November 2022

RUMA Targets Task Force 2: Two Years On

RUMA Targets Task Force 2: A report summarising the second year of progress against antibiotic use targets identified by the UK livestock industry's Targets Task Force 2 (TTF2) in November 2020.

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Introduction

Cat McLaughlin,

RUMA Chair & Chair of the RUMA Targets Task Force 2

"As we reach the half-way point, two years into the second phase of the RUMA Targets Task Force (TTF) targets, I continue to be impressed and am full of praise for the work of UK agriculture in its efforts to tackle AMR.

The past two years since the launch of the second set of TTF targets have not been easy; the impacts of the global pandemic, the UK's exit from the European Union, coupled with rising production costs, ongoing labour shortages, ongoing trade negotiations, supply chain issues contributing to animals remaining on farm longer than usual, and the onset of the cost-of-living crisis, has made for challenging conditions right across UK farming. For some sectors such as poultry, there have also been significant disease outbreaks such as Avian Influenza, the worst ever experienced.

I highlighted in my TTF Report introduction last year that the impacts of the challenging environment in which UK agriculture has been operating are yet to be fully understood on the journey towards the targets and as expected, some of those impacts continued to play out during 2021 and well into 2022. Yet despite that, the industry has remained united and focused when it comes to addressing the AMR challenge and has not wavered in its commitment.

Once again, this latest RUMA TTF Report presents a consolidated view of the targets and indicators of progress across the livestock industry with many sectors reporting positive progress. Some sectors, in response to specific disease outbreaks or other factors, have seen some increases in usage in order to effectively address these challenges and protect animal welfare. This reinforces the point that antibiotics are a vital tool to ensure healthy animals and high welfare standards and the focus is not on zero use, but responsible use. All sectors continue to strive to keep antibiotics effective and fit for purpose and only use when necessary. The report also contains a comprehensive overview of the many industry initiatives and tools that now exist to support the responsible use of antibiotics so that we can work to protect antibiotic efficacy long into the future. Initiatives such as Medicine Hub (MH) developed by AHDB, Farm Vet Champions (FVC) from RCVS Knowledge, the electronic Medicine Book for Pigs (eMB-Pigs developed by AHDB) and many more; all generated over the last 5 -10 years and clearly demonstrate the unity and collaboration that is embedded into the industry, in particular a commitment to data collection, training and best practice. And it's important to reiterate that the falls in antibiotic use that have been achieved to date have been done so through a collaborative voluntary effort – something we should all be very proud of.

"Many sectors report positive progress"

This unique voluntary effort which has seen the agriculture industry taking ownership and working in collaboration with government to drive positive change, has been praised in a recently released FAO Report produced jointly by the Food and Agriculture Organization of the United Nations (FAO) and the UK's Veterinary Medicines Directorate (VMD), FAO's Reference Center for AMR: Tackling antimicrobial use and resistance in food-producing animals: Lessons learned in the United Kingdom. The report recognises the industry's positive antibiotic reduction journey and highlights the impact of the RUMA Independent Scientific Group (ISG) which ensures all decisions and activities are based on science and evidence, as well as the formation and achievements of the RUMA Targets Task Force (TTF). The successes to date across the industry has put the UK ahead of most EU countries and the current RUMA targets up to 2024 further reinforce the ongoing commitment across all the sectors to achieve sustainable reductions.

I also wanted to take a moment to reflect on the huge shift in engagement that has been seen during the lifecycle of the TTF so far; the numerical targets are important but so too is the huge energy that exists across the industry in recognition of and response to the AMR challenge. Antibiotic stewardship is now part of everyday language, with farmers and vets working collaboratively to embed best practice for responsible use across all sectors.

As we look ahead to the next two years of the TTF2 targets cycle, we will see new UK veterinary medicines regulations, which we hope will complement the voluntary commitment to responsible use shown across farmed animal, fish and poultry sectors, and is reflected in the ongoing development and strengthening of a wide range of industry initiatives.

My continued thanks go to everyone who has contributed to the production of this report, especially the RUMA Targets Task Force vet and farmer representatives, the RUMA Alliance and the various sector antibiotic guardian and stewardship groups."

Cattle Sectors: Beef, Dairy and Calves

Overview

The past year has seen positive collaboration between different ruminant sector bodies on responsible antibiotic use across the UK. This has included engagement and discussions with teams in Scotland, Northern Ireland and Wales to share industry initiatives and learnings which has helped further stimulate progress towards data collection in particular, but also consistent messaging to farmers and the public.

Increasing concerns within the industry about import competition off the back of trade deals in the future, means farmers are even more aware of the reputation of UK beef, lamb, and dairy products. This is reflected in the AHDB levy payer 'Shape the future'[1] survey carried out in 2022 which showed that for both beef and lamb protecting the reputation of UK produce and promoting export opportunities are seen by levy payers as the most important needs for the industry in the next five years.

