

ALL THINGS DAIRY

YOUR AHDB DAIRY UPDATE

**We Eat Balanced
campaign proves a hit**

**A global market
for British dairy**

A large herd of black and white cows is grazing in a lush green field. The cows are arranged in a line, with some looking towards the camera. The field is bordered by a wooden fence with a wire. In the background, there are trees and a blue sky with light clouds.

**FARMERS VOTE TO
SHAPE THE FUTURE**

Thousands of levy payers have their say on the work we do

Welcome to your new look All Things Dairy

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WELCOME

Paul Flanagan,
Director – Stakeholder Engagement



I would, once again, like to thank everyone who took part in **Shape the Future**. The Dairy Sector Council really appreciates having details on what areas of activity are important from so many of you, and I am pleased to be able to bring you the results on the following page, along with the next steps.

On pages 4 and 5, we explore how our Marketing team promotes the benefits of a well-balanced diet to consumers, while our Media and PR team is proactive in tackling misinformation in the media.

After two years of not being able to get out as much to our overseas markets, our exports team is back out in action promoting the best of British dairy to buyers across the world. You can find out more from our Senior Exports Manager, Lucy Randolph, on pages 6 and 7.

As part of our commitment to supporting the industry to achieve net zero, we are launching a series of new strategic dairy farms with an environmental focus. On pages 12 and 13 you can read about two of the new farms, which are launching this summer, and find out how they have already begun taking steps to improve their environmental credentials.

We also hear from one of our Strategic Dairy Farms, Rhual Dairy, about how they ensure that they are managing a resilient business, on pages 14 and 15.

As always, remember to update your contact details and sign up to events and webinars. All details are on the back page.



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AHDB is a statutory levy board, funded by farmers, growers and others in the supply chain. We equip the industry with easy to use, practical know-how which they can apply straight away to make better decisions and improve their performance. For further information, please visit ahdb.org.uk

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Farmers vote to **SHAPE THE FUTURE**

For the first time, thousands of levy payers have had a say on what work we should do on their behalf and the response has been overwhelmingly positive. This is the first step in delivering our promise to put levy payers at the heart of everything we do.

During April and May, we asked levy payers who registered for Shape the Future if they agreed with our proposed priorities by ranking them in terms of importance from 1–5, where 1 is low and 5 is high. They were then asked to rank the work we should do to support those areas.

With turnout at 35% or 1,212 votes from 3,420 registered dairy levy payers, the scores for the three proposed priorities were:

- “Building a positive reputation for dairy farming and driving demand at home and overseas” received an average score of 4.5
- “Supporting dairy farmers to operate more profitably” scored 4.1
- “Help farmers prepare for the future by driving animal health and welfare and environmental standards” scored 3.8

We also asked levy payers to ratify new and second term sector council members, who were all appointed after receiving more than 50% of the votes. These include Liz Haines, Peter Rees, Ian Harvey, Gemma Smale-Rowland, Mike King, Joe Towers and Rob Nancekivell.

AHDB Chief Executive Tim Rycroft said: “For the first time, thousands of levy payers have taken the opportunity to give us vital feedback about the work we should do on their behalf.

This is the first step in delivering our promise to put levy payers at the heart of everything we do.

“I would like to thank all the levy payers who voted. Consulting levy payers and putting their voice at the heart of what we do, was one of the promises about changing AHDB that we made a year ago.”

What's next?

Throughout July, sector council members will meet to make funding decisions for the next five years of work we deliver for levy payers, based on the feedback from the vote.

The conversation doesn't end there though. There will be an open meeting in the autumn, and we would still love to hear any levy payer feedback.

In the meantime, please contact our Knowledge Exchange team, senior team members, board, or sector councils with your thoughts.

Explore the results of the Shape the Future campaign at ahdb.org.uk/Shape-the-Future



Defending the reputation of our industry



Eating more sustainably has become increasingly important to consumers, and the environmental impact of food is being analysed extensively. AHDB's Marketing team promotes the benefits of a well-balanced diet to consumers, whilst our Media and PR team is proactive in tackling misinformation in the media. Find out how the two teams work to bring balance to the conversation.

We Eat Balanced campaign proves a hit with young consumers

A staggering 90% of consumers said our We Eat Balanced TV advert communicated that meat and dairy can be part of a balanced diet. And two different consumer age groups said the likelihood of them buying meat or dairy had risen after being exposed to the £3.5 million campaign, which ran throughout January and February.

