UK Dairy Cattle Welfare Strategy

A review of progress 2023-2025

NFU AHDB

RUMINANT
HEALTH & WELFARE

Signatories

- Agricultural Industries Confederation (AIC)
- Agriculture and Horticulture Development Board (AHDB)
- Animal and Plant Health Agency (APHA)
- Animal Health and Welfare NI (AHWNI)
- British Cattle Veterinary Association (BCVA)
- Cattle Information Service (CIS)
- Dairy Cattle Mobility Steering Group
- Dairy UK
- Kingshay
- Kite Consulting
- National Farmers Union (NFU)
- National Milk Records (NMR)
- Quality Milk Management Services Ltd (QMMS)
- Red Tractor
- Register of Mobility Scorers (RoMs)
- Royal Society for the Prevention of Cruelty to Animals (RSPCA)
- Royal Veterinary College (RVC)
- Ruminant Health & Welfare (RH&W)
- The Royal Association of British Dairy Farmers (RABDF)
- University of Nottingham
- Vet Vision AI
- Wales Animal Health and Welfare Group

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Foreword
Gwyn Jones, chairman of Ruminant Health & Welfare

Two years ago, we launched the UK Dairy Cattle Welfare Strategy 2023-2028 with ambitious goals to maintain our nation's position as a world leader in dairy cattle welfare. This report evidences progress across the strategy's six welfare goals – healthy feet, thriving cows, comfortable cows, appropriately nourished cows, healthy udders, and positive welfare – demonstrating that meaningful change is possible when commitment is shared.

The progress presented in this report is testament to the dedication of farmers, vets, researchers, government bodies, and all stakeholders across the dairy supply chain.

A particularly encouraging achievement was the launch of the GB Dairy Cow Lameness Manifesto in January 2025, with its ambitious target to achieve less than 5% lameness prevalence in 95% of British dairy herds by 2044. The growth of the Register of Mobility Scorers (RoMS) to a network of 860 accredited scorers and the expansion of AHDB's Healthy Feet Programme showcase the industry's commitment to skills-based welfare improvement.

Meanwhile, the success story of Johne's disease management, with the average herd milk ELISA Average Test Value (ATV) reducing from 9.7 to 5.8 between 2015-2024, exemplifies what can be achieved when the entire industry unites behind a common goal.

It's clear that farmers across the UK are embracing new practices, supported by devolved funding schemes and growing awareness around the link between welfare, productivity, and sustainability. This progress is underpinned by a strong spirit of collaboration and a shared understanding that high welfare isn't a static achievement, but a continual journey of improvement.

While celebrating these achievements, we must acknowledge the ongoing challenges and the fact there is always more to do. Economic pressures on farmers remain significant, and weather-related and environmental stressors continue to impact welfare outcomes. However, the innovations in technology — from automated lameness detection to AI-powered welfare monitoring — offer exciting opportunities to enhance both welfare standards and farm efficiency in the coming years.

As we move forward, sustained collaboration across the industry will be crucial. We need to continue to hone the infrastructure for measuring and recording progress across the UK to ensure we can deliver the evidence base and data necessary to demonstrate our commitment to world-leading welfare standards.

We thank all who have contributed to this strategy so far and urge continued collaboration to build on this progress. Together, we can ensure the UK dairy sector leads with confidence, compassion and credibility.

Gwyn Jones

Welfare goal: Healthy feet

"Lameness is one of the most costly, yet preventable, welfare issues in the UK dairy herd. Every farm will have a proactive lameness management plan in place to optimise foot health."

"The Dairy Cattle Mobility Steering Group was officially formed in 2012 in response to increasing awareness of the impact of lameness on the national dairy herd. There was a need for a co-ordinated and collaborative approach from across all sectors of the industry to raise awareness, and increase implementation, of best practice approaches to lameness management. Since its formation, the group has helped develop and steer the AHDB Healthy Feet Programme and more recently Healthy Feet Lite, to disseminate knowledge throughout the sector, as well as horizon scan for new developments in the field of lameness. The last decade has seen a huge shift in both awareness and understanding of lameness, aided by several mobility focused initiatives and highly impactful research outputs. Recently the Group, aligned with industry, produced a "Lameness Manifesto" which provides a roadmap and commitment to substantially reduce dairy cow lameness over the next 20 years. The combined efforts of all stakeholders should ensure the greatest possible progress in achieving healthy feet for all our dairy cows" (Dairy Cattle Mobility Steering Group).

What the data says

Lameness prevalence in the UK has historically been variable with wide ranges (Table 1). Kingshay's Dairy Costings Focus Report[1] presents data pertaining to more than 1,100 dairy farms across the UK and reports lameness to have decreased between 2020 (42 cases/100 cows) and 2023 (33 cases/100 cows). There was an increase of four cases per 100 cows in 2024 which could be attributed to the wet weather throughout the year (leading to cows being housed for longer) or better recording of lameness generally[1]. Similarly, Kite Consulting reports a decline in lameness prevalence from 31.19% per 100 cows in 2020 to 22.12% in 2024. These sample figures provide estimates of the current prevalence of lameness in the UK. There is currently no robust, standardised system, in place for measuring the national prevalence of lameness and there has been a lack of scientific research studies on this since 2019 which means that providing accurate nationwide lameness prevalence figures remains a challenge. This is needed to be able to measure how lameness is changing over time in UK dairy herds and is currently being worked on by the industry. That does not stop lameness reduction being a top priority for the industry as demonstrated by the GB Dairy Cow Lameness Manifesto. There is clear progress to be seen in the growth of industry initiatives and avenues of support available for farmers directed at driving a national reduction in lameness.

Table 1:
The most recent estimates of lameness prevalence across the UK from research studies since 2010.

Year	Lameness prevalence (%)	Numbers		Location	Reference
	Av. (Min-Max)	Herds	Cows		
2010-14	26.7 (3-77)	207	26,289	SW England	Shepherd, 2016[2]
2011	18.2 (0-53.5)	92	N/A	England & Wales	Heath et al., 2014[3]
2012-13	32 (0-50)	44	11,800	NW England	RDPE Report, 2013[4*]
2013-14	22 (7-42)	51	10,899	South England & Midlands	Collins, 2016[5]
2014	30.1 (7.3-60.6)	43	5,620	England Midlands	Randall et al., 2019[6]
2015-16	31.6 (5.8-65.4)	61	14,700	England & Wales	Griffiths et al., 2018[7]
2019	10.5 (6.6-35)	20	19,240	Scotland, England & Wales	Bell et al., 2020[8]

Source: Compiled by AHDB, based on various sources. Adapted from (CHAWG, 2020)[9].
*__Note:__ *Part of a lameness intervention study; lameness prevalence reported prior to intervention on farm.*

What progress is being made?

