



BCVA Policy Statement

Sustainability in Farm Animal Practice

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Executive summary

Agriculture not only feeds the world but has the potential to provide a carbon sink for other industries needing to offset their emissions. As guardians of the countryside, UK farmers have a crucial role to play in the management of soil, water, nitrogen, and carbon cycles and in turn the biodiversity of the UK's farmland. In addition, farm vets work alongside our colleagues in UK agriculture to look after animal health and welfare, so also safeguarding public health.

Agricultural policy needs to consider all these factors in order to avoid a further erosion of natural capital in the pursuit of cheap, unsustainable food production.

The role of cattle

UK dairy and beef are likely to continue to play a crucial role in the national diet due to the benefits of natural ingredients of high nutritional value produced efficiently, to high standards. BCVA believes that in the right regulatory and economic environment, beef and dairy farmers will find their own sustainable solutions and that these are likely to differ widely by circumstance. It is probable that increased efficiency, agroecology and regenerative agricultural practices, a review of land use and an increase in renewable energy will all play their part. It is crucial that we remember that food production is the overarching goal and that approaches that do not take account of productivity are in themselves unlikely to be sustainable. Likewise, outsourcing our production to areas with lower standards or a greater environmental impact does not provide a solution. Furthermore, sustainable agriculture must always keep animal welfare at heart, ensuring a good life and a humane death.

The role of farm vets

As farm animal vets we are allied to one of the many sectors that has an impact on the environment, and one that has come under an increasing spotlight in recent years. Whilst the average human footprint in the UK has been estimated at 13.4T CO₂e/year, it has been calculated that the average dairy cattle vet would have the equivalent of 24,000T CO₂e/year under their care, or 30,000T CO₂e/year for a full-time beef vet¹.

Cattle vets are crucial in driving increased efficiency in both the dairy and beef sectors through providing preventive healthcare and treatment, national disease control strategies, biosecurity, monitoring and surveillance, nutritional advice, breeding and fertility services, training, public health, promotion of animal welfare and research and development. In a context of improved sustainability, these effects should lead to reduced waste or reduced input for the same output, but improvements in animal welfare, biodiversity, biosecurity/surveillance and antimicrobial/anthelmintic stewardship are just as vital whilst harder to quantify.

¹ Prentis, A. The carbon footprint of the animals under our care, Veterinary Practice March 2021

BCVA believes that cattle vets also have a role to play in understanding the different approaches that farmers may take, such as regenerative agricultural practices, and agroecology; in conjunction with new metrics used to assess greenhouse gas emissions. It is vital that any “new” approaches are underpinned by science and sound veterinary advice and that farmers undertaking such approaches perceive that the veterinary sector is fully engaged with what they are trying to achieve. Hence there may be a role for educational courses relating to sustainability either within the veterinary undergraduate curriculum or as part of Continuing Professional Development, as well as outreach to other organisations involved in the sustainability debate.

We work in an evidence-based profession with a practical understanding of One Health principles, and as such we are well-placed to contribute to the advancement of sustainability in UK agriculture, as well as in our own practices. We can bring our expertise to drive a progressive, sustainable future and inform an agenda that focuses on animal health, welfare, disease control, efficiency, and increased productivity.

Policy 1. The role and influence of vets

BCVA aims to promote the role of vets in sustainability from farm to fork, while ensuring that animal health and welfare remains a key objective.

Policy 2. Impact of disease and key performance indicators

Sustainable farm animal production relies on robust and appropriate disease control as well as meeting key performance goals. It is crucial to be able to accurately account for the environmental, as well as animal welfare and financial impacts of disease and key performance indicators.

Policy 3. Engagement, training, development, and collaboration

Vets have a role to play to promote evidence-based decision-making to their clients and in their communities. BCVA has a role to play in providing education and training for their members where such need exists and directing them towards peer-reviewed scientific literature. BCVA will also develop its collaborative approach through strategic alliances, curation of key resources and contribution to major initiatives.

Policy 4. Net Zero in a fair regulatory framework

BCVA welcomes an industry target of net zero warming from agriculture while recognising the potential for long term cooling. This needs to be achieved in a context of whole farm sustainability that takes into account social, ethical and economic factors, without outsourcing food production to regions with lower standards or greater environmental footprint.

Policy 5. Developing robust metrics

BCVA supports the use of The Global Warming Potential Star (GWP*), which was developed to allow comparisons of the global warming impacts of different gases to more accurately reflect the warming effect of methane in the atmosphere. Also, we welcome the further development of tools for assessing biodiversity and soil health.