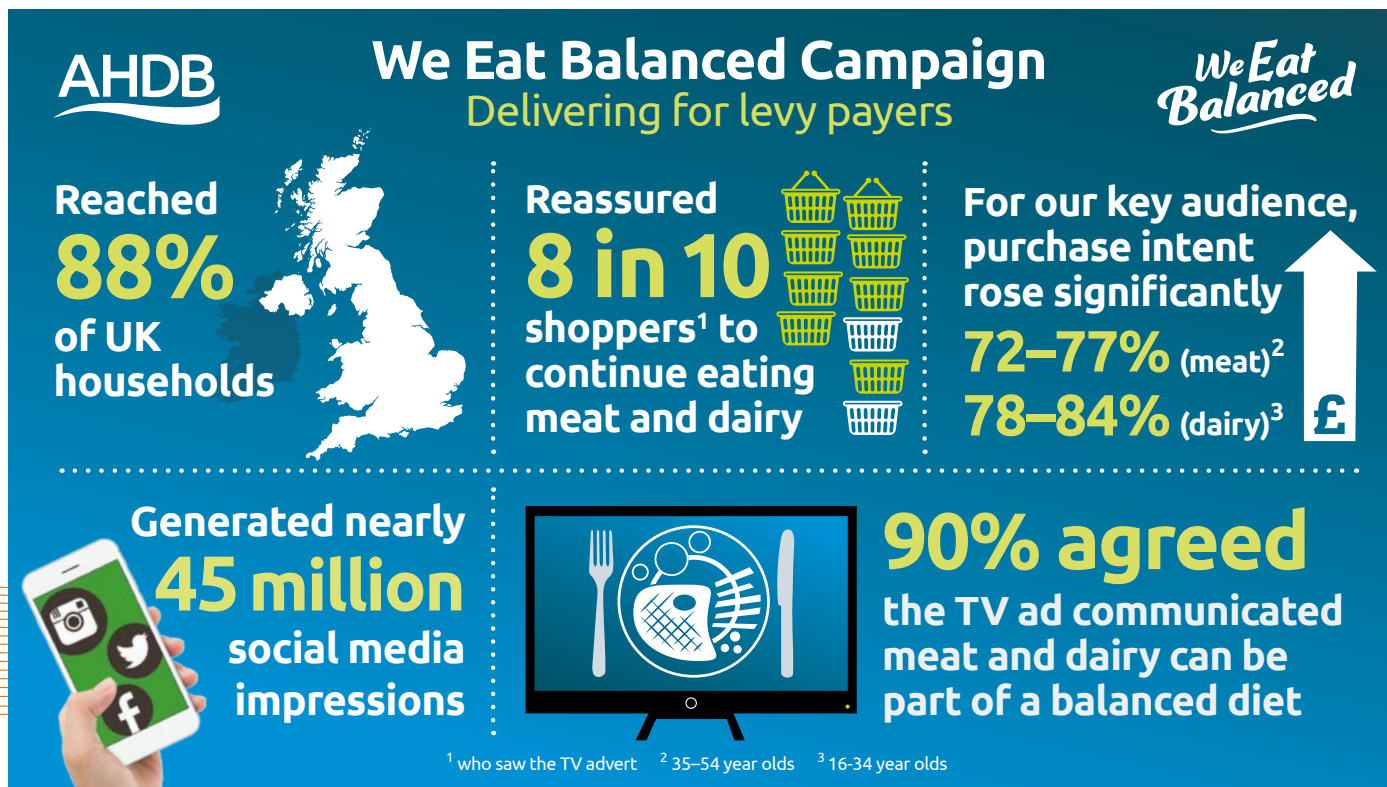
We Eat Balanced, which is in its second year, played out on TV screens, social media and in national newspapers. It was seen by nearly 24 million UK households – delivering important messages around health, sustainability and Britain's world-class food and farming standards.

The TV advert, featuring nine-year-old Nancy and her grandfather, proved a hit with consumers, particularly young adults – a demographic which has historically been harder to reach.

AHDB Director of Marketing Liam Byrne said, "The campaign has played an important part in helping counteract the sensationalist headlines by helping to position the positive role that red meat and dairy from Britain can play as part of a healthy and sustainable diet.

"It's also great to see how well the campaign has landed with young people, who are typically very engaged in issues of ethics, health and the environment.

"Most of us want to do the right thing, by making small positive changes to improve our health and the health of the planet. By understanding that when you choose red meat and dairy from Britain you are choosing products with some of the lowest carbon footprints and highest welfare standards in the world. This is something we can all do, easily."

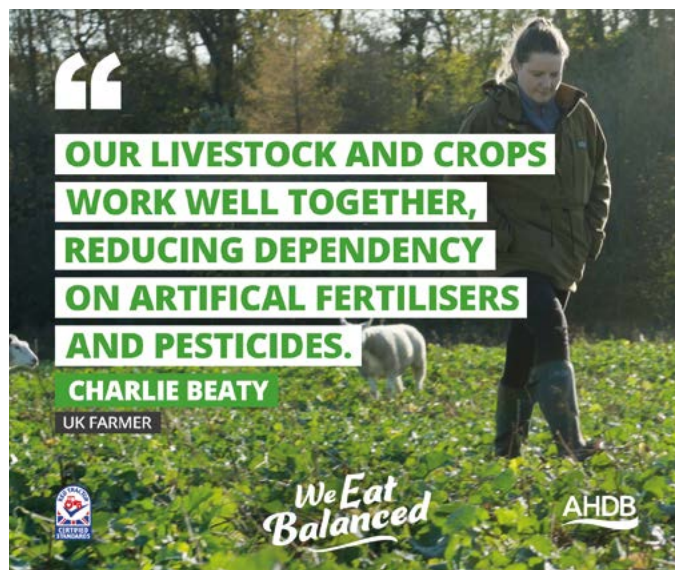


The campaign focused on three key messages: red meat and dairy as a source of Vitamin B12, Britain's world-class production standards, and that red meat and dairy from Britain is among the most sustainable in the world.

Following the campaign, consumer perceptions that meat and dairy from Britain is produced sustainably grew significantly – up five and eight percentage points to 41% and 51% respectively.