The GB Dairy Cow Lameness Manifesto

The GB Dairy Cow Lameness Manifesto[10], launched in January 2025, is an ambitious initiative which aims to incrementally reduce lameness in dairy herds by at least 10% every year, until at least 95% of all British dairy herds achieve a lameness prevalence of under 5% by 2044. The manifesto has been developed by veterinary experts who are members of the Dairy Cattle Mobility Steering Group, and is supported by Ruminant Health and Welfare and The Agriculture and Horticulture Development Board (AHDB) alongside farmers, processors and industry bodies.

The manifesto outlines a strategic delivery plan comprising 21 action points across four strategies which are being championed by industry organisations. The manifesto has a growing number of industry supporters and at the time of writing has 25 signatory organisations, who have pledged to demonstrate progress on specific actions within the plan.

The manifesto was launched in response to the consistently high estimates of lameness prevalence in UK dairy herds. The plan brings together the most recent scientific knowledge and methods in lameness management, paired with the promotion of routine standardised mobility scoring, which will help the industry demonstrate progress in the years ahead.

Automated lameness detection methods provide objective measures of cow mobility utilising data generated by, for example, cameras or sensors. A range of automated lameness detection methods and systems are commercially available. These systems have the potential to offer several advantages over visual assessment, including high frequency of data collection, timeliness and consistency. However, the importance of ensuring that these systems are as accurate as possible cannot be understated. The Dairy Cattle Mobility Steering Group recently published a position statement with a number of recommendations for automated systems, including that they should be validated against both mobility score data and lesion data.

LANTRA approved courses

LANTRA has accredited two new industry created levels of foot trimming award, both of which are delivered by an accredited vet alongside a highly skilled hoof trimmer. The one-day First Aid for Feet course aims to develop basic skills and knowledge to enable farmers to treat the emergency lame cow. The three-day Intermediate Hoof Trimming course is aimed at the farmer undertaking routine preventative hoof trimming following the evidence based Five Step Method. Since the start of 2024 there have been 362 successful course completions. For farmers in Wales, up to 80% of the cost of these courses can currently be funded. This is provided via Farming Connect, one of the four schemes within the Welsh Government Rural Communities – Rural Development Programme 2014-2025 which aims to provide support for agriculture in Wales alongside a number of other objectives.

AHDB Healthy Feet Programme

The Healthy Feet Programme[11] is an initiative which trains vets and foot trimmers to be 'Mobility Mentors' in order to provide expert, research-driven advice and support to farmers to reduce the number of lame cows on their farms. Ongoing individually tailored support is provided and this takes into account all aspects of lameness management on farm from the environment to treatment. More recently, this service has been condensed into the Healthy Feet Lite programme. This provides a streamlined and reduced cost version of the Healthy Feet Programme, increasing the accessibility of the benefits to all dairy farmers. There are a growing number of mobility mentors spread across the UK, and their locations are listed on the AHDB Mobility Mentor website[12].

Mobility Scoring

Mobility scoring has been successfully adopted as the primary way of monitoring hoof health in dairy cows. Mobility scoring is wildly recognised within a range of standards and a number of major milk processors and retail aligned contracts now require cows to be regularly mobility scored.

The Register of Mobility Scorers, known as RoMS, is an independent, self-regulatory body which encourages the widespread use of standardised and independent mobility scoring conducted by trained and accredited scorers, on UK dairy farms, to a set of professional standards. One of the key challenges to reducing lameness levels in the UK has been a reliable and standardised scoring system to be able to measure and monitor it. To counter this challenge, RoMS exclusively uses the AHDB four-point scoring system for lameness[13]. The Register provides accreditation for the trainers delivering training courses (RoMS approved trainers) to attain RoMS accreditation as a mobility scorer (RoMS approved mobility scorer). There are now 860 accredited RoMS mobility scorers working across the UK, who can be found on the RoMS website[14]. This also includes all Red Tractor Dairy Assurance assessors.

The UK Hoof Health Register

Alongside other treatment and prevention strategies, genetic selection offers a further scientifically robust strategy for reducing lameness in dairy herds. To support this, the University of Liverpool and AHDB have partnered to create The UK Hoof Health Register. This research initiative aims to collate hoof lesion data from foot trimming and hoof-health records into a national database. No farm visits are required, and farmers can easily sign up to share their data online*. This data will feed into AHDB's existing genetic evaluations for Lameness Advantage and Digital Dermatitis, helping to expand their scope and improve accuracy. Encouragingly, the use of these traits is already showing that genetic progress is being made through better selection[15] .

To allow your herd's foot trimming data to be used in this work, complete the University of Liverpool form: Participant consent form - Hoof Health Records.

What's happening on farm?

Case Study

Richard owns and manages a traditional family dairy farm on the Carmarthenshire/Pembrokeshire border, West Wales. The milking herd comprises 400 pedigree Holsteins with an additional 200-250 followers. The herd calves all-year-round with a heavy autumn weighting and is achieving an average yield of more than 9,800 litres. There has been a large focus on improving mobility in recent years with the farm implementing the Healthy Feet Programme as well as collaborating with other farmers through a Healthy Feet Farmer Led Action Group. The farm has seen huge improvements in lameness following these activities – sole ulcers have reduced by 90%, white line disease has reduced by 70% and there has been an 85% reduction in digital dermatitis. Lameness identified via mobility scoring has reduced by 30%.

Richard said: *"Through a real team effort, a zero tolerance to lameness and focused attention to detail, we have seen year-on-year improvements in the mobility of the herd. Lameness is no longer having a significant impact on the health, welfare and profitability of the herd, and as a result it has allowed us to focus and drive improvements in other areas."*

Richard, Carmarthenshire/Pembrokeshire border.

Case Study

Lewis manages a 440 cow all-year-round calving herd located near Wrexham. The majority of cows calve in the autumn and the herd is currently averaging 8,800 litres of milk. Since Lewis joined the family business, cow numbers have increased significantly alongside investments in infrastructure, a milking parlour, state-of-the-art cubicle shed and more. There is a large focus on cow comfort and improving mobility. Between the 2023-2024 and 2024-2025 calving season there has been a 75% reduction in sole ulcers.

Lewis said: *"One of our focuses over the last year has been to improve the early detection of lameness through the installation of CattleEye, a validated automated lameness detection system. Alongside implementation of the Healthy Feet Programme and working closely with our foot trimmer, we've seen a huge improvement and have dramatically reduced sole ulcers."*

Lewis, near Wrexham

Welfare goal: Thriving cows

"All dairy animals will be bred, reared and cared for to be robust and thrive in all systems, irrespective of system. High survivability and low levels of 'No Economic Value' losses (involuntary culling) are indicative of good underlying health (e.g. infectious disease), welfare, and management."

