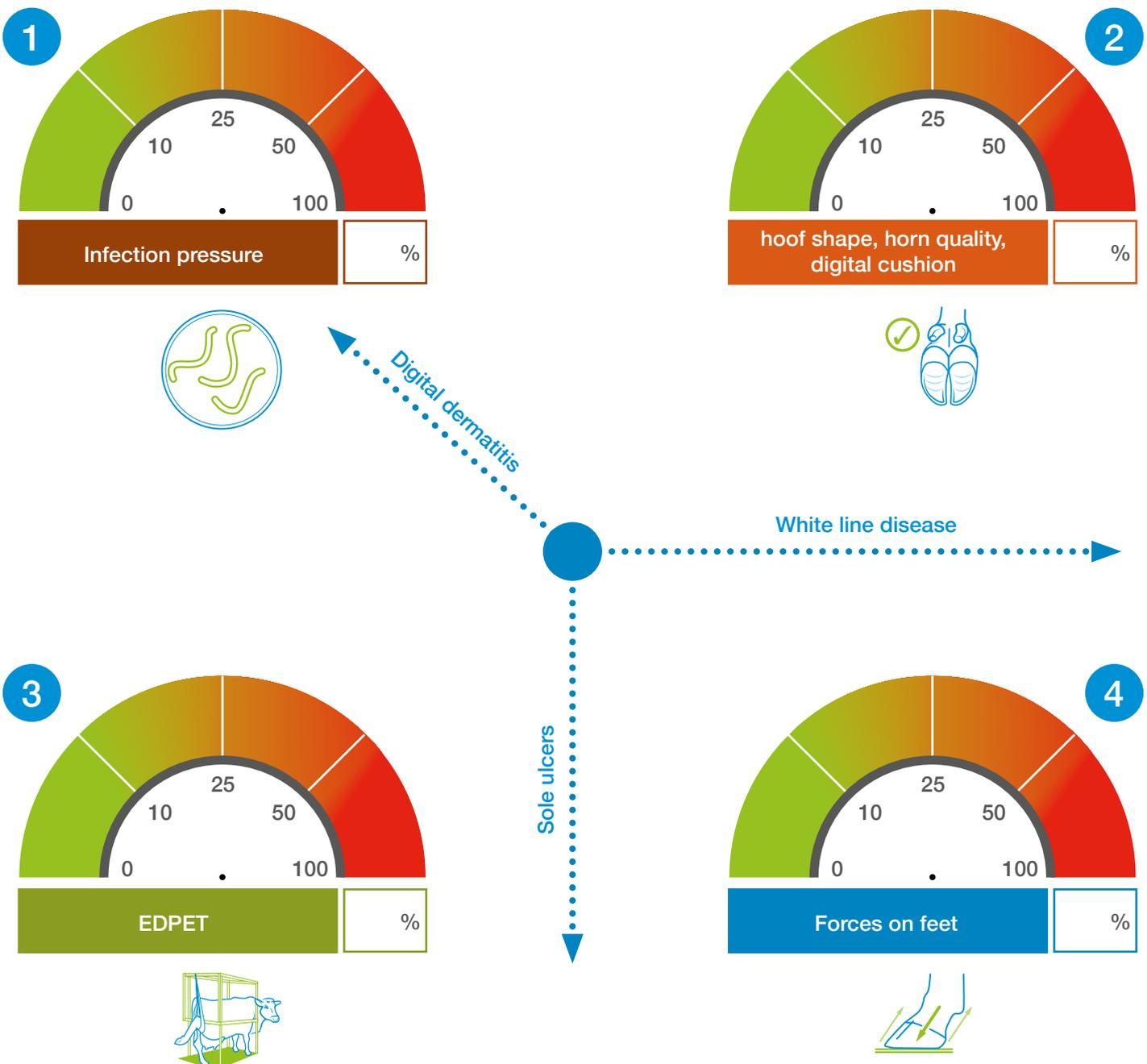
Using the matrix For each risk point, consider the severity of harm and the frequency of occurrence on the farm. Deduce a score, 0-10, using the grid		Severity of harm		
		Absent/negligible	Significant	Severe
Frequency of occurrence/prevalence of risk	Remote	0	3	4
	Likely	1	5	7
	Frequent	2	7	9
	Continuous	3	8	10

The Balanced Score Card

Instructions

- Beneath each dial, write the percentage risk score. Mark on the dial a needle to point to the score – like a speedometer or rev counter, for example
- On the central axes, mark the incidence of the three main lesions: digital dermatitis, sole ulcer and white line disease. There are no scales on these axes because it is the relative incidence that is important. Most simply, you could score each lesion 0–10 based on perception of occurrence in the herd. More accurately, use treatment records to calculate the percentage incidence of each lesion
- Draw a line to join each point on the three central axes to create a triangle shape