We Eat Balanced also drove significant uplifts in attitudes around health, with the number of consumers seeing meat and dairy as a source of vitamin B12 rising five and four percentage points to 30% and 34% respectively.

The campaign, which was aimed at people who were looking to reduce the amount of meat and dairy they consumed, also generated nearly 45 million impressions across social media and video-on-demand.



Five ways AHDB challenges misinformation

Fact sharing

Using our in-house creative and social media experts, we develop infographics to share the facts about the real environmental impact of British Agriculture. These facts are shared with stakeholders across the industry and they form the base of our We Eat Balanced campaign.

Education

Our education team works with other industry partners such as LEAF and the British Nutrition Foundation on education programmes such as Food – a Fact of Life and the Countryside Classroom. These programmes provide resources for educators of all age groups, to help improve children's understanding of food and farming.

Formal complaints

Broadcast and online advertising, including on social media, must adhere to the Advertising Standards Authority codes. We make formal complaints on behalf of levy payers when it believes codes have been violated, examples include Oatly, Meatless Farm, Quorn and Greenpeace. While they can have positive outcomes, such as the banning of adverts from Quorn, Oatly and Meatless Farm, sometimes the complaints are not upheld.

Promoting balanced reporting

Every day our press office review media reports about agriculture and, where it is felt appropriate, they contact journalists and publications to share facts including our own evidence-based research to encourage balanced reporting. This has most recently been done with the BBC and The Times. While many publications are responsive to our expertise and make changes to articles, we sometimes come across journalists who choose not to respond or engage.

Insight and evidence

As an evidence-based organisation, AHDB utilises its expertise to respond to new reports, studies or public bodies to ensure a balanced and rounded picture is given of the environmental impact of British agriculture. A recent example is when our CEO Tim Rycroft wrote a letter to Oxfordshire County Council which had proposed making all public sector meals plant-based and vegan, referencing the global impact of livestock on the environment. The council did not take into account the fact emissions are far lower in the UK. By responding to reports, it allows the opportunity for a counter voice in the press to balance the conversation.

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A global market for British dairy

The past couple of years have been challenging to say the least, with many of us having to adapt and find new ways of working. No more so than for our Export team who had to wait until this year before they could start travelling again. AHDB's Lucy Randolph, Senior Exports Manager (Livestock), explains more.



“It is key for us to have the support of AHDB to open up new markets”

Richard Green, Sales Manager,
Coombe Castle International

The easing of restrictions has enabled the Export team to get back to what they do best – promoting the best of British dairy to buyers across the world.

Not that we have been resting on our laurels. The appointment of representatives in key international markets such as China and the USA helps coordinate and lead our in-country export activity and has proven hugely valuable given recent limitations.

Paul Blake joined as our North American Agent in October to help UK dairy exporters crack the all-important Canadian and US markets.

With more than 36 years' experience in the specialty cheese business in Canada, his knowledge and expertise are already helping to build our presence on the other side of the Atlantic.

Our first outing in March saw key foodservice distributors attending a cheese and whisky tasting in Beverly Hills. It gave an opportunity to showcase traditional UK cheeses – Cheddar, Red Leicester, Shropshire Blue – alongside more artisan varieties that are less well known in America such as Cornish Yarg and Renegade Monk, a washed rind cheese.

This was swiftly followed by the debut of SIAL in Las Vegas, which is the only generalist food and beverage industry event in the USA. Visitor numbers were healthy with many of the key retailers and importers attending along with independents and small delis. We were able to collaborate with Scottish Dairy, Scottish Development International, and the Department for International Trade.

At Easter, Paul helped to arrange a four-week, in-store promotion of British cheese with specialty food retailer Deningers, which has stores across Canada. As well as driving awareness, the initiative saw a 40% uplift in sales of our cheese.

Looking further around the globe, Asia is a vast and diverse region, offering a multitude of opportunities for dairy exporters. Hong Kong saw rapid growth in the latter half of the twentieth century and now has matured markets with wealthy consumers and high spend.

Key Hong Kong influencers took the opportunity to sample the 'Great British Cheese Showcase' at an in-person tasting event in October 2021. Invitations were sent to select food professionals and chefs across the country who are looking to source quality cheese.

The event resulted in a number of new enquiries for exporters looking to develop future business opportunities. Everyone enjoyed the cheeses on offer and there was a preference for more sophisticated varieties.

In November, dairy exporters joined us in the British Pavilion at one of Asia's most prominent shows, FHC China. With influential trade visitors attending, the strong UK presence at the show enabled exporters to collaborate with key decision-makers in China and Asia and help grow our exports to this all-important market.

Closer to home, we returned to Gulfood in Dubai, which saw a record number of dairy exporters from the UK meet with potential buyers in the Middle East.

This year's show attracted thousands of visitors with more than 4,000 companies exhibiting in the 21 halls of food exploration. We were joined by six dairy exporters from the UK, who were able to showcase their high-quality dairy products to thousands of visitors.

The Middle East is one of the key markets that we focus on as we know there is great potential for growth and we're seeing increased demand for our cheese.

Trust and providence are vital characteristics for overseas buyers, and Gulfood gave us a platform to trial our virtual reality cheesemaking experience, which we've been developing over recent months.