Policy 6: Responsible use of veterinary medicinal products

BCVA will promote the responsible use of antibiotics and anthelmintics through prevention of disease, appropriate use and vaccination, not only to prevent the development of resistance but also to minimise the adverse effects of environmental contamination.

Policy 7: Promoting sustainability in our practices

BCVA will encourage practices to monitor and reduce their carbon footprint and signpost members to the Greener Veterinary Practice Checklist and other resources appropriate for farm animal practice.

Acknowledgements

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Introduction

Defining terms

There is a long-standing definition of sustainability as the principle that we must “meet the needs of the present without compromising the ability of future generations to meet their own needs”.²

For those of us working as farm animal vets we can consider sustainable livestock agriculture to mean allowing for production of healthy foods without destroying the ability of future generations to do the same, considering the ecological, economic, social, and ethical impact.

Purpose and aims

On the following pages we will set out a policy position for BCVA that can be referred to when providing consultation or setting strategic plans in the future. It is intended as a dynamic foundation on which to create additional, practical resources and educational tools to help our members to meet their own and their clients’ sustainability goals. This will include our associated policy statement on anthelmintics.

Background

The 6th report produced by the Intergovernmental Panel on Climate Change has predicted that global warming of 1.5°C and 2°C will be exceeded during the 21st century unless large reductions in carbon dioxide (CO₂) and other greenhouse gas emissions occur in the coming decades.³ This warming will lead to increases in the frequency and intensity of extreme weather events, heatwaves, flooding and drought.

In the UK, approximately 10% of the country's total greenhouse gas (GHG) emissions come from agriculture, equivalent to 46.3 Mt CO₂e per year (as assessed by GWP100).⁴ The main GHG emitted from agriculture is methane from ruminants (56%), followed by nitrous oxide from fertilisers (31%) and carbon dioxide, predominantly from energy and fuel (13%).

In 2019, the Climate Change Act 2008 was amended, committing the UK to reduce greenhouse gas emissions by 100%, to “Net Zero” by 2050. This target does not incorporate emissions from international aviation, shipping or imported goods. Scotland has pledged to meet Net Zero by 2045. The National Farmers Union (NFU) has also supported this by committing to Net Zero for agriculture in England and Wales by 2040. At the same time, the subsidy system is undergoing a

² Brian R. Keeble BSc MBBS MRCP (1988) The Brundtland report: ‘Our common future’

³ Masson-Delmotte, V., P et al, Climate Change 2021: The Physical Science Basis. Contribution of Working Group to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press. IPCC

⁴ Department for Business, Energy & Industrial Strategy, 2019

reform with the aim of paying “public money for public good” – as defined in the 2020 Defra report ‘Farming for the Future’⁵. Whilst the Committee for Climate Change provided one vision of how agriculture could meet this commitment, with changes in land use to woodland, peatland restoration and bioenergy crops; the NFU has provided their view incorporating farmland carbon storage and renewable energy sources. Both see a significant contribution from low carbon farming, incorporating improved efficiencies and disease control.

The UK has also signed up to a commitment at COP26 to reduce methane emissions by 30% by 2030.

Finally, the Dimpleby report 2021 laid out a series of recommendations to government, relating to ensuring a healthier diet for the population⁶. There were also recommendations relating to agriculture; both in support of maintaining sufficient subsidies to support a transition to more sustainable farming, but also around land use, minimum standards for trade, funding for innovation and the need for a National Food System Data Programme to track performance of the food system and share data.

Cattle farming is coming under the spotlight for its environmental credentials and this policy document aims to explore the contribution of cattle vets to the challenges ahead.

⁵ Farming for the Future, Policy and progress update, Defra, 2020

⁶ <https://www.nationalfoodstrategy.org/the-report/>

Policy 1: The Role and Influence of Vets

The role of the vet from farm to fork

The veterinary profession is an integral part of the agriculture and food sector, working collaboratively with others to protect animals, people, and the environment they share. We have come to know this approach by the term “One Health”.

Veterinary surgeons provide preventive healthcare and treatment for livestock, as well as carrying out health monitoring and disease surveillance, promoting biosecurity, promoting high animal health and welfare, undertaking research and development, and optimising food productivity and sustainability.