- This balanced score card indicates two things:
 - The strengths and weaknesses in the four main Success Factors for Healthy Feet in this herd (the dials).
 - The success factors that are most important based on the lesions that are most prevalent. Although all four Success Factors are likely to be important for every herd, the triangle shape points towards those that are likely to have the greatest impact in the herd.
- As the herd makes progress in certain areas, the lesion patterns may alter. Repeat the exercise frequently, for example every six months



1 Infection pressure



Risk factor		Score (0–10)
1	How clean are the floors? You need to walk everywhere the cows do. Pay particular attention to high risk areas such as the parlour exit race during milking. Are there pools of slurry or dirty water; for example, caused by broken concrete, poorly drained areas or over slats, at the end of scraper runs? Look for pools of slurry deeper than 4cm; ideally there will be none	
2	How clean are the cows' feet? You can use the AHDB cleanliness score card to help you assess this objectively	
3	What is the overall floor area to which the herd has access? As a rule of thumb, for cubicle-housed herds, access to $\geq 7\text{m}^2$ floor space/cow (excluding the cubicle beds themselves) is very good; $\leq 3.5\text{m}^2$ /cow is poor. For cubicle houses, three-row designs vs two-row designs often have less floor space unless additional loafing area is provided	
4	What is the level of crowding in the shed? Even if floor space is sufficient, poor design or poor cubicle comfort can lead to congested areas. Poor cubicle occupancy leads to high numbers of cows loafing in passageways or yards	
5	What is the consistency of manure? Is loose manure a particular problem that might cause increased contamination of feet and poorer foot hygiene? What is ventilation like? How damp/humid is the atmosphere that might cause damp beds and an inability of feet to dry out?	
6	How well is slurry managed? For example, what is the scraping frequency? Are automatic scrapers used? Is the floor partially or fully slatted? How good a job is being done?	
7	Consider the collection yard: how is this a risk for slurry contamination of feet? Are there narrow passageways (eg, parlour exit race)? Is there sufficient room for cows in the collection yard ($\geq 2\text{m}^2/650\text{kg}$ cow)?	
8	What is the possibility of spreading digital dermatitis during foot trimming? How is equipment disinfected between cows? What disinfection precautions do external trimmers use?	
9	What biosecurity arrangements are in place for digital dermatitis? Is this herd closed? If cows are brought onto the farm, are feet checked and treated as part of the quarantine protocols?	
10	How well is foot bathing done? Use the 9-point footbath fitness test to do this	

The 9-point footbath efficiency test

- Good cow flow.** Do your cows walk through steadily and willingly?
- Contact.** Does the disinfectant solution reach the right parts of the foot and for long enough time?
- Penetration.** How clean are the feet?
- Longevity.** How many cows can pass through the bath before replenishment?
- Chemical.** Is the disinfectant suitable?
- Dilution rate.** What volume is your footbath? How much chemical do you need to add?
- Frequency.** How often should your cows pass through the footbath?
- The correct cows.** Which animals are being foot-bathed?
- Easy.** How easy is footbathing on your farm? The bath should be easy fill, easy empty, easy clean.

Full details can be found in the 'Designing Your Footbath using the Footbath Fitness Test' resource

Add up the total score for the infection pressure risk. A high score indicates a larger risk.
(This is already the percentage because the maximum potential score for this card is 100)

Write your score here:

%

2 Hoof shape, horn quality and digital cushion



Risk factor		Score (0–10)
1	What proportion of the herd has long toes? Use >9cm to indicate long toes for a typical Holstein, measured from where hard horn begins at the coronary band to the toe tip. Ideally, no more than 10% of the herd should have long toes.	
2	What proportion of the herd has short toes? Use <7.5cm to indicate short toes for a typical Holstein, measured from where hard horn begins at the coronary band to the toe tip. Ideally, none of the herd should have short toes, which might indicate over trimming and/or over wear. Check foot angles: are they generally too steep (may be short toes), too shallow (may be long toes) or normal (approximately 52°)?	
3	How is breeding for healthy feet considered on this farm? How well does the type and size of cow suit the system and facilities?	
4	What is horn quality like? Assess whether horn is particularly soft (wet feet), or too brittle (dry – for example, with excess formalin or copper sulphate). Do this by lifting some cows' feet for examination and trimming if required.	
5	How clean are the feet? How much "caking" is there on the feet, eg caused by sawdust and slurry?	
6	How much horn abnormality can you see? For example, cracking of walls, stress rings on walls or curling of toes? More than 3% of the herd affected with any of one of these defects is abnormal.	
7	What degree of slurry heel, or heel horn erosion is there? Look for puffiness of the skin around the heels.	
8	What proportion of cows have thin soles? You will need to lift and examine soles to assess this. Thin soles can be caused by excessive wear and/or over trimming or incorrect trimming.	
9	Is biotin supplemented? If so, the dose rate should be 20mg/cow/day, all year round.	
10	What is the routine trimming protocol? How suitable is it with respect to your findings of hoof shape? Check dry cows too.	
11	Are there foot checks before calving (for heifers too)?	
12	How many thin cows are there in the milking herd (<BCS 2)? More than 3% indicates a problem and suggests that digital cushions may be too thin for adequate protection.	
13	How is transition cow management, in particular protection from rapid weight loss in early lactation? This will affect quality of the digital cushion.	
14	What proportion of dry cows (pre-calvers) are ≤BCS 2.5? More than 5% might indicate that cows are calving too thin and are at risk from poor digital cushion protection.	