Using a virtual reality headset, visitors to our stand immersed themselves in the cheese manufacturing process, all the way from cow to finished product. As well as developing understanding, this experience gives overseas buyers reassurance about the care and dedication that goes into making quality cheese from Britain.

Over the coming months, we'll continue our work with the British government and processors to facilitate trading opportunities that bring value for levy payers. And we will showcase British produce at international trade fairs, providing British exporters with a platform to meet potential clients, develop existing relationships and share the best of British products with a global audience.

Find out more about exports work we do at ahdb.org.uk/exports/dairy

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GENOMIC TESTING proves its worth

The youngest generation of dairy producers may only know an industry in which semen sexing and genomic testing are commonplace. They are drawing on these tools on a routine basis to improve the profitability of their herds. Marco Winters, AHDB's Head of Animal Genetics, explains more.



A recent study has revealed a strong link between increased levels of genomic testing and faster genetic gains in herds.

As more dairy farmers take up the option of genomically testing their females, we play the key role in providing producers with genetic tools and monitoring industry progress.

We commissioned a recent study to look at UK herds' genetic performance, breaking this down according to their level of female genomic testing: over 75%, 50–75%, 25–50%, less than 25%.

The study revealed a clear distinction across the four quartiles, with those most heavily testing (>75% of their females) developing the highest genetic merit herds. This is illustrated in graph 1, which shows those most engaged in testing had an average Profitable Lifetime Index (£PLI) for their 2021 calf crop of £500.

In contrast, the herds in the bottom quartile, 0–25% of females tested, had an average £PLI of around £321 in 2021-born calves.

This distinction clearly indicates that the farmers most engaged in testing their herd set themselves up for an extra profit of £179 per animal, compared with those who have not engaged with female genomic testing.

This is because the £PLI on which they were measured for this study theoretically translates to an extra £1 profit per point. In practice, actual animal performance underestimates the true value of £PLI, which in real costings by a recent independent analysis was shown to be worth £1.58 per point per lactation.

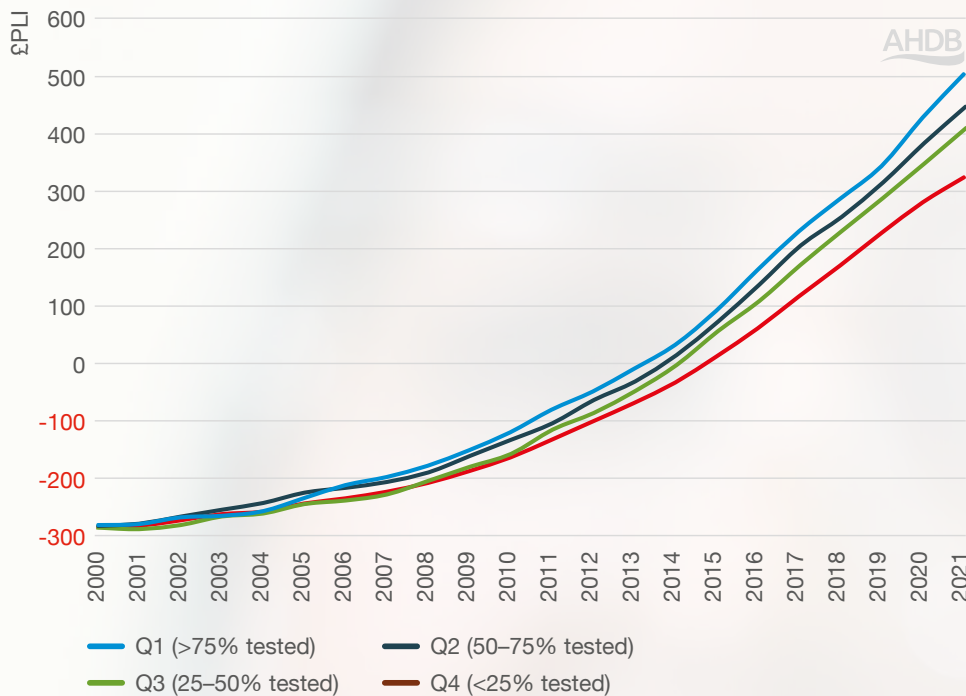
The link between genomic testing and genetic progress is encouraging and indicates breeders are making good genetic choices with the data we make available.

However, the link between genomic testing and the herd's genetic merit does not necessarily represent cause and effect.

These figures indicate that the more involved producers become in genomically testing their females, the better their herds' genetic performance. This is almost certainly because they have identified and bred from their better animals, but there could be additional factors at play, such as their choice of better sires.

A degree of divergence is indicated by the graph before female genomic testing was even offered (pre-2013), hinting that those heavily testing now were also making better breeding choices in the past.

The extra accuracy of genomic testing appears to have widened the gap between the best and worst, as indicated by the diverging lines on the graph.



Genetic merit of animals by herd's level of genomic testing

Genomic testing in itself will not improve your herd's performance and must go hand-in-hand with good breeding choices. However, it does identify the best females born, which can be reared as replacement heifers. If semen is then selected with equal care it is possible to make significant genetic progress, even in one generation.

Used in tandem with sexed semen, the benefits will magnify further, concentrating breeding replacement heifers on the very elite within a herd.