The cattle sector has ongoing positive stories. In the context of antibiotic use, this has resulted in an increase in profile, resource, support and awareness of Medicine Hub (MH) developed by AHDB, as this is the tool that will help evidence the responsible use of antibiotics and health and welfare claims within the ruminant sectors. MH provides the first major opportunity for the UK's ruminant sectors to be able to build a national picture of antibiotic use on farms. MH will also be collating data from other devolved regions. Further development of MH has also started to reveal the true value of other initiatives within the cattle sector, such as Farm Vet Champions (FVC). Vets already engaged in the FVC initiative have helped with development and testing of the data collection platform. As well as MH, it is also important to note that the Kingshay App, FarmAssist - a database managed and run by National Milk Laboratories (NML) on behalf of milk buyers, and VetIMPRESS plus others, also provide antibiotic collation services to dairy and other sectors.

It remains true that evidence from the limited usage data that is available for dairy, beef and calves suggest the sectors are comparatively low users of antibiotics. However, the continued need for data to help demonstrate this remains a key priority across all ruminant sectors and support for MH has grown significantly over the past year with the number of 2021 year-end datasets uploaded to MH sitting at around 3,000. As well as seeing positive data collection progress, cattle has ongoing positive stories of best practice including the Welsh Lamb & Beef Producers (WLBP) AMU Calculator, funded through the Arwain DGC project, which went live in 2021 with early adopter vet practices being able to calculate antibiotic usage on farms.

Development of the Defra Health and Welfare Pathway (England) and annual vet visit looks to provide another excellent route to conversations between farmers and vets around on farm health challenges, which is expected to result in improved data collection and better understanding for both parties in terms of disease risk and medicine use on farm.

On calves specifically, a route to measuring calf mortality on a national level (to monitor whether reductions in AMU are rational) has been agreed in principle and will progress once British Cattle Movement Service (BCMS) data has been obtained.

[1] Shape the Future of farming - come to our November event | AHDB

Beef, Dairy and Calves Sectors Progress Against Targets

Dairy, Beef, Calves and Sheep Targets			
Measurement Metric	**Target**	**2021**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Calculation, benchmarking and central upload of data	**Data from 95% of UK dairy herds captured by 2024**	The sector has continued to support MH from AHDB, recognising the importance of building a national picture of antibiotic use. The number of 2021 year-end datasets uploaded to MH for dairy is 1,132. The WLBP AMU Calculator went live in 2021 with early adopter vet practices being able to calculate antibiotic usage on farms. From July 2022 members of the Farm Assured Welsh Livestock (FAWL) scheme are required to have their antibiotic usage calculated on the platform. This process takes place during the annual health and welfare review with the vet. The calculator allows vets and their farmers to calculate usage for sheep, beef and dairy enterprises. Whilst focusing on beef and lamb producers, WLBP are currently also working with dairy supply chains to measure the usage on farms. To date 265 dairy farms have completed their measurement of antibiotic use on the platform.	
	Data from 50% of UK calf rearing units captured by 2024	Some of the main specialist calf rearing companies are now supplying data into MH. Quality Meat Scotland (QMS) continue to work with stakeholders in Scotland to encourage and progress ruminant AMU recording.	
	Data from 8,000 (10% of total) UK beef captured by 2024	The sector has continued to support MH, recognising the importance of building a national picture of antibiotic use. The number of 2021 year-end datasets uploaded to Medicine Hub for beef is 1,251. QMS continue to work with stakeholders in Scotland to encourage and progress ruminant AMU recording. The WLBP AMU Calculator went live in 2021 with early adopter vet practices being able to calculate antibiotic usage on farms. From July 2022 members of the FAWL scheme are required to have their antibiotic usage calculated on the platform. This process takes place during the annual health and welfare review with the vet. WLBP are working with the beef supply chain to measure usage of beef farms. To date 1,009 beef farms have completed the antibiotic usage on the platform.	

Dairy, Beef, Calves and Sheep Targets			
Measurement Metric	**Target**	**2021**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Farm Vet Champions (FVCs) network	**2,800 FVCs in 900 veterinary practices across UK by 2024**	There are 730 FVCs across the UK (which represents 64% of FVC target of 20 people joining per week since the launch in 2021) The SMART Goals tool has been accessed by 86 users and there are 17 SMART Goals set by individuals and eight different teams.	✔
Training uptake among vets	**Specify appropriate training**	FVC specific training: • Cattle training: 184 enrolled users Within cattle these numbers have specifically completed the different species webinars: • Dairy: 104 completions • Beef: suckler 100 completions • Cattle Youngstock training: 150 completions • Behaviour and Communications training: 594 enrolled users • One podcast on using Farm Vet Champions Plan, Prevent and Protect principles has been created and has been downloaded 335 times The British Cattle Veterinary Association (BCVA) offers online and in-person CPD and resources for cattle vets to support their efforts in managing diseases by taking a responsible approach to the use of veterinary medicines. Within its established education programme is a suite of Accredited Training courses that help farm vets target some of our biggest challenges – all of which have a medicines element to the training. As of August 2022: BVD: 891 qualified vets, Johnes: 1685 qualified vets, QuarterPro (mastitis control and udder health): 65 qualified vets. Training in these areas not only reduces the incidence of BVD, Johnes and mastitis but also impacts on other health issues with an overall reduction in medicine use – primarily antimicrobials. BCVA also supports a number of lameness and foot health industry initiatives. This includes training Mobility Mentors to deliver the AHDB Healthy Feet Programme with more than 170 now accredited. The newly introduced BCVA accredited Foot Health Trainers support delivery of two new Lantra certified courses for farmers, (First Aid for Feet and Intermediate Hoof Trimming) alongside Cattle Hoof Care Standards Board Accredited Instructors.	