Further, veterinary surgeons uphold necessary legislation and international standards pertaining to animal welfare, food safety, accurate certification, and traceability. By carrying out surveillance and enforcement from farm to fork, Official Veterinarians (OVs) certify the trade in animals and animal products thus contributing to economic prosperity, the protection of public health (including from zoonotic disease incursion and antimicrobial resistance) and the sustainability of food production.

Therefore, as animal health and welfare advocates from farm to fork, the veterinary profession is well-placed to advise on and influence sustainable animal husbandry practices at whole system levels; safeguarding animal health and welfare whilst at the same time facilitating production efficiency and environmental protection.

Animal health and welfare

BCVA aims to ensure that animal health and welfare remains a key sustainability objective. Alongside the recognition of animal sentience in legislation, animal health and welfare must never be compromised in order to meet GHG emissions or other environmental targets. Sustainable agriculture considers the idea of ‘a life worth living’ or a ‘good life’ along with the well-established five essential animal welfare needs, or ‘five freedoms’⁷, and includes ethical, as well as economic and environmental considerations.

Protection of public health

Given that 75% of emerging animal diseases can be transmitted to humans, vets have a vital role to play in controlling zoonotic risk and also in scanning surveillance⁸. This is in addition to our role in antimicrobial stewardship and food safety.

⁷ <https://www.gov.uk/government/groups/farm-animal-welfare-committee-fawc>

⁸ United Nations Environment Programme and International Livestock Research Institute (2020). Preventing the Next Pandemic: Zoonotic diseases and how to break the chain of transmission. Nairobi, Kenya.

Improving efficiency

Endemic Disease: 20% of animal production losses globally are linked to disease⁹. Estimates made of the impact of 10 endemic diseases on GHG emissions in the UK ranged between a potential increase of between 7% (for mastitis) and 25% (for Johne's disease) with increases between 4 and 14% for dairy beef. The highest impact of all was calculated to be the impact of BVD in the beef suckler herd, at 130%¹⁰. However, these were estimates made in an area where research is lacking. Calculating the GHG emissions gains from controlling disease can be complex as this can lead to reduced mortality or increased fertility, thereby increasing production. Emissions may rise although the emission intensity may fall. However, in a constant production scenario, cattle numbers can be reduced in response to disease prevention with subsequent emissions drops and some land can be released.

Nutritional Efficiency: Pasture is a key source of forage for cattle systems in the UK as well as a major source of carbon sequestration. Although this will vary greatly with management, grazing is the most efficient way of utilising this resource. In addition, the application method and timing of slurry/manure application will also influence the efficiency of capture of nitrous oxide into the soil and plants. Pasture management will influence feed intakes and is also vital to integrated parasite control.

Soya bean meal is commonly fed to dairy cows and is regarded as a co-product of the soya oil, which is extracted for human consumption, of roughly equal value. Whilst soya may be produced in Belgium, Canada, or the US, much is grown in Brazil where it is associated with deforestation and environmental damage. Selecting the source of soya, or else selecting alternatives, may have a considerable impact on the environmental footprint.

Over-feeding protein results in a lower utilisation efficiency, resulting in waste and higher feed costs with no benefit to cow health. Ruminants are uniquely placed to utilise non-croppable land for grazing as well as waste products such as brewers' grains, waste vegetables and cereals. Therefore, it is worth looking for the most sustainable way to achieve the same production.¹¹

Other Efficiency Improvements: Other drivers of efficiency of particular relevance to vets include fertility, genetics, housing environment, biosecurity and use of technology.

Livestock emissions have declined over the last 20 years as cattle numbers have decreased while productivity has increased. BCVA asserts that vets are crucial not only to the prevention

⁹ <https://www.oie.int/en/oie-wahis-a-new-era-for-animal-health-data/>

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<http://scienceresearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=17791>

¹¹ Sanderine Nonhebel, On resource use in food production systems: the value of livestock as 'rest-stream upgrading system,' Ecological Economics, Volume 48, Issue 2, 2004, Pages 221-230

and control of endemic disease but also driving the efficiencies that have led to this drop in GHG emissions.

BCVA will ...

- Promote the role of the vet from farm to fork and in One Health.
- Support cattle vets to further improve efficiency in areas such as endemic disease, biosecurity, nutrition, fertility, genetics, housing and use of technology.
- Support cattle vets to develop expertise in co-ordination of national disease control strategies. BCVA offers training modules in BVD, Johne's disease, lameness, mastitis, and TB control and supports the role of the practising veterinary surgeon in national and local disease control strategies.