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GENOMIC TESTING

- Genomic testing measures an animal's DNA to predict its actual performance
- The process involves sending a sample of DNA (e.g. hair or flesh) to a laboratory
- The service is usually offered by a commercial company, milk recording organization, or breed society
- The laboratory reads the DNA to reveal the unique sequence of bases it comprises
- A computer file showing this sequence is sent to AHDB (whichever company offers the test)
- Your AHDB levy funds the interpretation of the sequence and translates this into a genomic index
- UK genomic indexes are branded with the AHDB logo. Other indexes may not have been calculated in the UK

WHAT CAN GENOMICS DO FOR YOUR HERD?

- Provide young bulls with higher reliability proofs compared to pedigree index proofs
- Receive a higher reliability genomic proof compared to the traditional pedigree index calculation for female youngstock
- Gives you greater confidence in selecting youngstock from which to breed your next batch of replacement heifers, serving the genetically superior with sexed semen and putting the rest to beef to increase your calf value or, in the case of excess replacement heifers, the less superior genetics can then be sold
- Genomically testing youngstock has an advantage over pedigree index calculations by evaluating the mixture of genes that have been passed down from both parents

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PRIORITISING YOUNGSTOCK HOUSING IS THE FUTURE



Calf housing on the dairy farm is often not given the priority it deserves. Calves are the future of the herd and their health and performance have a significant impact on the performance of the whole business. It is important to provide them with an environment in which they can thrive, explains David Ball, AHDB's Senior Technical Knowledge Exchange Manager.



When considering your approach to calf housing, you should start with the requirements of the calf and the farming system rather than the building.

Ventilation

There is an absolute requirement for fresh air in all livestock housing. Calves do not produce sufficient body heat to drive the 'stack effect' where warm air rises, drawing fresh air into the building so air flow must be provided by natural air currents (wind). Suitable openings on all sides of the building are needed to allow airflow from any direction. However, it is also vital to protect the calves from drafts and airflow should never be above 0.2 metres/sec at calf level.

The variety of weather conditions, which our farm buildings must endure, does make it difficult to maintain a constant, steady stream of fresh air in all circumstances. Installing a Positive Pressure Ventilation System (PPVS) can often be a suitable solution to this challenge. A fan drawing fresh air from outside the building is fitted with a plastic tube running the length of the building with suitably placed holes along it to ensure fresh air is delivered to the whole building. It is essential in these situations to provide a means of escape for the stale air through the roof.

After weaning, calves will ruminate and the heat generated can start to create the stack effect. Housing requirements are therefore different, and they should be housed separately from pre-weaned calves.

Temperature

The design of any calf housing system must consider the fact that calves up to eight weeks old have a reduced ability to regulate body temperature. A newborn calf must burn extra energy when air temperatures are below 10–15°C to maintain body temperature. Once weaned a healthy calf can comfortably cope with temperatures around freezing.

Measures to help calves maintain body temperature could include providing a deep straw bed to allow nesting, providing a sheltered spot within a group pen, the use of lamps, ensuring the diet contains sufficient energy, or fitting a calf jacket.

Relative Humidity

The effect of temperature on calves is compounded by relative humidity (RH%), or how damp the environment is. Cold and damp 'feels' colder than cold and dry because the rate of heat loss from a body is greater. The same is true with damp bedding, where the rate of energy loss from a calf to the environment is higher than on a dry bed. Likewise, at warmer temperatures, high RH% will increase the risk of heat stress. Warm, damp environments are also favoured by pathogens, increasing the infection challenge.

RH% levels should be kept as low as possible. Good ventilation will remove stale, damp air replacing it with clean, fresh air, thereby reducing RH%. Bedding should be topped up regularly to ensure the calves have a dry bed and ensure drinkers are not leaking. Floor designs incorporating a 5% fall under bedding and 2% for solid floors should allow for adequate drainage. Any washing of feeding equipment should be done outside the calf housing area.

The temperature felt by a calf is a combination of the ambient air temperature, air speed, and relative humidity (RH%). Controlling these factors will ensure an optimum environment for calf health.

Key questions for planning your youngstock buildings

1. What is the expected maximum number of calves on milk?

You should allow for calves to remain in their pens for two weeks after weaning. Weaning, moving pens, and mixing groups are all stress factors for calves so these events should be staggered.
2. What are the future plans for the business?
3. What is the preferred feeding system?

Individual buckets, trough feeders, or automatic calf feeders will impact pen layout and size.

Minimum space provision is determined by BS 5502 and increases with calf weight. Minimum dimensions for individual pens are 1m x 1.8m up to 80kg and group pens should provide 1.8 m² per calf up to 85 kg while some Farm Assurance Schemes require up to 3.3 m² by the time the calf weighs 100 kg.

4. How will pens be cleaned out?
5. What is the optimum location for any new building?

Orientation and shelter from the prevailing wind may be more important than proximity to calving pens or feed stores.

Find out more about the best youngstock housing for your system with our new online resource at ahdb.org.uk/knowledge-library/dairy-youngstock-housing

For further information, contact:

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AHDB launches new environment-focused strategic dairy farms



As part of our commitment to supporting the industry to achieve net zero, we are launching a series of new strategic dairy farms with an environmental focus, explains AHDB's Head of Dairy Development, Nic Parsons.

Our existing strategic dairy farm network is part of AHDB's wider Farm Excellence programme and consists of farms across Britain that are committed to demonstrating best practice and promoting farmer-to-farmer learning.