Dairy, Beef, Calves and Sheep Targets			
Measurement Metric	**Target**	**2021**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
		In 2021 BCVA took over MilkSure, the training and stewardship programme for farmers to drive standards around avoiding residues in milk and best practice of these medicines on their dairy farms. Since then, online courses were escalated and around 350 vets have received training to deliver the scheme to their farm clients. This means there are well over 600 registered MilkSure vets in the UK. The association now offers courses both online and in-person having developed its delivery options with additional trainers.	
		FVC has been an important initiative for the farm vet profession and BCVA has been keen to support the programme, providing cattle modules and a launch event at the 2021 Congress, where a proportion of the programme was dedicated to FVC talks and workshops. This support will continue in the coming years as the programme develops. The Arwain Vet Cymru project was successfully completed in 2021. The Arwain network of 51 Veterinary Prescribing Champions (VPC) are now supported at Aberystwyth University via a follow-on project, Arwain DGC (Defnydd Gwrthficrobaidd Cyfrifol) "Responsible Antimicrobial Use" (2021-2023). The Arwain network to date, represents at least one trained VPC from close to 90% of veterinary practices working with farm animals in Wales. Each VPC has developed and delivered a bespoke stewardship action plan for their practice, representing ca. 100 prescribing and stewardship interventions across Wales. VPCs have collectively co-created policy recommendations which include improving prescribing regulation, supporting vet-farmer relationships and promoting preventive medicine. Two working groups established within the VPC network have developed a series of Clinical Treatment Guidelines for several key diseases of cattle (neonatal enteritis, SDCT, pneumonia) and sheep (lameness, watery mouth, joint ill), alongside an overarching voluntary Code of Conduct for prescribing within Welsh veterinary practice. These will be reviewed in stakeholder consultation in early 2023, before launching nationally to the profession in summer 2023. Within Arwain DGC, Aberystwyth University is also using qualitative, in-depth interviews and a national quantitative survey to map patterns of AMU in the equine industry. Insights generated will shape future antimicrobial stewardship efforts in this sector.	

Dairy, Beef, Calves and Sheep Targets			
Measurement Metric	**Target**	**2021**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Medicines best practice training uptake among farmers	**Reduced training non-compliances in Red Tractor Dairy**	Under the Red Tractor (RT) farm assurance scheme, at least one person on each dairy farm (who is responsible for administering medicines) must undertake an approved medicines training course. This was a recommendation up until October 2019 when it became a full standard. In 2019 46.5% of dairy members were compliant with the recommendation, which increased to 77% in 2020 as the recommendation became a full standard and was the highest yet at 93.2% compliance in 2021.	
	Training becomes requirement in Beef farm assurance	The RT standard in beef was upgraded from a recommendation to a full standard in November 2021. For cattle, QMS has a recommendation that 'at least one member of staff responsible for administering medicines has undertaken training in the administration and handling of medicines'. NOAH Animal Medicines Best Practice (AMBP) training programme: in the period when it launched in August 2018 to the present date 1,154 farmers have engaged, with 622 dairy courses completed and 271 Beef courses completed in 2021.	
Medicines best practice training uptake among students	**All vet school and agriculture college/university courses include medicines best practice content by 2024**	The majority of veterinary schools have either added FVC to the clinical Extramural Studies list or integrated it into the curriculum. Medicines best practice content is incorporated into courses at Northern Ireland's College of Agriculture, Food and Rural Enterprise. Veterinary schools all cover responsible use of antibiotics in the clinical rotation teaching, and the teaching and promotion of best practice is embedded across didactic and clinical teaching. Underpinning knowledge taught in the schools ensures that veterinary professionals have the scientific understanding that equips them to deal with the challenges of the future.	
Farmer & vet herd/flock health plans	**Reduced non-compliances annually in Dairy & Beef farm assurance for development of annual health/ medicines plan**	Health Planning: there is 90% compliance in dairy and 79% compliance in beef. Note that the non-compliances do not mean that there is no health plan on these farms but relates to the fact that something is missing from the plan or for example, in around 50% of cases, it is because the vet hasn't yet signed and reviewed annually.	
Impact of Bovine Viral Diarrhoea (BVD)	**Reduced non-compliances for BVD control in Red Tractor Dairy**	BVD in dairy has a compliance of 98.4%. This will become a full standard in beef from October 2022.	