What the data says

Each priority area from the Dairy Cattle Welfare Strategy contributes to producing and raising thriving cows in the UK. Data on culling and cows exiting the herd between 2020-2024 has remained stable (Table 2)[16 - 21]. Frequent reasons for cows leaving the herd appear to be attributed to fertility, mastitis, lameness and infectious disease (Table 3). Demonstrable improvements have been seen over recent years in indicators of udder health, which should transpire into reduced culling rates over coming years. As discussed, lameness continues to be a challenge for the industry however this is currently being addressed as a matter

of priority. Data from Kingshay consultancy shows that of the proportion of cows leaving, selected culls have increased since 2019 (32%) to 2024 (34%) (range:30-35%)[1]. Conception rates have increased from 36% in 2020 to 40% in 2023[16], yet fertility issues persist as the highest reason behind cow culls. Greater clarity over fertility-related reasons for leaving are required to understand this, however with the continued economic pressure placed on dairy farmers, tighter fertility management targets are likely to be opposed on herds needing the most efficient animals to be retained[16].

Table 2:
A selection of key performance indicators (KPI's) from a cross-section of 500 UK Holstein/Friesian milk recording herds[17-21].

Parameter	Target 'Best 25%'[1]					Median				
Year	2024	2023	2022	2021	2020	2024	2023	2022	2021	2020
Culling rate (%)	22	22	22	23	23	28	28	26	28	28
Culling/death rate 100 days (%)[2]	3	3	3	3	3	5	5	5	5	5
Age at exit (years)	6.6	6.7	6.7	6.7	6.6	5.8	6	6	5.9	6
Age at exit by lactations	4.1	4.2	4.1	4.1	4.0	3.6	3.6	3.6	3.5	3.5

Source: National Milk Records (NMR) and the Veterinary Epidemiology & Economics Research Unit (VEERU) at the University of Reading.
[1]The target value represents level achieved by the top 25% of sampled herds.
[2]First 100 days of lactation.

Table 3:
Reasons for cows leaving the herd, sampled data from two herd health consultancies.

Reasons for cows leaving herd (%)	Kingshay					Kite Consulting				
Year	2023\ 2024	2022\ 2023	2021\ 2022	2020\ 2021	2019\ 2020	2023\ 2024	2022\ 2023	2021\ 2022	2020\ 2021	2019\ 2020
Mastitis/High SCC	11.4	12.7	12.4	11.1	11.1	14.51	12.67	13.99	13.84	13.44
Not in-calf/not seen bulling/ out of calving pattern	23.8	23.2	22.5	24.3	25.8	27.6	26.31	25.29	29.17	30.57
Lameness/Legs & Feet	12.0	11.8	11.1	11.5	9.8	12.57	12.62	12	11.29	11.40
Aborted	2.8	3.2	3.6	3.1	2.7	1.88	1.93	2.26	2.52	2.44
Accident/ Trauma/Injury	5.8	7.0	6.7	6.3	5.3	3.74	3.39	3.61	3.88	3.65
Metabolic disorder	2.0	1.9	2.2	2.6	2.5	1.82	2.39	1.62	1.77	1.89
Calving Injury/ Downer cows	2.9	3.0	3.0	2.9	3.1	2.06	2.35	3.09	2.64	2.99
Infectious disease, including Johne's and TB reactors	10.2	9.0	11.1	11.7	12.6	3.83	3.98	5.24	4.17	4.65
Leaving % of total herd	28.4	29.1	28.5	29	29	27.80	28.74	25.79	27.41	26.71
Mortality % of total herd	1.7	1.6	1.7	1.7	1.9	2.85	2.87	2.26	2.66	1.24

Source: UK Dairy Consultancies Kingshay[1] and Kite.

A critical risk period for cows exiting the herd appears to occur between the first and second lactation. Of a study of 29,128 first lactation heifers in 2020, 82.6% were found to remain in the herd and continue into a second lactation, 4.9% conceived but left the herd before calving, 6% left the herd following failure to conceive after service, and 6.6% left the herd without being served[22]. Exits account for either culls or sales, more accurate information on routes of exit are needed to create a clearer picture of reasons for cows leaving the herd. Several industry initiatives have been championing rearing robust and thriving cows, for example, in 2023 Arla ran a campaign on animal robustness. The focus of the campaign was to discuss and implement actions on farm to decrease cow mortality. The initiative ran knowledge building events on cow robustness across seven countries including the UK, which gathered attendance from over 5,000 farmers.

What progress is being made?

Funding available for farmers for vet visits

As part of the Animal Health and Welfare Pathway, farmers in England can currently apply for payments to fund vet visits to their farm to assess the health and welfare of their livestock. Via this service, vets provide a health and welfare review where endemic diseases are tested for and they provide individualised advice on how to improve animal health and welfare, how to boost productivity, and discuss any other matters of concern or interest. Funding can also be accessed to provide follow-up veterinary visits where more in depth analysis of disease can be conducted based on the initial visit results and to further advise on disease control and prevention, and biosecurity. Dairy producers can currently apply for up to £2,086 to support these activities as provided by the Department for Food and Rural Affairs (DEFRA) and the Rural Payments Agency (RPA).

For farmers based in Scotland, Preparing for Sustainable Farming (PSF) is currently offering funding for Animal Health and Welfare Interventions. Farmers can select up to two interventions each year and claim £250 towards each one. Funding is available for investigations and follow up activity on bull fertility, calf respiratory disease and liver fluke in cattle. Farmers have until 31 December 2025 to complete investigations and actions, with a deadline of 28 February 2026 for claim submissions.

Wales is set to launch its Sustainable Farming Scheme (SFS) in January 2026. Within this scheme will be the Animal Health Improvement Cycle (AHIC), which proposes to support structured and sustained farmer and vet collaborative, preventive health planning. This will be in an annual cycle involving measurement of key health and production metrics, planning measures to improve performance, carrying out actions and reviewing effectiveness. In addition to the subsidised course costs for dairy cattle mobility, Farming Connect in Wales also currently offers farmers up to 90% of funding (limited to £3,000 per eligible business) to be able to access either one-to-one or group advice on business or technical topics.

Breeding for thriving and resilient cows

Healthy Cow (£HC) was introduced in 2021 and is helping dairy producers identify the best genetics in their cow and bull selections to improve all aspects of herd health and longevity. Within this composite index, 23% is assigned to udder health, meaning that producers who refer to £HC will not only enhance overall health – and reduce the cost of poor health – but will specifically target improvements in SCC and mastitis reduction. Composite indexes like £HC are particularly valued by producers who favour simplified genetic selection, as it provides an at-a-glance picture of a bull's ability to transmit traits associated with good overall health.