Policy 2: Impact of Disease and Key Performance Indicators

Incorporate the effects of disease and performance on GHG emissions

Many endemic diseases of cattle are 'iceberg' diseases, in that the cost of the visible clinical disease is often a small fraction of the actual cost. Examples include bovine tuberculosis, Bovine Viral Diarrhoea, Johne's disease, mastitis, lameness, and respiratory disease. If the losses due to these diseases can be more accurately accounted for, their impact on the carbon footprint of the farm can also be assessed, both at the farm level and per unit of output. In addition, improving key performance indicators relating to fertility, longevity, yield, growth rates and nutritional efficiency will reduce environmental impact.

The importance of a 'What if' calculator tool

A financial calculator is available for mastitis and lameness costs that can help identify the financial impact of altering disease levels. If this can be replicated for other diseases and key performance indicators, for both financial and emissions outputs, it will aid in highlighting the true cost of disease and poor performance on farms.

Prioritise diseases and key performance indicators with the biggest sustainability impact

Quantifying the warming impact of certain diseases would assist in driving an agenda towards eradication or control. Several disease control programmes could receive significant benefit from further quantifying the potential reduction in GHG emissions and other environmental impacts to be gained at farm level.

The changing form of farm subsidy payments offers an opportunity to link farm payments to sustainability. In England, the Animal Health and Welfare Pathway (AHWP) aims to prioritise those diseases with the largest impact on animal health, welfare, productivity and emissions and there are similar schemes in development across the UK. BCVA supports the involvement of the practising veterinary surgeon in such schemes to work with their clients to improve health, welfare, and sustainability. However, these schemes need to allow for realistic lead in times and clarity of outcomes to allow farmers and vets to plan accordingly. It is also BCVA's aim to promote our current understanding of best practice to help optimise consistency of delivery between veterinary practices.

BCVA will ...

- Promote the use and development of additional cost calculators for consistency in assessments and champion the role of the private vet as being the cornerstone to future schemes.
- Continue to engage with AHWP to ensure that sustainability and welfare remains high on the agenda.

- Liaise with relevant partners, including the National Johne's Management Plan (NJMP), and CHECS to encourage disease control programmes, demonstrating with quantified evidence the potential reduction in GHG emissions to be gained at farm level.
- Call for relevant legislative review to co-ordinate disease control across the devolved nations.

Policy 3: Engagement, Training, Development and Collaboration

All farm vets should be confident talking about the contributions that the profession can make to the sustainable agriculture agenda; with the tools to communicate effectively with animal keepers and owners, communities – veterinary practices serving as credible and informed animal welfare hubs, and nationally – at an organisational level, including BCVA developing and advocating relevant policy.

In a world where misinformation is easily spread, vets have a role to play to promote evidence-based decision-making and BCVA has a role to play in providing unbiased information for their members and directing them towards peer-reviewed scientific literature.

One of the key roles of BCVA is to identify gaps in CPD provision and, where necessary, aim to fill them. Although it is likely that new educational provision on holistic disease control and sustainability will become available, it may be appropriate for BCVA to address any such gaps in the future. Examples would be courses on regenerative agriculture or on assessing the sustainability impact of different feeding regimes, particularly in relation to home grown feeds and nitrogen use efficiency.

Existing resources include the Farm Vet Champions initiative, with which BCVA collaborated with RCVS Knowledge to provide invaluable tools to tackle the challenges associated with appropriate use of antimicrobials. BCVA is similarly collaborating with AHDB and industry partners to promote the Medicine Hub and importantly created a Vet Futures stream at its 2021 Congress to help the profession understand its potential role in creating a more sustainable future for us all.

It is also worth noting that COWS training on sustainable parasite control in cattle is to be resumed and will include a review of the environmental impact of anthelmintics and topical parasiticides.

BCVA will ...

- Use its CPD and Congress programme to provide cattle vets with practical information to bridge the gap between sustainability research and its application in practice to ensure positive outcomes at individual farm level.
- Curate a library of associated resources for members of the farm vet profession.
- Engage with “regenerative” approaches to agriculture by providing training and facilitating links to organisations involved in the development of regenerative approaches to agriculture; particularly with regards to appropriate health planning, breeding, and understanding the goals and aims of these approaches.
- Continue to build relationships and collaborate on key sustainability initiatives.