Dairy, Beef, Calves and Sheep Targets			
Measurement Metric	**Target**	**2021**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
	Initiatives to tackle BVD in the UK cattle industry* *Formerly this box referenced: 'Calves sourced from farms eradicating BVD, or screened'. This target has been updated to reflect the broader industry effort underway to tackle BVD.	BVD Free launched in July 2016. This is an industry owned scheme which delivers a voluntary elimination programme for BVD in cattle breeding herds in England. At the end of six years 6,600 herds had registered with BVDFree representing close to an estimated 49% of the national cattle breeding herd in England. The Defra Animal Health and Welfare Pathway has released plans to eradicate BVD from England via a voluntary health scheme due to launch in late 2023. Plans taking learnings from NI, Wales and Scotland are still being discussed via a task group on the best steps forward. QMS: Almost three years into Phase five of the national eradication scheme, and there is a continuing downward trend for BVD 'Not Negative' herds (i.e. infected herds), and for PI numbers. The latest data reflects BVD changes and cattle registrations up to the end of July i.e. the end of Scotland's main calving period. Almost 90% of holdings have Negative status, and of the Not Negative herds, only 15 had a live PI at that last data point. This downward trend is expected to accelerate over the next few months, reflecting normal seasonal activity. Northern Ireland BVD eradication programme: The compulsory phase of a Northern Ireland BVD eradication programme began on 1st March 2016 under The Bovine Viral Diarrhoea Eradication Scheme Order (NI) 2016. The programme is based on testing ear punch samples collected using tissue sample-enabled official identity or management tags for BVD virus. The latest herd level information is as follows: • Total number of participating herds (01/08/2022) - 22,085 • Retained (for 4 weeks) BVD Positive animals currently alive in total cattle population (01/08/2022) - 72 (0.004%) • Herd level prevalence (herds with initial positive or inconclusive results in previous 12 months, to 31/07/2022) - 4.24%	

Dairy, Beef, Calves and Sheep Targets			
Measurement Metric	**Target**	**2021**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
		The Northern Ireland industry continues to push for additional legislative measures to assist with eradication of BVD given the significant progress that has been made to date. In Wales an RDP funded BVD eradication programme was launched in 2017. This voluntary scheme involves BVD screening at the same time as TB testing to provide the necessary support and guidance to ensure farmers can correctly and quickly identify herds infected with BVD. Funding support is made available through the farm vet to search for persistently infected (PI) animals in infected herds. This scheme is due to end soon as the EU RDP programme ends. An industry consultation on future direction of policy and next steps programme was conducted during the summer of 2022 with a report on the outcome currently awaited. At the end of the fourth year of the programme in March 2022, over 83.3% of the 11,000 herds in Wales had been screened.	

Beef, Dairy and Calves Sectors Indicators of Progress

Dairy, Beef and Calves Indicators of Progress		2020	2021	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Antibiotic use (centralised data)	**15% mg/kg fall in dairy herds by 2024; baseline 2020/21**	Data unavailable	Data pending	✔
	25% mg/kg fall in calf rearing units by 2024; baseline 2020/21	Data unavailable	Data pending	✔
Number of calves treated	**7.5 fewer treated/100 calves by 2024; baseline 2020/21**	Data unavailable	Data pending	✔
Sales of lactating cow tubes in dairy	**Annual reduction in 3-yr rolling average; baseline of 0.69 DCDVet**	0.63 (2018-2020)	0.51 (2019-2021)*	✔✔✔
Sales of dry cow tubes in dairy	**Annual reduction in 3-yr rolling average; baseline of 0.59 DCDVet**	0.57 (2018-2020)	0.54 (2019-2021)	✔✔✔
Highest priority antibiotic use (from centralised data)	**Reduction in dairy mg/kg by 2024; baseline 2020/2021**	Data unavailable	Data pending	✔
	Establish baseline for calves from 2020/2021 data, then review	Data unavailable	Data pending	✔

*Note that there were availability problems with lactating cow intramammary products in 2021, which may have affected product choice. Additionally, if the available products were considered clinically unsuitable by the veterinary surgeon, alternative products authorised outside the UK can be imported on a case-by-case basis under the Special Import Scheme. These products are not captured in the antibiotic sales data.

Dairy, Beef and Calves Indicators of Progress		2020	2021	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Highest priority antibiotic sales	**Reduction in cattle injectables by 2024; baseline 0.26 mg/kg**	0.29 mg/kg	Injectable HP-CIA products licenced for cattle were 0.24mg/kg in 2021, representing an 18% reduction since 2020 (0.29mg/kg). There has been an 0.86 mg/kg (-78%) decrease since 2014.	✔✔✔
	Reduction in tubes for dairy cows by 2024; baseline 0.03 DCDVet	0.07 mg/kg	Intramammary HP-CIA products in 2021 were 0.02mg/kg which is lowest they have been and represents a 96% reduction since 2014.	✔✔✔
Mortality rates	**Mortality falls in beef & dairy cows; baseline 2020**	Data unavailable	Pending BCMS data	✔
	Calf mortality falls 1%/year 2020-2024; baseline 2018	Data unavailable	Pending BCMS data	✔