National Johne's Management Plan

One prominent success story in the dairy industry over the past few years has been the demonstratable improvements in Johne's management. Johne's Disease is a chronic bacterial disease of cattle that is endemic in the UK. Besides its primary impact on cows' health and welfare, the disease has widespread implications for other indicators of cow health and productivity, not limited to mastitis, milk yield and reproduction[23]. There has been clear progress in reducing the prevalence of Johne's Disease in GB between 2015-2024. The herd milk ELISA Average Test Value (ATV)* has reduced from 9.7 to 5.8 and the median within-herd prevalence has reduced from 5.5% to 2.0% in quarterly testing herds[24]. In addition, there has been a surge in monitoring for the disease via ELISA milk testing, with sampling herds going from 99 in 2010 to 1,855 in 2022[24].

Progress has been driven by the incorporation of the National Johne's Management Plan (NJMP) as a mandatory requirement for Red Tractor assured farms which means that 95% of UK dairy farms use the plan[25]. Additionally, NJMP membership is also a Red Tractor requirement for processors.

Phase 3 of the NJMP, which was launched on 31st March 2025, challenged the GB dairy sector to achieve a Johne's Control Index (JCI) of 5.5 by 2030. The JCI is defined as a simple mean of the average test values (ATVs) of all the herds for which data are available within the National Johne's Disease (JD) Tracker database, calculated on an annual basis. The JCI has decreased from 10.0 in 2015 to 6.71 in 2024 so already achieved by 4 out of 10 herds.[26] Going forwards, BCVA Accredited Johne's Advisors will be required to record herds' current and previous annual ATV and provide up to three SMART recommendations within the NJMP Annual Declaration Form. Participating herds can assess their ATV through a whole-herd individual milk ELISA test or random 60-cow sample (30-cow screens will not be accepted).

The fall in ATV is testament to an enormous investment by committed and responsible dairy farmers to improve the disease status of their herds and protect the reputation of the British dairy industry [24].

Skills based training

There are now online training platforms that harness expert veterinary knowledge in cow behaviour, environment, housing and disease which engender a preventative approach to improving the health, welfare, productivity and longevity of dairy cows. In addition to this, a number of organisations now provide online webinars on specific aspects of cow health and welfare increasing opportunities for knowledge sharing across the industry.

*Average Test Value: the average of ELISA titre values of all cows tested, as a proxy for the level of infection on an individual farm.

Welfare goal: Healthy udders

"Udder health will continue to be improved, leading to a reduction in mastitis. Minimising mastitis reduces the incidence of a major health and welfare issue in the UK dairy herd and manages a significant cost in terms of lost production, treatment and replacement costs."

What the data says

A selection of sampled data demonstrates improvement in different indicators of udder health over recent years. Somatic cell counts (SCC) have decreased over the last few years (Figure 1) (Table 4) with a clear improvement demonstrated since 2010.

Mastitis incidence, gathered from multiple sources, has decreased since 2019 from an average of 32 cases per 100 cows per year, to 23 cases per 100 cows per year in 2024 (Figure 2). From a cross-section of 500 herds that milk record with National Milk Records (NMR), the percentage of cows reaching the end of lactation without a case of mastitis has been improving since 2019 from 80% to 85% in 2024[17-21]. Alongside this, there has been clear progress in recording which has gone from less than 20% of herds monitoring for mastitis in 2012 to 47% of herds in 2024[17].
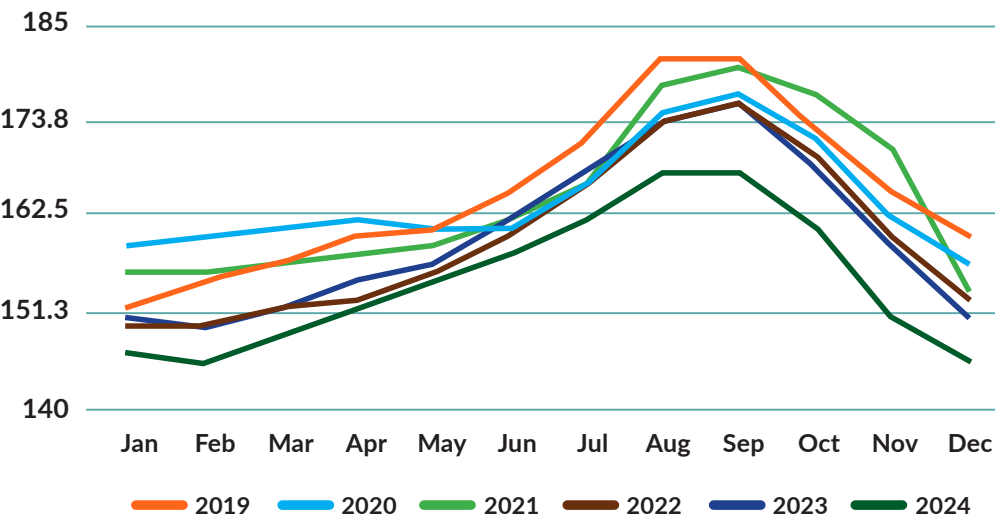

Figure 1:
Mean milk somatic cell counts (SCC) 2019-2024 from an AHDB survey of dairies in Great Britain.

Source: AHDB

Table 4:
Percentage of somatic cell count (SCC) samples from recorded dairy herds by different criteria.

Parameter	NMR				QMMS			CIS			
Year	2024	2023	2022	2010	2024	2023	2022	2024	2023	2022	2010
Milk samples SCC ≥200,000 cells/ml (%)	16	15	16	24	15.3	16.8	15.8	15.2	15.7	16.3	24
Dry period new infection rate (%)	14	14	14	16	16.2	17.3	15.8	11.4	12.36	12.05	10
*Dry period cure rate (%)	76	77	78	74	76.7	74.9	77.6	74.64	73.53	73.76	75
Lactating period new infection rate (%)	5	5	5	-	7.6	8.7	8	6.4	6.5	6.7	8
Lactating period chronic infections (%)	8	8	8	14	8	8.6	8.1	11.7	12.2	12.8	18
Median herd SCC ('000 cells/ml)	171	168	166	210	166	175	157	182	186	190	238

Source: 500 National Milk Record (NMR) data sets[17-21], selected as representative of milk-recording herds, analysed by the Veterinary Epidemiology and Economics Research Unit (VEERU) at the University of Reading; herds using Quality Milk Management Services Ltd; herds recorded by Cattle Information Service (CIS).
Key: *SCC = somatic cell count. Dry period new infection rate = % of new infections across the dry period. Dry period cure rate = % of cures during the dry period. Lactating period new infection rate = % of new infections at any recording during lactation. Lactating period chronic infections = % of cows remaining above 200,000 cells/ml for more than one recording during lactation.*
Note: *Some differences will be due to subtle variations in how each parameter is calculated, so the trend is of more relevance than absolute numbers.*