Add up the total score for hoof shape, horn quality and digital cushion risk.
A high score indicates a larger risk.
Calculate the percentage for this score card ($\% = \text{score} \div 140 \times 100$)

Write your
score here:

%

3 Early detection, prompt effective treatment (EDPET)



	Risk factor	Score (0–10)
1	What system is in place to detect new lame cows? How are first signs of lameness detected? How well are new cases recorded? Is it possible to tell if it is a new case? If mobility scoring is not specifically done routinely, or there is not another robust detection method in place, such as pressure plates/3D accelerometers (certain activity meters), then this will be a significant risk.	
2	Is mobility scoring done routinely (at least fortnightly)? What training have scorers received? How up to date?	
3	How long is the delay between detection of a new lameness and treatment? (Target is within 24 hours) What capacity is there to give foot first aid in-house?	
4	How often are foot treatments done? Which days of the week? How is sufficient time allocated for treatments? Does the farm have sufficient capacity (time, facilities, expertise) to keep up with expected requirements for trimming, foot checks and treatments? As a rough guide, reckon on around 2.5–3.5 trims/treatments per cow per year for all-year-calving herds, depending on lameness prevalence, herd type and whether all-year housed – is this being catered for? How frequently do external trimmers visit the farm and how many do they trim?	
5	Who does the trimming? Who does the foot treatments? What training has been given? What qualifications or accreditations do external trimmers have (if used)?	
6	What is your assessment of the effectiveness/competency of treatments? Are blocks used correctly and frequently enough? How are bandages used?	
7	Are NSAIDs used routinely for claw horn lesions? Are they used early enough?	
8	Assess the treatment of each common lesion against your ideal approach: digital dermatitis, foul of the foot, white line disease, sole ulcer, sole bruising.	
9	How well/accurately can the relevant staff recognise these lesions?	
10	What records are kept? How well are these used? How accurate are they?	
11	How effectively are knives or rotary rasps used? Pay attention to the type of rotary rasp (if used) – cutting discs are better than abrasive discs; the effectiveness of knife sharpening and condition of the knives; how competently the equipment is used and maintained.	
12	Is over trimming or incorrect trimming a problem?	
13	Assess the foot crush. Is there one available at all times? What condition is it in? How easy is it to use? What are the working conditions like (eg, light)? Is everything to hand and well maintained? Is trimming/treatment a one-person job? (Target: one person can get one cow in the treatment crush within one minute)	
14	Does the farm do a “foot check” or a “foot trim”? This question examines the possibility of unnecessary removal of horn.	
15	Is there a “special needs” or recovery group?	
16	How well are adequate rest, feed, space and water assured for lame cows?	

Add up the total score for EDPET risk. A high score indicates a larger risk.
Calculate the percentage for this score card.
(% = score ÷ 160 x 100)

Write your
score here:

%

4 Forces on feet - cow flow and cow comfort



	Risk factor	Score (0–10)
1	Assess the comfort of the cubicles: what is the cubicle comfort index? (Target $\geq 85\%$ of cows in contact with a cubicle at any one time to be lying down.) How long does it take for cows to lie in a cubicle after entering? (Target ≤ 1 minute)	
2	How do the cubicle dimensions compare with the ideal for the size of cow?	
3	How likely is it that lying times are 12–14 hours per day? How many “waiting cows” are there (standing, not eating; target $\leq 15\%$ herd at any one time; repeat the assessment ≥ 3 times per day or use automated activity meters/data loggers)	
4	Do hock sores or swellings affect less than 10% of the herd?	
5	Is there at least one lying space per cow?	
6	How much floor space is available? Is there overcrowding (ideally $\geq 7\text{m}^2$ per cow plus beds)?	
7	How evenly are cows distributed throughout the space? What pressure points are there, or dead ends? Sharp turns?	
8	How slippery are floors? Is the concrete grooved? Abrasive concrete? New concrete? How confidently do cows walk? Go everywhere the cows walk.	
9	How well maintained are floor surfaces? Any sharp edges, broken concrete or slats?	
10	Are bulling cows removed from the herd? Are bulls in the herd during the housing period?	
11	Consider the time budgets of the cows: how long are cows away from beds (eg, milking, lock-ups) each day? (Target < 3 hours/day)	
12	How much space is there in the collection yard? (Target $\geq 2.5\text{m}^2/650$ kg cow)	
13	Is a backing gate used? How? Are cows’ heads up or down? (Target $< 2\%$ heads up) What is the cow flow like into the parlour? Does the milker enter the collection yard? Are cows rushed?	
14	How relaxed are the cows? Are flight zones ≤ 1 metre?	
15	Are there pinch points? Eg, narrow passageways at parlour exit, holding pens	
16	How safe are the tracks and walkways for cows’ feet? Pay attention to stones, mud (drainage) and grip, as well as the width and possible pinch points likely to cause crowding	
17	Are there stones dragged onto concrete collecting yards/tracks?	
18	Assess herding behaviour: do cows walk at their own pace? Quad bikes? Dogs? Sticks? How patient is herding? Is a time-latch grazing gate used? How stress-free is the moving and collection of cows?	
19	How far do cows walk? What is the maximum distance each day?	
20	Are there any rubber-matted areas? What is the condition of the rubber? Are there any high-traffic areas that are not rubber-matted?	
21	What is the condition of floors around water troughs and gateways?	
22	Is there a “special needs” group or facility for recovering cows? How comfortable are the beds? (Ideally straw yard/loose housing.) If cubicles, are they deep litter/sand?	
23	For grazing herds, is there a 1x/day group, or close-to-parlour paddock for lame and recovering cows?	
24	How sufficient is provision for extra lying time and additional comfort for fresh-calved cows and heifers?	

4 Forces on feet - cow flow and cow comfort (continued)

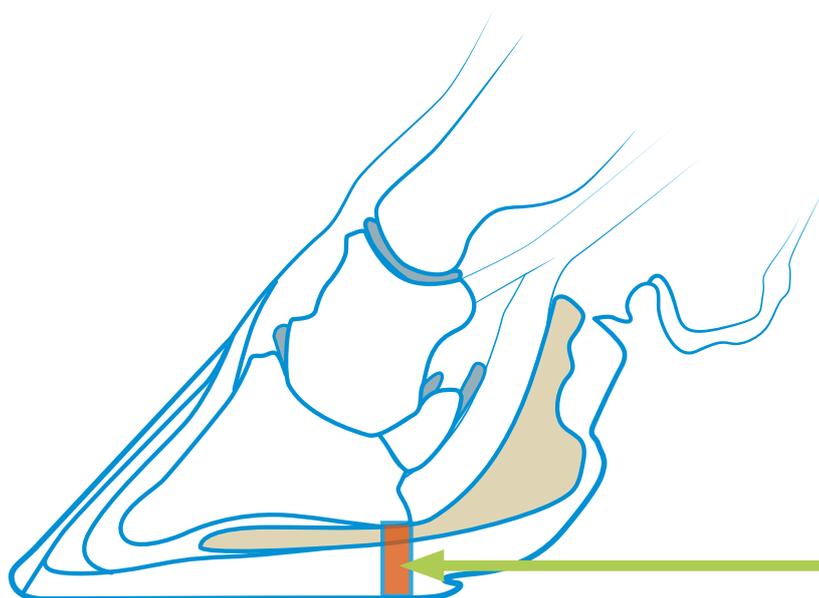


Risk factor		Score (0–10)
25	How well are heifers acclimatised? Are they prepared for cubicles before being expected to use them after calving? If they are housed on concrete after calving, have they been exposed to concrete floors for at least six weeks before calving?	
26	How sufficient are the heat abatement strategies to reduce heat stress? Heat stress is most likely to occur between 1 May and 30 September when the outside temperature rises above 21°C, but can be year-round in housed cows. Cows suffering from heat stress stand for longer periods of time. If the temperature is $\geq 21^{\circ}\text{C}$, cows can be cooled with fans. If the temperature is regularly $\geq 26^{\circ}\text{C}$, soakers and fans may be required (not likely in UK).	

Add up the total score for EDPET risk. A high score indicates a larger risk.
Calculate the percentage for this score card.
(% = score \div 260 \times 100)

Write your
score here:

%



Pressure point

Protected by the digital cushion (good body condition).
Increased pressure by:

- Long standing lines
- Thin soles or very thick soles
- Relaxed ligaments around calving
- Long toes

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