Dairy, Beef and Calves Indicators of Progress		2020	2021	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Health and welfare metrics	**Fall in dairy lameness and mastitis from various 2019 indicators**	As part of a wider project monitoring clinical and subclinical mastitis, data were collated from 79 'Sentinel' herds across the UK. This work was carried out by QMMS Ltd and the University of Nottingham, funded by AHDB Dairy under the Dairy Research Partnership. Between 2012 and 2020 there was a 32% reduction in mean clinical mastitis rate from 44.1 to 30.2 cases per 100 cows per year. Clearly, this reduction in clinical cases is likely to result in reduced use of antimicrobial therapy. At the same time, the mean weighted bulk milk somatic cell count dropped from 186,000 to 159,000 cells/ ml, suggesting a lower prevalence of infection and therefore improved mastitis control. One major change in prescribing habits over the past 10 years is the widespread introduction of selective dry cow therapy i.e. withholding antimicrobial treatment in uninfected cows. It is encouraging that this has not led to an increase in new infections over the dry period, as measured by a 40% reduction in clinical cases of dry period origin (mean 1.07→0.64 cows in 12), and a 14% reduction in new cell count infections over the dry period (mean 18.0→15.5%).	The AHDB Sentinel Herds Project involves collating data from 92 sentinel farms to monitor trends in mastitis over time at a national level. This work began in 2017 and was carried out by QMMS Ltd and the University of Nottingham, funded by AHDB Dairy under the Dairy Research Partnership. Between 2020 and 2021, there was a significant reduction ($p<0.001$) in mean clinical mastitis rate from 29.9 to 24.9 cases per 100 cows per year. Clearly, this reduction in clinical cases is likely to result in reduced use of antimicrobial therapy. One major change in prescribing habits over the past 10 years is the widespread introduction of selective dry cow therapy i.e., withholding antimicrobial treatment in uninfected cows. It is encouraging that this has not led to an increase in new infections over the dry period. Between 2020 - 2021, there was a significant reduction ($p<0.01$) of 15.9% in rate of clinical cases of dry period origin.	

Dairy, Beef and Calves Indicators of Progress		2020	2021	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
			In 2021, in the third year of the AHDB Herd Advance project, farmers enrolled onto the AHDB Dairy Mastitis Control Plan found there to be a significant reduction in median clinical mastitis incidence rate from 23.5 to 20.5 cases per 100 cows per year. Similarly, farmers on the Herd Advance project who subscribed to either the full AHDB Healthy Feet Programme or mobility scoring only, reported a significant reduction in the median lameness incidence rate from 20 to 18 cases per 100 cows per year. Greater improvement was achieved on farms participating in the Healthy Feet Programme (median change from 25 to 18) compared with that which mobility scored only (median change from 19 to 18).	
	Fall in beef respiratory disease from various 2019 indicators	Data currently unavailable.	Data currently unavailable.	

Sheep Sector

Overview

Two years into the new TTF2 Targets and there continue to be many positive developments to report back on.

Following the considerable reduction in use of oral antibiotic for neonatal lambs reported in the last RUMA TTF report, all authorised products were removed from the market for the 2022 lambing season which means that using the same metrics as previous years, usage would now be zero. The Sheep Veterinary Society (SVS) and Sheep Antibiotic Guardian Group (SAGG) engaged with many veterinary practices and issued clear guidance to vets in both November 2021 and February 2022 to ensure that appropriate prescribing took place.

The AHDB vaccine report showed an increase in the uptake of a number of sheep vaccines - an encouraging statistic considering the emphasis that has been given to Plan, Prevent, Protect - the mantra of Farm Vet Champions (FVC).

The sheep industry has also continued its support of Medicine Hub (MH) developed by AHDB, and encouraging sheep farmers and vets to input data. Talking about the importance of MH, Fiona Lovatt, Chair of the Sheep Antibiotic Guardian Group (SAGG), says: *"Medicine Hub is our first big chance to collate data, build that all important national picture and provide the evidence to underpin our claims of being a low-using, responsible use industry. It's what the sector has needed, and the key now is for sheep farmers to work closely with their vets to populate it and help provide the evidence. This will help the sector no end; with evidence we can then challenge confidently, hold our heads high, and reassure all our stakeholders right across the farm to fork chain."*

The sheep sector has also taken part in a collaborative awareness campaign with RUMA to not only raise the profile of the work of the sheep sector on its responsible use activities, but also to highlight the importance and positive impact of tools and initiatives such as FVC and MH.