AHDB collate the monthly figures for milk characteristics, including SCC data, from a survey of voluntary dairy producers in GB. The surveyed data covers approximately two thirds of milk production in GB. Figure 1 displays the average SCC ('000/ml) each month for the years 2019-2024. Monthly average SCC values have been consistently lower throughout 2024 compared to previous years, with considerably lower levels compared to 2019.
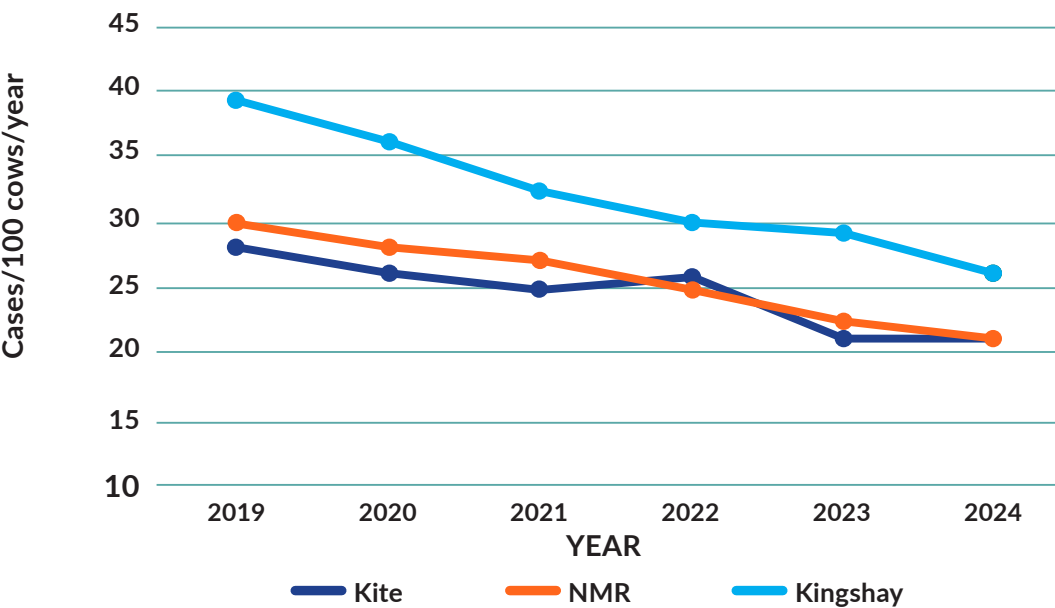

Figure 2:
Prevalence of mastitis cases between 2019-2024.

Source: Kite Consulting, NMR and VEERU[17-21], Kingshay[1].

Note: *Some differences will be due to subtle variations in how the parameter is calculated, so the trend is of more relevance than absolute numbers.*

What progress is being made?

National Dairy Mastitis Control Plan

The National Dairy Mastitis Control Plan (DMCP), developed in GB as an industry initiative, is an effective, evidence-based, nationwide plan for mastitis control that has been shown to have excellent clinical efficacy[27]. The scheme is now administered by The University of Nottingham and Quality Milk Management Services (QMMS Ltd) and no longer receives financial support from AHDB. It is funded (albeit subsidy is still required) by payment of annual subscriptions by plan deliverers; the vets and consultants qualified to deliver the DMCP. At the end of 2024, there were 92 registered plan deliverers in 52 organisations across GB. Eleven new plan deliverers were trained in 2024, adding to the well-distributed network of support for farms across the country. The DMCP is delivered via an electronic resource, the ePlan. This is currently being updated with the latest research and will be launched in an online format this year to improve accessibility.

The QuarterPRO initiative

The QuarterPRO initiative was launched in Spring 2020 by AHDB[28] with the aim of helping farmers achieve continuous improvement in mastitis and udder health on farm. QuarterPRO is a three-step process for dairy farmers, their vets and advisers to track mastitis and somatic cell count information, implement a targeted plan, and ultimately reduce and control the rate of new infection and cases on farm. QuarterPRO's ability to identify whether mastitis is environmental or contagious, and a dry or milking cow issue, helps farmers and vets narrow down the cause. In 2021, in order to further simplify the QuarterPRO process,

an automated Mastitis Pattern Analysis Tool (MPAT)[29] was developed, through the REMEDY Project, supported by InnovateUK and the Biotechnology and Biological Sciences Research Council (BBSRC). Farmers milk recording with CIS, NMR or QMMS can register to receive an MPAT report each time they milk record, which gives some key performance indicators (KPIs) and highlights the predominant mastitis pattern on farm. As part of the REMEDY Project, similar pattern tools have also been developed by the University of Nottingham and QMMS to support lameness (LPAT) and Johne's disease (JPAT) management.

Spotlight on breeding indexes to improve mastitis and cell counts

It's known there are many contributors to improved udder health, ranging from better tools for early detection, milk price pressures which are forcing the removal of persistent offenders, and more attention being given to mastitis control plans. But genetics has unquestionably played a significant role, which has been demonstrated by improvements in genetic indexes for both SCC and mastitis across the national herd. Genetic indexes are expressed as predicted transmitting abilities (PTAs) – which is the extent to which a trait will be passed on to an animals' offspring. Since the early 2000s, the PTA for both mastitis and SCC has markedly improved. This has also fed through to actual on-farm performance, illustrated in health data for udder traits registered with milk records organisations and in various studies[30].

Welfare goal: Comfortable cows

"The comfort of cows in housing and at pasture will be maximised by providing a clean and harm-free environment where they can lie, walk confidently and access environments such as shade, shelter or the outdoors as they wish. Facilities should allow for positive group dynamics and motivations to access different environments at will."

Irrespective of management system, dairy cows' environments are fundamental to their health and welfare and factor highly in consumers' perceptions of the industry[31]. The environment needs to be optimised for cow comfort and cows should have the ability to access the resources needed when motivated to do so. Many different environmental factors can contribute to a cow's comfort, not limited to: the suitability of lying areas, accessibility of feed and water, temperature and humidity levels, space allowance, social conditions and choice to access different environments such as indoors and outside. As such, understanding optimal environmental conditions for dairy cows is complex and still under research. During 2023, the Animal Health and Welfare Pathway awarded a staggering £21.3m in grants to farmers to purchase an array of equipment to enhance animal health and welfare. Resources which can be utilised to improve cow comfort such as; cow mattresses, rubber floor mats, calf coats, weather mitigating ventilation systems and rubber coverings for slatted floors all formed part of the equipment list.