Policy 4: Net Zero in a Fair Regulatory Framework

Collaboration to meet targets

For farming to be considered sustainable from a global warming perspective, it must achieve overall net zero warming as a primary target. This has been widely accepted by a number of farming bodies and government organisations. However, we also recognise that through carbon capture, agriculture has the potential to contribute a net cooling effect to offset other industries. Cattle vets can work with other industry advisors and bodies, both at an individual and organisational level to elucidate what needs to happen to meet these targets. This will only be possible using a holistic and collaborative approach. BCVA will continue to support the Net Zero targets of the NFU and NFU Scotland.¹²

Many ways to meet the goals

Achieving net zero warming requires a bespoke approach, with no definitive blueprint to success, although certain principles will be universally applicable.¹³ The phrase “Measure, Manage, Monitor” is familiar to many farm vets as an approach to addressing a concern. For the industry to progress towards net zero warming, the first stage should be the widespread rollout of accurate individual farm business assessment using agreed methodology. It is important that farm assessments are complete, fair, and respectful of different systems, for example the fair reallocation of carbon costs and sequestering when land is rented, when cow numbers are expanded or where there is a heavy reliance on purchased feed.

If all farms are encouraged to assess and monitor their carbon footprint, they can work from a position of knowledge to mitigate emissions whilst improving other aspects of sustainable production such as biodiversity and soil health. Accurate carbon footprinting is likely to become an increasingly important requirement for access to funding, with “Public money for public good” stated as a clear aim in agricultural policy.

While the end goal is net zero warming from UK farming, at an individual farm level denominators such as output parameters (litres of milk, kg protein produced etc) or input parameters (land area) will aid in assessing progression. We anticipate a range of performance within systems, with no single defined system for sustainable production. It is likely that net zero emissions can be achieved in a range of systems, although the challenges may differ. This is an important message to communicate.

Sustainability – but not at any cost

Warming mitigation must take place in a context of whole-farm sustainability, in particular paying attention to health and welfare, biodiversity, soil health, water management, diffuse pollution, and

¹² Farming for 1.5°C: Independent Inquiry on Farming and Climate Change in Scotland

¹³ Poore, J, & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers

social, ethical and economic factors. BCVA would not support a sparing type approach where farming to mitigate emissions was carried out at the expense of, say, animal welfare, soil health or productivity. This must be achieved without outsourcing our environmental footprint or imports produced to lower standards. Therefore, food production and food security should remain the goal.

It is of particular concern that the government commitment to Net Zero by 2050, which is enacted through legislation, does not include the impact of imported goods or international aviation and shipping. Therefore, in the context of agriculture, it would be possible to meet the requirement by outsourcing our food production overseas, to an area with a much higher carbon footprint or worse environmental record. This would exacerbate global warming whilst also damaging our own farming industry. This is a loophole that should be closed as pressure mounts on the government to demonstrate how it plans to meet its own targets.

BCVA will ...

- Provide input into future subsidy payment schemes to ensure that health is safeguarded and environmental payments due do not come at a cost to animal welfare.
- Continue to work with industry towards Net Zero.
- Continue to promote a level playing field for UK agriculture.

Policy 5: Developing robust metrics

Warming impacts

GWP100 has been the accepted metric for assessing the global warming potential of different GHGs, by describing them in terms of CO₂ equivalence over a 100-year period. However, methane (CH₄) is broken down after around 12 years and the actual warming it creates is better described by another metric, GWP*¹⁴. For example, using GWP100, a constant annual rate of CH₄ emissions may be misinterpreted as having a 3-4 times higher impact on warming than observed¹⁵. The use of GWP* can correct this misestimation and if used to evaluate the impact of agricultural CH₄ emissions scenarios from 2020-2040, it is found that:

- A sustained ~0.35% annual decline is sufficient to stop further increases in global temperatures due to agricultural CH₄ emissions. This is analogous to the impact of Net Zero CO₂ emissions.
- A ~5% annual decline could neutralise the additional warming caused by agricultural CH₄ since the 1980s.
- Faster reductions of CH₄ emissions have an analogous impact to removing CO₂ from the atmosphere.
- However, a 1.5% annual increase in CH₄ emissions would lead to climate impacts about 40% greater than indicated by GWP100.

The application of GWP* to CH₄ emissions accounting suggests that avoiding further warming due to CH₄ emissions in agriculture is more attainable than previously understood. BCVA strongly supports the use of GWP* to assess the warming impacts of systems and behaviours and supporting the roll-out of accurate warming assessments for UK food producers. Not doing so not only undervalues the potential short-term benefits of reducing methane emissions, but also obscures the fundamental need for net zero CO₂ emissions as soon as possible, regardless of what mitigations are made to shorter-lived climate pollutants.