Sheep Sector Progress Against Targets

Sheep Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Calculation, benchmarking, and central upload of data	**Data from 8,000 (10% of total) UK sheep flocks captured by 2024**	The sheep industry has continued its support of MH and encouraging sheep farmers and vets to input data. The number of 2021 year-end datasets uploaded to MH for the sheep sector is 598. The Welsh Lamb & Beef Producers (WLBP) AMU Calculator, funded through the Arwain DGC project, went live in 2021 with early adopter vet practices being able to calculate anitibotic usage on farms. From July 2022 members of the Farm Assured Welsh Livestock (FAWL) scheme are required to have their antibiotic usage calculated on the platform. This process takes place during the annual health and welfare review with the vet. WLBP is working with the lamb supply chain to measure usage on sheep farms. To date 1040 sheep farms have completed their antibiotic usage on the platform.	✔
Farm Vet Champions (FVCs) network	**2,800 FVCs in 900 veterinary practices across UK by 2024**	There are 756 FVC users (this represents 58% of the FVC target of 20 people joining per week since the launch in 2021). Based on the figure of 3315 of total vets that see farm animal species, this represents 23% of the farm animal veterinary community in the UK. There are a total of 25 SMART Goals set by individuals and teams and 16 teams.	✔
Training uptake among vets	**Specify appropriate training within Farm Vet Champion plan**	FVC Sheep Training: 130 enrolled users. FVC presentations have been delivered at the Sheep Veterinary Society conference and SVS CPD events as well as at Northern Ireland events and corporate group farm conferences.	✔

Sheep Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Medicines best practice training uptake among farmers	**Training becomes requirement in Beef/Lamb farm assurance**	• Quality Meat Scotland (QMS) now have a recommendation that 'at least one member of staff responsible for administering medicines has undertaken training in the administration and handling of medicines' • Red Tractor (RT): There are over 12,000 lamb members in England. Medicines training across lamb members is at 66.4% compliance. The previous standard recommendation was upgraded to a requirement in November 2021 which now means it is a requirement for at least one person who is responsible for administering medicines to have undertaken training and hold a certificate of competence/attendance of training • On NOAH's Animal Medicines Best Practice (AMBP) training 141 courses were completed in 2021 • In Northern Ireland it is mandatory for members of the Northern Ireland Beef and Lamb Farm Quality Assurance Scheme (NIBL FQAS) to attend training on the Responsible Use of Antimicrobials on beef and sheep farms. As of September 2022 over 10,000 of the 11,700 members have been trained	✓✓

Sheep Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
	All vet school and agriculture college/university courses include medicines best practice content by 2024	Veterinary students have been invited to access the FVC learning platform and completion of the full CPD can count to completing required EMS (extra-mural-studies). There was a FVC presentation at the FAVS (Farm Association of Veterinary Student) conference and a couple of online meetings promoting FVC to veterinary student teaching staff. Medicines best practice content is incorporated into courses at Northern Ireland's College of Agriculture, Food and Rural Enterprise. Veterinary schools all cover responsible use of antibiotics in the clinical rotation teaching, and the teaching and promotion of best practice is embedded across didactic and clinical teaching. Underpinning knowledge taught in the schools ensures that veterinary professionals have the scientific understanding that equips them to deal with the challenges of the future.	✔
	Increased health planning on sheep farms tracked through FVCs and other initiatives	• There is the capability within the FVC SMART Goals tool for vets to specify whether their SMART goals are related to animal health & welfare, specifically within the Plan Prevent Protect framework • Health Planning: Some changes were made for the November 2021 revision, which required the vet to sign, date and review the plan annually. In previous versions there was no requirement for the vet to have oversight. The compliance level for this standard is 76.4%, with the majority of nonconformances relating to the plan not being signed by the vet or missing elements rather than members not having a plan • Sheep Veterinary Society (SVS), Flock Health Club CPD has been run at three locations around England in September 2022 (66 delegates) emphasising the importance of encouraging sheep vet-farmer engagement, with a focus on health planning, responsible medicine use and specific promotion of FVC and the need for data entry to MH. Further content continues to be featured at SVS conferences	✔

Sheep Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
	Increased health planning tracked through Arwain initiative	The Arwain Vet Cymru project was successfully completed in 2021. The Arwain network of 51 Veterinary Prescribing Champions (VPC) are now supported at Aberystwyth University via a follow-on project, Arwain DGC (Defnydd Gwrthficrobaidd Cyfrifol) "Responsible Antimicrobial Use" (2021- 2023). The Arwain network to date, represents at least one trained VPC from close to 90% of veterinary practices working with farm animals in Wales. Each VPC has developed and delivered a bespoke stewardship action plan for their practice, representing ca. 100 prescribing and stewardship interventions across Wales. VPCs have collectively co-created policy recommendations which include improving prescribing regulation, supporting vet-farmer relationships and promoting preventive medicine. Two working groups established within the VPC network have developed a series of Clinical Treatment Guidelines for several key diseases of cattle (neonatal enteritis, SDCT, pneumonia) and sheep (lameness, watery mouth, joint ill), alongside an overarching voluntary Code of Conduct for prescribing within Welsh veterinary practice. These will be reviewed in stakeholder consultation in early 2023, before launching nationally to the profession in summer 2023.	✔