Red Tractor, which assures an estimated 98% of the milk produced in the UK, currently assesses a number of welfare outcome measures on all of its dairy audits. Ten cows are randomly selected on each farm visit and these animals are scored for mobility, body condition, hair loss, lesions, swellings and cleanliness. Welfare outcomes are often reflective of the animals' condition as a result of its environment and management however it is standard practice to use welfare outcome assessments alongside measuring system inputs.

What the data says

Observable hair loss, lesions and swellings are used as a measure of cow comfort as they generally provide a reflection of the cows' environment. They can indicate that housing fixtures or lying areas rub or cause discomfort to the cows, or that there could be broken equipment causing damage. Similarly, observably unclean cows can suggest several risks, for example lack of clean, dry bedding.
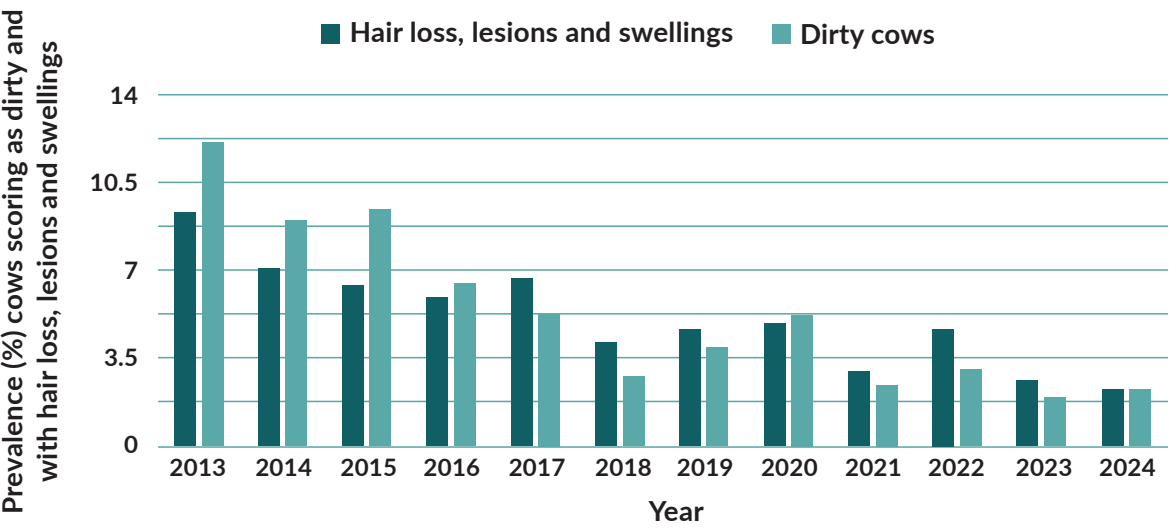

Figure 3:
Prevalence of cows scoring as dirty or with hair loss, lesions and swellings during welfare outcome assessments on Red Tractor-assured dairy farms.

Source: Red Tractor Assurance.
Note: *While this data provides useful scheme-level prevalence across Red Tractor-assured farms, it does not provide an indication of prevalence on individual farms. Data collected January-December.*

This snapshot of data on cow comfort indicates a gradual decline in both the prevalence of cows displaying hair loss, lesions and swellings and dirtiness on UK dairy farms over the past 10 years. The prevalence of cows displaying hair loss, lesions and swellings reached its lowest in 2024, indicating an improvement in cow comfort over the last decade, whilst the prevalence of dirty cows remained consistently low in 2023 (2%) compared to 2024 (2.3%).

What progress is being made?

Research focus: What is living space and how much of it do cows need?

One important aspect of a cow's environment is the amount of space that she has to move around, socialise and access resources such as feed, water, milking facilities and bedded areas. Recent research has brought to light that the space provided to dairy cows on UK dairy farms varies widely[32]. When housed, space can be categorised into 'loafing area', which are areas where cows can roam freely such as collecting yards (but excluding passageways), either inside or outdoors. A new term, 'living space' refers to the full accommodation area provided above the baseline requirements, including passageways and any indoor or outdoor loafing area.

Space allowance impacts cows' behaviour, physiology and production. A year-long research trial[33] observed that cows that were provided with 6.5m^2 living space compared to 3m^2 spent more time ruminating, and occupying lying areas and less time in alleyways, representative of an enhanced ability to freely access resources, and could be utilised as welfare initiative. Alongside these differences, cows with more space had an increased time to conception but also produced more milk per 305-day lactation.

The research provides new insights into optimal environmental conditions for dairy cows, and this knowledge has already started to be translated into farm practises and inform standards.

### The potential for technology

Traditional cow comfort assessments rely on human observations, offering only a snapshot in time. By combining cameras with artificial intelligence, it is now possible to monitor cow behaviour and comfort 24/7 - providing a complete, continuous picture that reflects the reality of the dynamic housed environment.

What's happening on farm?

Case Study

On this Oxfordshire farm, vets and farmers worked together using the Vet Vision AI cameras (camera view image below) to identify low Cow Comfort Index (CCI)* at the start of the autumn housing period. By adjusting cubicle neck rails, adding bedding and improving ventilation – while continuously monitoring results - the farm increased CCI* by 30%. This led to an extra 2.5 hours of lying time and an estimated additional 3.5L of milk per cow per day. Vet Vision AI is being used by vets, consultants, cubicle and housing companies, and major retailers to make a real difference to cow comfort, welfare and production.
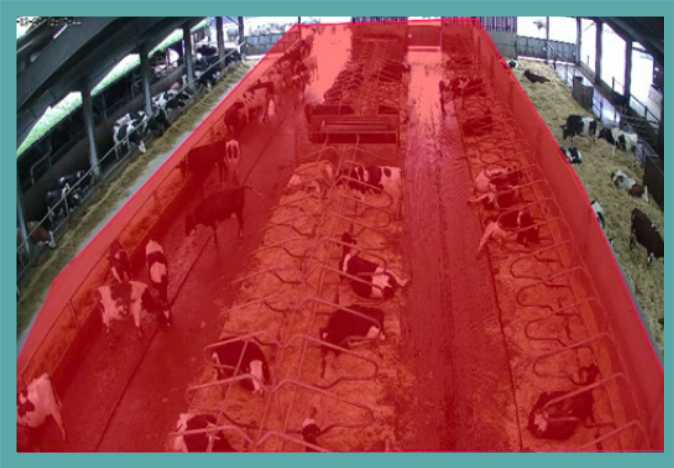
Case Study

Russell runs a mixed farm based in Usk, South Wales. The robotically milked herd consists of 330 Holsteins plus followers. Calving takes place all-year-round with the herd averaging 11,000 litres at 4.02% butterfat and 3.48% protein. Cows are housed in cubicles during the winter with access to grazing during the summer months. The farm has a keen focus on welfare and the use of technology to help identify and address challenges.