The new environment-focused strategic dairy farms joining the network are first and foremost successful dairy farm businesses. However, they have already begun taking steps to improve their environmental credentials and will share this journey.

The farms are focused on sustainability and efficiency. They will also share their KPIs and key learnings, hosting both on-farm and digital meetings on a variety of topics including animal health, forage and youngstock, to ensure that others can benefit from their experience and learn with them as they make further improvements.

Two new farms, in Ayrshire and North Yorkshire launch this summer.

David Campbell - Low Ballees, Ayrshire

David Campbell farms at Low Ballees, West Kilbride, where the Campbell family have been farming for 95 years.

The milking herd consists of around 130 Holstein/Friesian cows housed indoors on a robotic milking system. They are supported by zero-grazing cutting of forage, production of silage, wholecrop cereals and barley.

The cows calve all year round and the average yield is around 10,500 litres. Sexed semen is used to provide replacement heifers, which are reared on-farm with a view to future expansion, while beef calves are sold aged between 5 and 14 months. Replacements, once in-calf, and far-off dry cows currently graze during the summer months, and they have an age-at-first-calving average of 24 months.

Milking cows are housed in a newly built portal framed building adjoining an existing cubicle shed. 135 cubicles are fitted with mats and sawdust is used for bedding. The newer part of the building is well ventilated with a light ridge and open sidewalls protected by automatic curtains, providing a very comfortable environment for the cows.

The farm extends to 125 ha with over 13 ha of woodland and 1.3 ha of deep peat which also allows them to sequester carbon.

Slurry is stored in a new 4500 m³ lined lagoon, constructed in 2018. Away from the steading, a 900m³ above the ground steel tower and a 300m³ underground tank allow for a more efficient use of the organic materials. Dirty water is managed through a recently installed, constructed farm wetland, with clean water being channelled directly to the nearby watercourse. This also provides a habitat for birds and waterfowl and enables water to be returned to the environment.

Howard Pattison - Willow Tree Farm, North Yorkshire

Howard Pattison farms with his family at Willow Tree Farm, Northallerton. They run a 280-cow herd with an average yield of around 11,500 litres. Cows are milked twice daily in a herringbone parlour, calve all year round, and are fully housed. The cows are arranged into four milking sheds and two milking groups with one dry cow group.

About 150 replacement heifers are reared on-farm while beef calves are sold at around six weeks of age. Replacement heifers are served at 13 months, and in-calf heifers graze during the summer months.

Milking cow accommodation is provided in modern portal frame sheds fitted with 324 deep sand cubicles and integral feeding passages. Passages are tractor scraped with slurry deposited in an adjacent, concrete block-built slurry store.

Youngstock occupies a variety of sheds, mostly straw yards producing farmyard manure.

The farm extends to 162 hectares, growing a mixture of grass, winter wheat and maize. All cropping on the farm is fed to the dairy herd and followers.

Slurry is stored in two stores with a total capacity of 6350 m³ and utilised as fertiliser for the forage crops. Dirty water is collected and distributed over fields via a mobile irrigator. Access passages and scraped areas between sheds have been covered reducing the slurry storage capacity requirement. Slurry is applied to grassland at the rate of 28 m³/ha after all four cuts of silage.

Find out more at ahdb.org.uk/farm-excellence/dairy or register for upcoming events at ahdb.org.uk/events



Tom and David Campbell from Low Ballees with AHDB's Jon Foot



How to build farm business resilience



Building a resilient business is vital for withstanding variations in milk price and input costs. James Hague, AHDB Knowledge Exchange Manager, hosted a webinar with John and Anna Booth from Rhual Dairy and Oliver Hall, Senior Farm Business Consultant at The Andersons Centre, to discuss how their team can ensure they are managing a resilient business.

FARM FACTS

- 550 acres farm based just outside Mold, Wales
- 330 Holstein Friesian cows calving all year round
- Producing 8,500 litres milk cow/year
- Home rearing replacements to calve at 24 months
- Joined the AHDB strategic dairy farm network in June 2019

Feed

Variability in our weather is the new norm. It's important to consider how to prepare for that in your business and look at what you can do today to make your businesses more resilient to extreme weather.

Quantifying and measuring forage growth, such as by measuring grass through plate metering and recording weekly, can help you monitor the situation.

Oliver explains: "Monitor what your crops are yielding year to year and where you are at in terms of how much you've grown this year, and how much you need to grow. Have a back-up plan. At Andersons, we recommend having 1 tonne DM/ha, or 30 days feed, at springtime left over when you've finished your forage cycle. This can be achieved by making surplus in a good year or buying in some forage locally if price is subdued."

John says: "We're a dry farm so it's important that we've got some cover. We did run out completely in 2020 so had to buy forage in and it was very expensive. We usually manage to keep about 200–300 tonnes to carry forward."

Cows

A good principle of resilience in a dairy farm is to view your herd as a working asset. You must constantly spend either money or time on protecting those future returns.

"A really good herd of cows can take years to build up, and sadly only a few years of poor management, or something going wrong, can lead to a serious problem," says Oliver. "You need to look at what you're doing to protect the future of the herd to make money."

It's important to focus on the health of your herd to protect your future returns.