Sheep Sector Indicators of Progress

Sheep indicators of progress		2020	2021	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Oral antibiotic sales for lambs	**Annual reduction of 10% in doses/ year; baseline 7.45 million**	• 21.5% reduction from 7.45 million doses in the year from Sept 19 to Aug 20 to 5.85 million doses in the year from Sept 20 to Aug 21 • 47.9% reduction over last 5 years	No longer an applicable metric. Following the considerable reduction in use of oral antibiotic for neonatal lambs reported in the last TTF report, all authorised products were removed from the market for the 2022 lambing season which means that using the same metrics as previous years, usage would now be zero.	✔✔
Highest priority antibiotic use (from centralised data)	**Ensure does not rise in sheep above 0.05% of total sheep use**	Use remains very low and there is no evidence that it has increased.	Use remains very low and there is no evidence that it has increased. Exact figures pending.	
Mortality rates	**Increase in lamb survivability from various indicators**	Completion of levy board Neonatal Survival Project – planned vet CPD courses. Survivability data and trends not currently available.	Survivability data and trends not currently available. The Neonatal Survival Project (a collaborative project funded by the joint levy boards of England, Scotland and Wales) culminated in vet CPD sessions in January 2021 with 41 attendees over three events, and very positive feedback.	

Sheep indicators of progress		2020	2021	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Health and welfare metrics	**Increased annual uptake of vaccines in sheep, baseline 2019**	Analysis of vaccine use in sheep and cattle for 2020 was completed and was published on the AHDB website as webpages - http://www.ahdb.org.uk/vaccineuse. Penetration of EAE vaccine increased from 43% in 2019 to 50% in 2020 and penetration of Footrot vaccine increased from 14% in 2019 to 16% in 2020.	Analysis of UK vaccine use in sheep for 2021 has been completed and is published on the AHDB website. For the sheep vaccines monitored, the total number of doses sold increased by 12.6% between 2011 and 2021. Penetration of clostridial disease vaccines increased from 57.0% in 2020 to 62.8% in 2021, with a 10.2% increase in doses sold observed within this period. Similarly, penetration of Footrot vaccinations increased from 15.6% in 2020 to 19.4% in 2021. Penetration of EAE vaccines only increased by 0.7% between 2020 and 2021 and penetration of Toxoplasma vaccinations remained at 30.7% between 2020 and 2021.	✔
			NOAH has launched a Livestock Vaccination Guideline (for dairy, beef, and sheep sectors), providing support to vets, SQPs and farmers, to help improve the health and welfare of UK sheep and cattle and support farm resilience and sustainable improvements in productivity.	

Pig Sector

Overview

The issues the pig sector faced in 2020 worsened further in 2021; ongoing labour shortages in the processing sector cascaded through the supply chain following the UK's exit from the European Union, and in excess of 200,000 pigs were backlogged on farm. Slaughter weights increased to an average of over 95kg, a metric used as an indicator of the backlog.

This resulted in enormous pressure on many farms, although the scale of impacts was varied. Even on those farms most badly affected however, animal welfare remained a priority. Significant effort was needed to ensure pigs remained healthy without relying on antibiotics, which should be highly commended amidst the sector challenges. The vet-farmer relationship played a key role in this achievement, and its success is evident from the eMB data published by AHDB for 2021 which shows that antibiotic usage for the pig sector was 87mg/PCU in 2021, a decline of 17% on the previous year; this equates to an overall reduction of 69% since 2015 (eMB developed by AHDB).

Use of the Highest Priority Critically Important Antibiotics (HP-CIAs) remained very low at 0.03mg/PCU (a reduction from 0.05mg/PCU in 2020), with zero use of colistin.

Aminoglycoside use increased marginally to 8.06mg/PCU in 2021, up from 7.89mg/PCU in 2020, a trend noted in the 2020 data.

The Pig Health and Welfare Council (PHWC) continue to scrutinise all data. It is to be expected that certain categories of antibiotics will show increases in some years as disease patterns vary. This is responsible use. By monitoring these changes, focus can be applied to disease areas where any increases cause concern.

The pandemic put a halt to the Pig Health Scheme (PHS) and it remained on hold throughout 2021. Switching the scheme back on has not been easy as many of those trained to carry out the assessments had moved on leaving a resource gap. AHDB has worked hard in 2022 to recruit and train assessors.

The policy on zinc oxide shifted when the Veterinary Medicines Directorate (VMD) decided to permit the use of zinc oxide products that are Qualified Person (QP) released and in the supply chain before 26 June 2022 until the end of their shelf life, despite the withdrawal of the Marketing Authorisation (MA). This is in accordance with established practice when MAs expire, and a product is no longer being placed on the market. It is believed there is around a 12 month supply of zinc oxide product available which allows for a reasonable window to use up product already in the system and gives time for the exploration of alternative weaning strategies and management where zinc products are currently being used.

In summary, producers haven't faced such challenging times since the late nineties, but pig producers and their vets have risen to the challenge and even in times of adversity, continue to put the welfare of pigs first.