Russell said: *"Having identified heat stress as a key challenge for the herd, we investigated different ways of reducing this in the most sustainable and cost-effective way. Alongside improving natural ventilation in the sheds, we have also worked with Galebreaker to install bespoke positive-pressure tube ventilation systems. These tubes blow fresh air on to each individual cow when she is lying in a cubicle, keeping her cool and comfortable. We are now looking to take this one step further and look at how we can use individual cow metrics to automatically integrate this with how the systems are turned on and off. This will put the cow in control of her own comfort."*

* The Cow Comfort Index is the proportion of cows in cubicles that are lying down.

Welfare goal: Appropriately nourished cows

"Dairy cows will maintain a healthy body condition score throughout the year and at all stages of lactation. Good condition indicates whether nutritional requirements are being met, weather events are being mitigated, group size and cow flow are being managed, and stocking densities are appropriate. Body condition can also provide an indicator of the presence or absence of certain health conditions (e.g. metabolic disease)" DCWS

Why does body condition matter?

Body condition scoring is an important tool that provides a robust method for measuring cows' energy reserves via their physical condition. Cows' body condition will naturally fluctuate throughout lactation, however regular monitoring of body condition can highlight changes to individual animals and help farmers tailor their nutritional programme to meet the needs of their cows. Guidance on body condition scoring can be found via the AHDB website[34]. As a welfare metric, body condition is also used to ascertain the level of thin or fat cows within a herd at a certain point in time, for example during farm assurance audits.
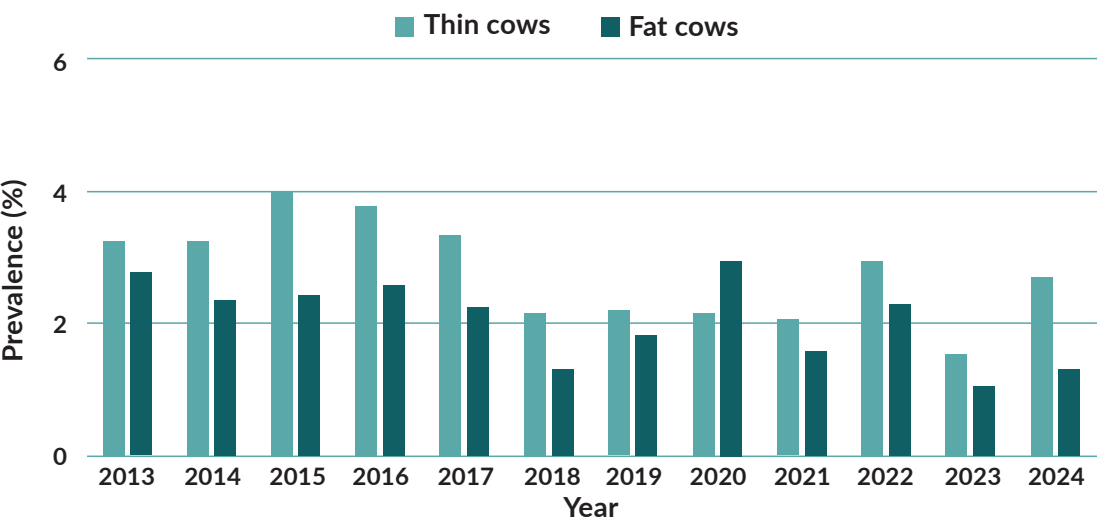
What the data says

Figure 4:
The percentage of dairy cows identified as fat* or thin* between 2013-2024.

*Based on a 5-point scoring system where thin cows have a body condition score of <2 and fat cows are >4.
Source: Red Tractor Assurance.
Note: *While this data provides useful scheme-level prevalence on Red Tractor-assured farms, it does not provide an indication of prevalence on individual farms. Data collected January-December.*

During 2024, an average of 96% cows assessed across the UK were in an acceptable condition (between a body condition score of 2 and 4 on a 5-point scale). Of those not in acceptable condition, 2.6% were thin and 1.4% were fat. Over the past 10 years the prevalence of cows that are not in an acceptable body condition has varied marginally however the prevalence of both thin and fat cows were both at the lowest in 2023 compared to previous years of data. During 2024, the prevalence of over conditioned cows remained almost constant to the previous year (1.2% in 2023 vs 1.4% in 2024) however there was a slight increase in underconditioned cows in 2024 compared to the previous year (1.6% in 2023 vs 2.6% in 2024). This provides a snapshot of the condition of the national dairy herd, but it is the change in body condition score that is more important than the absolute value, therefore scoring should be undertaken regularly.

Linking nutrition with health

Case Study

Debby Brown, Veterinary Technical Manager for Dugdale Nutrition said: "As a vet and a nutritionist, I am in the advantageous situation where I can see both sides of the story but also understand the challenges these two areas face on farms. I do believe it is imperative that vets and nutritionists work together with the farmer to give fully rounded advice and assessment to ensure a farm can perform to its optimal level.

I now work with numerous farms where I am in regular communication with their practice vet and we hold team meetings on farm with ourselves, the farmer and other input providers, such as fertility services. Getting everyone to work together allows different aspects of management and performance to be reviewed. It ensures that any targets for the farm are being worked towards by all people involved and this drives progress forward faster.

The whole aim of everyone working together should be to identify potential risks to health, welfare, and production sooner and implement actions to reduce these risks. If issues occur, it is easier to remedy them with a full farm approach.

A big percentage of health issues on farm will have a nutritional influence on them, although most will not necessarily be caused by nutrition. Improving gut health with improved forage intake, some supplementations, balancing the diet and avoiding deficiencies and toxicities will also support improvements in foot health, udder health and metabolic health. Linking nutrition and health in a wider bracket and considering them together will definitely improve health and welfare on farm."

Debby Brown

What progress is being made?

AIC Feed Adviser Register

The Feed Adviser Register (FAR), originally developed by The Agriculture Industries Confederation (AIC), is an online service which enables livestock producers to locate feed companies with qualified and experienced feed advisers. These advisers can support farmers in managing welfare, productivity and emissions effectively via nutrition. Since its launch in 2013, there are now 118 feed companies with qualified FAR feed advisers that specialise in dairy nutrition operating across the UK.

Automatic detection of body condition in dairy cows

Advances in technology over recent years have given way to monitoring systems which can automatically evaluate the body condition of dairy cows. Currently in the UK, there are several companies which provide commercially available products for this service. These systems are based on artificial intelligence whereby computer systems learn to categorise data from images. Practically, these systems require installation of a camera within the milking shed which captures images of individual cows. These images are evaluated for body condition score and the data is delivered back to a centralised system. Although continual validation of these systems is needed, research has demonstrated that they can perform comparably to experienced vets[35]. These developments in technology provide a way to monitor individual cow condition far more regularly than would be realistic manually, enabling more rapid detection of changes in body condition.