Assessment methodologies

There is an increasing uptake of carbon auditing tools for estimating global warming potential at farm level, including AgreCalc, The Cool Farm Tool, Sandy and the Farm Carbon Toolkit¹⁶. There is much to be gained from evaluating the current farm position and setting a strategy to reduce environmental impact in the future. Many of the measures to reduce GHG emissions will also make good business sense.

¹⁴ Allen MR, Shine KP, Fuglestedt JS, Millar RJ, Cain M, Frame DJ, Macey AH. 2018. A solution to the misrepresentations of CO₂-equivalent emissions of short-lived climate pollutants under ambitious mitigation. *NPJ Climate and Atmospheric Science* 1:16.

¹⁵ IPCC, 2021: *Climate Change 2021: The Physical Science Basis*. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change Masson-Delmotte, V., P et al Cambridge University Press. In Press.

¹⁶ <https://www.agreCalc.com/> <https://coolfarmtool.org/> <https://www.trinityagtech.com/> <https://farmcarbontoolkit.org.uk/>

There is currently a need for auditing tools with improved assessment of biodiversity and soil health. While soil is known to be an important carbon store, there is no reliable and easily achievable way of incorporating it into existing metrics. Likewise, measures which increase biodiversity should be rewarded but this requires a fair and accurate system of assessment.

Following on from the commitment to reduce methane emissions by 30% in the UK by 2030, BCVA is concerned that a disproportionate emphasis is not placed on agriculture. The lack of ability to measure methane from ruminants directly, will mean that the only way agriculture can be seen to contribute to this reduction, is through a reduction in ruminant numbers. Whilst there has been a desirable ongoing trend towards lower numbers and increased efficiency, reducing UK livestock production is likely to lead to an increase in imports and no net benefit. Other methods, such as exploiting the variation between individual animals and feed additives may also need to be allowed for. Much of this target will be achieved through reducing the avoidable leakage of methane from the fossil fuel industry, much of which could be prevented at no net cost due to the value of the gas captured; even before the inevitable reduction in fossil fuel use which must occur.

Using UK figures when discussing the environmental impact of UK agriculture

Much of the misinformation around the GHG emissions of agriculture stem from the reference to global averages and practices as though they apply to UK food production. For instance, the carbon footprint of milk produced in the UK is less than half the global average and the UK dairy industry contributes less than 3% of total UK emissions (as assessed by GWP100)¹⁷. Whilst there is a wide range of emissions for beef production, the UK average is again less than half the global average¹⁸.

BCVA will ...

- Support the use of global warming potential (GWP*) to more accurately reflect the warming effect of methane produced by ruminants.
- Support and promote the use of UK figures when discussing the GHG emissions of UK produce; also comparing nutritionally equivalent outputs when comparing the GHG emissions of different food sources.
- Support the improvement of an agreement on methodologies for assessing biodiversity and soil health.

¹⁷ Greenhouse Gas Emissions from the Dairy Sector: A Life Cycle Assessment. Food and Agriculture Organization of the United Nations 2010

¹⁸ Land use: Policies for a net zero UK, Committee on Climate Change, January 2020

Policy 6: Responsible Use of Veterinary Medicinal Products

There is strong evidence to suggest climate change will continue to have a major impact on animal disease occurrence and prevalence¹⁹. Climate change is likely to alter the disease burden on some agricultural livestock. Therefore, in the interests of sustainability, the veterinary profession and UK livestock farmers require a continued and concerted effort toward improved stewardship of veterinary medicinal products.

Whilst good progress has been made to date and our food standards are some of the highest in the world – BCVA is committed to the development of greater understanding in reducing the need for antimicrobials and anthelmintics through husbandry and management, appropriate vaccination strategies, understanding the factors leading to antimicrobial and anthelmintic resistance, as well as the effects of residual products in the environment.

It is crucial that with any encroaching antimicrobial or anthelmintic resistance we can justify the appropriate use of effective veterinary medicines in order to protect the health and welfare of animals committed to our care, whilst avoiding the unnecessary administration of drugs which can lead to increased risk of resistance, increased waste due to the observation of withdrawal periods and the possibility of environmental contamination.