John says: "At Rhual Dairy we vaccinate for Leptospirosis and IBR (Infectious Bovine Rhinotracheitis). We don't have any trouble with Johnes, but we have had a big issue with Neospora in the past. We have managed to lower cases by treating it much like Johnes, snatching cows and cleaning boxes, culling out infected ones, and not breeding from anything that's had it.

"We are BVD (Bovine Viral Diarrhea) free, but we do vaccinate heifers for BVD as they're on the periphery of the farm and may come into contact with other cattle, so we are future-proofing them."

People

A professional workforce is vital to improving your business performance. Developing and retaining your current staff, while improving recruitment of the next generation is key.

Oliver explains: "For a large business, a good target is 15–20% turnover per year. With a smaller team, 5–6 years length of service is seen as optimal. Sometimes not enough turnover can lead to a lack of fresh ideas."

The previous herdsman and tractor driver worked at Rhual Dairy for six years and ten years respectively. The current herdsman has been there for two and a half years, while the replacement tractor driver left after seven months.

John says: “We’re a small team. There are only four of us but we try to keep everyone involved in the business and make sure everyone knows what’s going on, and we would like to continue this going forward. For the previous team members, it came to the time where they needed a new challenge and that’s why they moved on.”

It’s important to have contingency plans in place when dealing with absences. It’s worth considering how easy the farm is to operate and how good the protocols and communications are.

Oliver adds: “Focus on making your farm a great place to work and you will attract good people.”

Money

A more resilient business will have high margins as a percentage of turnover.

Oliver says: “Andersons set a target of 30% profit pre rent and finance, and it’s important to achieve this consistently for five years. You should also try to generate a return on capital that is higher than the cost of funds, with a target of 4% higher than the cost of funds.”

One of the AHDB KPI targets is the return on tenant’s capital. This can be calculated by adding up all the tenant’s capital (cows, machinery, tenant’s infrastructure) and then dividing your profit after rent, even if you own the land.

Oliver adds: “You always want to have long-term wealth creation goals with an eye on retirement or long-term objectives. What does your retirement plan look like and where do you want to be in ten years? All those things need to be worked back to your yearly targets to help create more structure in them.”

To learn more about Rhual Dairy and follow their strategic farm journey, visit ahdb.org.uk/farm-excellence/Rhual-Dairy

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The modern-day **SPACE RACE**

Increasing cow space is beneficial to milk production and behaviour of housed dairy cows while also improving cow comfort, a recent AHDB funded trial has found.

Jake Thompson, vet at LLM in Derbyshire and a researcher at the University of Nottingham, was involved in a trial which evaluated the impact of indoor living space on dairy cow production, reproduction, and behaviour.

Jake said: “99% of UK dairy cows will be housed at some point during the year, but some cows have double the amount of space as others.

“It is important to consider how we improve management when cows are indoors, and we lacked the evidence to quantify how extra space impacted them.”

‘Living space’, the additional non-lying space availability for dairy cows above that deemed to be a baseline requirement, can be easily calculated using simple building measurements. This will help reduce the ambiguity and uncertainty which currently accompanies discussions about ‘loafing areas’.

“Farmers are asked to provide loafing areas without appropriate guidance of what and how this will impact their cattle. For example, opinions differ on whether passageways should be considered loafing areas,” says Jake.

Large variation in space allowances

Current housing recommendations on loafing areas and total space per cow lack clarity and vary widely.

As part of his PhD studies, Jake measured the total space given in 50 dairy farms across GB and found it ranged from 5.4 m² to 12.7 m² per cow, with the average farm providing 8.3 m².

These results helped form an AHDB Research Partnership funded trial at the University of Nottingham to evaluate the impact of indoor living space on 150 cows from the high-yielding indoor herd.

A year-long randomised controlled trial was undertaken in a unique, purpose-built facility. This allowed precise measurement and novel configurations of the housed area.

Adult Holstein dairy cows were randomly allocated into a ‘high’ or a ‘commercial average’ living space group. The high-space group was given 6.5 m² of living space within 14 m² per cow overall space, compared to the control group with 3 m² living space within 9 m² per cow total space.

Importantly, all other aspects of their environment, management, and husbandry were identical between groups. To ensure direct comparison between the two groups, cows were partnered by parity and days in milk, which meant that the group structure was also the same throughout the trial.

Jake said: “We wanted to measure the effect of living space against three main parameters: production, behaviour, and reproduction/fertility.”



Jake Thompson, Cubicle shed



Production was primarily measured using daily yield per cow. Rumination time, body weight, and milk solids data were also compared between groups.

To monitor behaviour, cows were fitted with their own wireless geo-location sensors, much like a 'Fitbit' for cows, which sent a location measurement every seven seconds. Comparisons were made between groups on the time spent in key designated areas such as living space, feed-face, and cubicles, as well as environmental enrichment use.

Time taken to pregnancy was used to measure the reproductive performance of the cows between the two groups. All key reproductive data such as artificial insemination records and pregnancy diagnosis records were collected. Underlying reproductive physiology was analysed using samples of Anti-Mullerian hormone (AMH) and milk progesterone levels.

Improved cow output

Cows in the high-living-space group gave similar peak yields to those in the control group but held their yield higher for longer through a lactation. This led to an increase in a 305-day yield from 14,644 litres to 14,746 litres, equating to over 100 litres per cow per 305-day lactation.