Welfare goal: Positive welfare

"Dairy welfare practices will be advanced by moving towards 'positive welfare', through the provision of an environment that allows animals to exhibit normal behaviours such as curiosity and play, for example, through appropriate enrichment."

The industry is shifting towards looking at dairy cow welfare positively. A focus is now being applied to the good aspects of cows' lives and how these can be celebrated and increased in all housing and management systems. Progress is being made via government funding for resources such as environmental enrichment and assurance and retailer standards are starting to recognise positive welfare and incorporate it into their standards. There is however, room for substantial progress to be made here and the industry is fully behind it. It has long been an aspiration for British farmers to ensure their animals have lived a good life and incorporating positive welfare into management practises enables the UK to continue to demonstrate itself as a leader in animal welfare whilst strengthening the positive reputation of the dairy industry.

What is positive welfare?

Good animal welfare means ensuring animals are provided with opportunities for positive experiences – in addition to being healthy and free from negative states. In summary, positive welfare refers to the positive mental experiences of animals. It has developed at pace following the strength of advancements in scientific understanding of animals' emotional capabilities, which are now widely accepted to play an important role in the overall welfare of an animal alongside its physical health[36].

Positive mental experiences generally arise from rewarding and highly motivated behaviours, for example, positive social interactions, play, positive human-animal interactions and having choice and control within environments[37-39]. Examples can already be seen on farm, such as social housing for calves, systems where cows can go indoors or outdoors at choice, and environmental enrichment like cow brushes. A framework for positive welfare for dairy cows has been created based on scientific research and with input from dairy farmers[40]. A few summarised examples of positive welfare opportunities from this framework can be seen in Box 1.

Providing greater environmental choice and behavioural opportunities is key, and can also offset any potential stressors of confinement for housed livestock. Increasing the positives is likely to bring with it wider benefits – for example brushes, which are a common form of enrichment for cows have been linked to both increased milk production,and food intake[41 - 43,].

Box 1:
Considerations on practical ways to provide cows with choice and positives within their environments.

- Do cows have enough space and choice of access to resources such as lying/feeding/watering spaces to avoid negative interactions with other cows?

- Could cows be given the choice to access an outdoor area when housed?

- Can cows choose to access shelter when outdoors?

- Do housed cows have the choice to use a brush when they want to?

- Can they choose where to lie and who to lie next to?

- Can cows choose when to be milked?

What progress is being made?

Government funding of equipment to improve animal welfare

During 2023, English dairy farmers were eligible to apply for up to £25,000 to contribute to the cost of purchasing specific items of equipment and technology to drive improvements to animal health and welfare. Livestock producers were able to select items from a predefined list which had been devised by vets, farmers, academics, and industry. Items and technology were specifically targeted to improve animal health and welfare. A diverse list of more than 100 items were available to choose from, however important inclusions were resources which can provide environmental enrichment and positive experiences to cattle such as rotating cow brushes, swinging brushes and hanging toys for calves. These grants were part of the Animal Health and Welfare Pathway and were provided through the Farming Equipment and Technology Fund and DEFRA. During 2024, £21.3m was awarded to the ruminant sector – cow brushes fell in with some of the most popular items being selected, alongside mobile handling systems, creep feeders, and weighing equipment. This funding opportunity was reopened in June and July of 2025, giving farmers the opportunity to apply for up to 50% of the cost of new equipment to be funded by the Rural Payments Agency (RPA). Similarly, for farmers in Wales, grants can be applied for to assist with purchasing a range of specified equipment for cattle health and welfare. Farmers can choose from a range of resources from handling systems to rotating cow brushes.

Developments in assurance and retailer standards

The provision of positive welfare opportunities is slowly being taken up by industry as assurance schemes and retailers continually develop their standards in light of emerging knowledge in animal welfare. In its recent 2024 Animal Health and Welfare Report[44], Tesco is actively promoting the importance of ensuring management practices which allow animals to exhibit positive behaviours, rather than just ensuring 'the absence of negatives', which recognises the importance of mental alongside physical wellbeing of animals. Similarly, all farms which are part of the Sainsbury's Dairy Development Group receive a Qualitative Behavioural Assessment, which assesses cow behaviour and welfare to enable discussion and identification of possible management changes which might promote positive behaviours[45]. A number of farm assurance schemes and retailers now require environmental enrichment to be provided to herds as a mandatory standard. To name a few, Waitrose and RSPCA-assured farms require brushes to be provided in indoor housing, 86% of Sainsbury's farms provide cows with brushes when housed[45] and in 2023/2024, 100% of dairy cows on Tesco Sustainable Dairy Group farms had access to brushes. While identification of optimal environments for positive welfare is still under development, we aspire for the provision of simple environmental enrichment to be mandated for all dairy cows as a first step towards embracing positive welfare within the industry.

Future research

Understanding animals' emotional lives is complex and there are currently no practical objective measures for this, however, research is constantly developing in this area. One novel avenue being explored is evaluating how environments impact the underlying physiological and biological pathways in animals and if this could provide a future indicator of animal emotions [46] .

Conclusion

The Future of UK Dairy Welfare

The progress documented in this report validates our bold ambition set out in 2023. From the launch of the GB Dairy Cow Lameness Manifesto to the successes in Johne's disease management, we have proven that when the entire industry unites behind shared goals, progress is possible.

Yet this is not a moment for complacency. The six welfare goals we committed to achieving by 2028 remain our North Star, and the work ahead demands even greater collaboration and innovation. Technology is opening new frontiers in welfare monitoring, government support is driving on-farm improvements, and consumer expectations continue to evolve.

The time for action is now. Every stakeholder – from farmers to processors, from retailers to researchers – must accelerate their efforts. We call on the industry to:

- **Drive a data revolution:** Support centralised monitoring and reporting that will provide the evidence base to showcase our world-leading standards

- **Invest in innovation:** From AI-powered welfare monitoring to automated lameness detection, technology will be our competitive advantage

- **Champion positive welfare:** Move beyond preventing problems to actively creating opportunities for cows to thrive

- **Share knowledge relentlessly:** Success stories and best practices must flow freely to enable peer-to-peer learnings

The UK dairy industry stands at a crossroads. If we want to lead the world in demonstrating that high welfare, productivity, and profitability are complementary strengths, rather than competing objectives, we must continue to make progress against our six welfare goals.

Together, we will ensure that by 2028, the UK dairy sector doesn't just meet international standards – we define them.

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