Livestock producers and the veterinary profession need to work together to develop a new vision, in particular for sustainable parasite control and also antimicrobial stewardship that will encourage and maintain public trust. Such a future will almost certainly include increased uptake of vaccination strategies.

BCVA will ...

- Continue to promote and advise on the responsible use of Veterinary Medicinal Products, in particular antimicrobials and anthelmintics. These should form a part of a farm-level approach to health planning, including vaccination where appropriate, in which the vet farmer relationship is key.
- Support the national antimicrobial use targets set by the RUMA Targets Task Force, Promote the Farm Vet Champion and Arwain Vet Cymru initiatives²⁰. Promote use of the Medicine Hub to demonstrate national figures for antimicrobial use for the beef and dairy sectors.

¹⁹ The effect of climate change on the occurrence and prevalence of livestock diseases in Great Britain. Gale, P., Drew, T., Phipps, L. P., David, G. & Wooldridge, M. (2009). *Journal of Applied Microbiology* 106(5), 1409-1423

²⁰ Rees, G.M.; Bard, A.; Reyher, K.K. Designing a National Veterinary Prescribing Champion Programme for Welsh Veterinary Practices: The Arwain Vet Cymru Project. *Antibiotics* **2021**, *10*, 253.

- Raise awareness of the role of the vet in sustainable parasite control by providing relevant CPD to its members; promoting targeted, evidence-based anthelmintic use to the industry and conversing with other relevant bodies such as VMD and AMTRA to ensure the message to industry is clear and consistent.

Policy 7: Promoting sustainability within our practices

The Greener Veterinary Practice Checklist

BCVA supports the Vet Sustain Greener Veterinary Practice Checklist which outlines ways in which vet practices can become more environmentally friendly²¹. These include practising responsible resource use, being sustainable in operation, using medicines responsibly and empowering the team.

Sustainability Champions in farm animal practice

BCVA will also signpost or produce further support appropriate to farm animal vet practices, particularly in relation to transport and kit solutions specific to cattle vets.

BCVA would support the concept of Sustainability Champions within practices, who not only help identify environmental initiatives for the practice itself, such as identifying more sustainable transport options, managing waste, maintaining equipment, recycling, and reduction of single use plastic, but also to help integrate sustainability into the practice's core values and help direct colleagues and clients towards relevant resources.

BCVA will ...

- Signpost members to the Greener Veterinary Practice Checklist and other resources appropriate for farm animal practice.
- Encourage practices to sign up to the SME Climate Hub, Investors in the Environment, or similar initiatives.

²¹ <https://vetsustain.org/resources/vet-practice-checklist>

Conclusion

BCVA believes that farm animal veterinary professionals are critical to sustainable food production and, with support, can offer a significant contribution to achieving overall net zero warming in UK farming. The farm vet's vital role in tackling climate change and developing a more sustainable future starts within our own practice and with our own clients; with progressive and dynamic health plans, a 'One Health' approach to responsible antimicrobial and parasiticide use, sustainable breeding and rearing, and disease control. What is essential is that the measures available to us make it possible to create bespoke, achievable solutions at farm level and that no approach compromises animal health and welfare.

Our profession's role in safeguarding animal health and welfare must be embedded in sustainable approaches so that we can meet the needs of the future and protect generations to come.

The Centre for Innovation Excellence in Livestock (CIEL) published a Net Zero Carbon and UK Livestock Report in September 2020 which showed that UK ruminant production greenhouse gas emissions compare favourably against global averages for similar systems. Of course, there is more to be done and the key recommendations around efficiency of production will be welcomed by farm vets because they focus on animal health, disease control and high welfare standards.²²

Policies and objectives relating to sustainable animal agriculture will be required to address the use of natural resources, ensure sustainable production, and take a responsible approach to the use of veterinary medicines, in particular antimicrobials and parasiticides. These policies must maintain a level playing field so that raising standards at home does not lead us to export our environmental footprint overseas at the expense of our own industry.

As a veterinary organisation, BCVA will use its leadership role to collaborate with environmental initiatives, develop resources and training for its members, and influence legislation that protects animal welfare whilst working towards a more sustainable future for UK agriculture.

This policy is intended as a foundation to which related documents will be added.

²² Magowan, E., Buckingham, S., McAuliffe, G., Rees, R and Lee, M. R. F. 2020. CIEL Net zero carbon and UK livestock

References & Useful Links

Allen MR, Shine KP, Fuglestedt JS, Millar RJ, Cain M, Frame DJ, Macey AH. (2018). A solution to the misrepresentations of CO₂-equivalent emissions of short-lived climate pollutants under ambitious mitigation. *NPJ Climate and Atmospheric Science* 1:16.