The largest yield effect was observed in the heifer population. Those in the high-space group produced, on average, over 600L per cow per lactation more than their control-space counterparts, increasing from 11,592L to 12,235L.

However, more space did not have such a positive impact on reproduction, with cows in the high-space group taking longer to conceive, although all other fertility parameters measured showed no difference between groups.

When these results were assessed in a simulation model, it indicated that the reduced reproductive performance was

compensated for by the increased milk volume in the higher-space group. It is therefore still likely to be economically beneficial to provide more living space.

Increased space also provided enhanced cow welfare through significant behaviour changes.

"We found that cows in the higher-space group spent an extra 65 minutes/day lying down and an extra 10 minutes/day at the feed face. They spent less time in the additional living space and more time in the cubicles" says Jake.

This is the first long-term study to show that increased living space leads to meaningful benefits to milk production and behaviour of housed dairy cows.

Jake said: "Given the current large variation in space allowances provided to dairy cows across GB, the results of this trial should help farmers decide on how to invest in improving housing and ultimately improve cow comfort, wellbeing, and productivity."



Planning for silage quality for dry cows

Strategic dairy farm host, Matt Jackson, runs a spring block-calving herd of 300 cross-bred cows at Penllech Bach in North Wales. The farm consists of 100 hectares, managed by Matt as part of a share-milking agreement.

Matt has been focusing on getting the right quantity and quality of silage for the right cows. “We’re typically using between 1.3 and 1.5 tonnes of dry matter per cow per year,” says Matt. “The majority of the farm is grazed twice on rotation and then closed for silage.”

The silage is split across two pits at Penllech. High-nutrient silage is fed to the milking herd and the remainder to the dry cows. “About 350 tonnes is used for dry cows. This would be from about 10 ME type grass, it’s stemmy and high fibre to keep condition on but not make them too fat,” says Matt.

To ensure he is optimising his forage quality, Matt has been working with Dr Dave Davies of Silage Solutions.

For Dave, the most important animal on any dairy farm is the dry cow. And getting the ration wrong for dry cows can have two big effects:

1. A higher risk of production diseases around calving and, as a result, increased associated costs and potentially an increase in replacement rate.
2. A lower peak yield, resulting in a lower lactation yield.

Nutritional value

“It’s really important to have two types of silage,” says Dave. “One should be high quality, about 12 to 12.5 ME with 16% crude protein, for the milking herd. The second should be specifically for your dry cows ideally about 10 ME.”

While dry-cow silage should be of low nutritional value, hygiene should never be compromised. Common poor hygiene problems, including mould, will lead to a lower intake from the dry cow. “We want high intake to get the rumen working well and ensure that we can maximise forage utilisation in early lactation,” says Dave.

Low potassium levels are vital for ensuring cows stay healthy through calving. Ideal potassium content in silage should be no more than 1.0% and high potassium intake can lead to serious health problems including milk fever, hypercalcemia, and retained placenta.

“If we use too much potassium in our fertiliser regime, we have to overcome this with the addition of other things into the ration,” says Dave. “Ideally, we shouldn’t be using slurry on grass that will go into the dry cow silage, but this will be a challenge this year. I’d recommend using dirty water rather than slurry off the farm. We should also be looking at an eight-week re-growth as this does reduce the mineral content in the grass as well as achieving the low D high-fibre silage.”

Potassium uptake into grass increases in late summer/autumn so later cuts for dry-cow silage should be avoided.

Management strategies

With the extended grass growth over the last few years, Matt grazed the milking herd into December 2021, but he is worried this may impact the 2022 year's growth.

Dave recognises Matt's concerns but doesn't see an issue so long as the grazing and silage management is controlled to fit both requirements. "There is definitely an issue leaving an aftermath over the autumn/early winter period. It reduces the quality of spring growth because you've got dead material in the sward which will devalue your ME and you'll also increase your risks of aerobic spoilage and mycotoxins because you've got a dead thatch potentially containing high populations of yeasts and moulds," says Dave.

"Each year is different, and it takes careful management. Grazing it off to get a clean regrowth at the start of the season is beneficial. I would be grazing it with sheep or cattle over the autumn/early winter, up until New Year's Day. This will allow the sward to be grazed down to the base and for fresh growth to start, allowing for an early first cut for the milking-herd silage or a later first cut for dry-cow silage."

At Penllech, much of the silage for dry cows comes from land rented for 12–16 weeks at a time. With little control over the long-term management of this ground, Matt is keen to move away from this system.

To help relieve pressure on his silage ground, Matt has previously bought in hay for the dry cows. "Quality of hay is really important," says Dave. "You need to be looking at the fibre content; seed heads are a good thing in dry cow hay. It's also really important that it doesn't smell musty or is dusty." Intake of hay will be lower than silage, which may have a negative effect on building up the rumen ready for the lactating cow.

Dave is clear that the quality of silage is the most important thing to focus on. "When you're making silage this year, focus on the nutritive requirements that your stock has from that silage," says Dave. "It may mean a little extra hassle by making two different types of silage, but it will pay back. Especially in a year where we do not know what the cost of anything coming on to the farm is going to be."

“ Each year is different, and it takes careful management. Grazing it off to get a clean regrowth at the start of the season is beneficial ”