Brian R. Keeble BSc MBBS MRCP (1988) The Brundtland report: 'Our common future'

Committee on Climate Change, Land use: Policies for a net zero UK, January 2020

Farming for 1.5°C: Independent Inquiry on Farming and Climate Change in Scotland

Gale, P., Drew, T., Phipps, L. P., David, G. & Wooldridge, M. (2009) The effect of climate change on the occurrence and prevalence of livestock diseases in Great Britain. *Journal of Applied Microbiology* 106(5)

Greenhouse Gas Emissions from the Dairy Sector: A Life Cycle Assessment. Food and Agriculture Organization of the United Nations 2010

Magowan, E., Buckingham, S., McAuliffe, G., Rees, R and Lee, M. R. F. 2020. CIEL Net zero carbon and UK livestock

Masson-Delmotte, V., P et al, Climate Change 2021: The Physical Science Basis. Contribution of Working Group to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press. IPCC,

Poore, J, & Nemecek, T, (2018). Reducing food's environmental impacts through producers and consumers.

Rees, G.M.; Bard, A.; Reyher, K.K. Designing a National Veterinary Prescribing Champion Programme for Welsh Veterinary Practices: The Arwain Vet Cymru Project. *Antibiotics* **2021**, *10*, 253.

Sanderine Nonhebel, On resource use in food production systems: the value of livestock as 'rest-stream upgrading system,' *Ecological Economics*, Volume 48, Issue 2, 2004,

United Nations Environment Programme and International Livestock Research Institute. Preventing the Next Pandemic: Zoonotic diseases and how to break the chain of transmission. Nairobi, Kenya. (2020)

<https://www.agrecalc.com/>

<https://www.bva.co.uk/media/1181/bva-position-on-uk-sustainable-animal-agriculture-full.pdf>

<https://coolfarmtool.org/>

<https://farmcarbontoolkit.org.uk/>

<https://www.gov.uk/government/groups/farm-animal-welfare-committee-fawc>

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868041/future-farming-policy-update1.pdf

<https://knowledge.rcvs.org.uk/forms/register-your-interest-to-become-a-farm-vet-champion/>

<https://www.nationalfoodstrategy.org/the-report/>

<https://www.oie.int/en/oie-wahis-a-new-era-for-animal-health-data/>

<https://www.trinityagtech.com/>

<https://vetsustain.org/resources/vet-practice-checklist>

Acronyms & Glossary of Terms

AHDB Agriculture and Horticulture Development Board

APWG Agricultural Productivity Working Group

BCVA British Cattle Veterinary Association

BVA British Veterinary Association

CHECS (formerly known as Cattle Health Certification Standards)

CIEL Centre for Innovation Excellence in Livestock

CO₂ Carbon dioxide

CPD Continual Professional Development

DAERA Department of Agriculture, Environment and Rural Affairs (in Northern Ireland)

DEFRA Department for Environment, Food and Rural Affairs

FTA Free Trade Agreement

GHG Greenhouse gases

GWP Global warming potential

NFU National Farmers Union

Agroecology: the application of ecological principles to agricultural systems and practices, or the branch of science concerned with this.

Arwain Vet Cymru: a national veterinary 'Prescribing Champions' network for Wales

Farm Vet Champions: a major collaborative project to unite and empower UK farm animal veterinary practitioners as they establish good antimicrobial stewardship in practices and on farms.

Global Warming Potential: Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO₂).

Net zero: "Net zero" means carbon neutrality, i.e., that an organisation or nation reduces its greenhouse gas emissions to zero or offsets any remaining emissions. The Climate Change Act of 2008 requires the Secretary of State to ensure that the UK has reached at least Net zero emissions by 2050.

Regenerative farming/ Regenerative agriculture: an approach to agricultural production that is characterised by using agroecological principles to promote conservation and rehabilitation, for example through topsoil regeneration, increase biodiversity and support biosequestration.

Vet Sustain: Vet Sustain supports veterinary professionals to become leading forces for sustainability.

Zoonotic diseases: diseases that are caused by germs that spread between animals and people. Examples of zoonotic diseases include anthrax (from sheep), rabies (from rodents and other mammals) and Creutzfeldt-Jakob disease (from cattle).