Pig Sector Progress Against Targets

Pig Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Persistently High Users (PHUs)	**Introduce a programme in 2021 supporting PHUs to reduce use**	Red Tractor (RT) implemented a new requirement in its Pigs Standards in November 2021 for persistently high users (PHUs) of antibiotics (as defined by PHWC) to develop and implement an Antibiotic Reduction Plan, in conjunction with their designated vet. PHUs are identified within the eMB system. RT covers about 95% of pigs produced in the UK. AHDB continues to notify producers in the upper 5-10% usage range that they are close to being identified as a PHU as an early warning system. Quality Meat Scotland (QMS) review their standards in 2022.	✔✔✔
Pig Health metrics	**Monitor effects of reduced antibiotic use annually**	The PHWC Pig Health subgroup, meet regularly to discuss pig health and makes use of any available data to inform the discussion and establish whether relevant activity is required. Discussions between the subgroups of PHWC are frequent at the PHWC Council meetings. The PHS remained on hold for all of 2021. Switching the scheme back on has not been straightforward due to resource challenges. AHDB has worked hard in 2022 to recruit and train assessors.	✔✔
Plan for weaner management	**Identify/ launch best-practice weaner management before 2022**	The situation with regard to zinc oxide shifted with the VMD decision to permit the use of zinc oxide products that are Qualified Person (QP) released, and therefore in the supply chain before 26 June 2022 until the end of their shelf life, despite the withdrawal of the Marketing Authorisation (MA). AHDB is undertaking a Rapid Evidence Assessment which will help inform the communications on best-practice weaner management. It will also importantly highlight the gaps in understanding which may need to be addressed.	✔

Pig Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Shift from in-feed medication	**Ensure Government post-Brexit plans support switch to in-water**	This data is collected by the VMD and published in the VARSS report annually. Whilst in-feed medication remains more common, use continues to decrease and in 2021 accounted for 59% of annual use (down from 61% in 2020). In-water antibiotics now account for 37% of active ingredient used, compared with 34% in 2020.	✔✔✔
e-Medicine Book (eMB) data	**Maintain/ increase on-time submission of data to eMB annually**	Timely submission of eMB data continues to be good with 86% on time. AHDB and other stakeholder groups continue to remind producers ahead of the submission dates for antibiotic usage data.	✔✔✔
Medicines training uptake	**Review gaps and increase opportunities for uptake, baseline 2020**	RT brought in a standard in November 2021 which requires at least one team member on each unit to have undertaken approved training in the responsible use of medicines. This went live with version five of the Pig Standards, and compliance was high with 91% of RT pig farms meeting the standard at audit before the end of July 2022 and for those that did not comply, this was rectified within 28 days. RT has approved 21 pig-specific responsible use of medicines courses. The approval process involves a check of the course provider's training material to ensure it meets all the learning objectives. Producers are also able to access courses approved by Red Tractor for the ruminant standards. 30 people completed NOAH's Animal Medicines Best Practice (AMBP) training 'Antibiotics in Pigs' course in 2021.	✔✔✔

Pig Indicators of Progress

Pig Indicators of Progress		2020	2021	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Antibiotic use (from eMB)	**30% reduction in total use by 2024, baseline 2020**	Antibiotic usage was 105 mg/PCU in 2020.	The 2021 eMB data was published in June 2022. Antibiotic usage was 87mg/PCU in 2021. Antibiotic usage in the pig sector has reduced by 17% from the 2020 baseline. This equates to an overall reduction of 69% since 2015.	✔✔
Highest priority antibiotic use (from eMB)	**Use equal to or lower than 2019 baselines**	HP-CIA use was 0.05 mg/PCU in 2020. No colistin use was reported in pigs 2020.	The 2021 eMB data showed usage of HP-CIAs was 0.03mg/PCU in 2021 - a slight decrease from recorded use in 2020 (0.05mg/PCU). No Colistin use was reported in pigs in 2021.	✔✔
Antimicrobial resistance surveillance	**Monitor current data; aim for reduction on 2020 baselines**	Antibiotic resistance continues to be monitored by the VMD and reported annually in the VARSS report. PHWC works with the VMD if concerns arise from this to ensure any action is based on evidence. The harmonised monitoring of antibiotic resistance carried out by the VMD continues biennially and they will report on 2021 data in 2023. Clinical surveillance continues and helps the PHWC to identify emerging issues, although the group is mindful that it is not representative data.		✔✔

Salmon Sector

Overview

In 2021, the Scottish salmon farming sector maintained its focus on the responsible use of antibiotics, balancing the need to protect fish health and welfare with a global aim to reduce use.

The sector successfully achieved all of its targets, with activity against the targets, data collation and overall antibiotic stewardship driven forward through the Salmon Scotland Prescribing Vets (SSPV) group.

Where Indicators of Progress are concerned, 2021 saw an increase in antibiotic use compared to previous years. However, when considering the percentage of farms treated, during both the freshwater and marine phases of production, it is clear that antibiotic treatments are restricted to a relatively small number of farms (8.5% and 4.9% of freshwater and marine farms, respectively). All antibiotic use on these farms was under veterinary care. As previously reported, overall use is skewed by a relatively small number of treatments during the marine phase, where larger fish require proportionately higher volumes of antibiotic to ensure safe and effective treatment. When comparing use between years, it is evident that overall increases in antibiotic use over time can be the result of only small increases in the actual number of farms treated.

Environmental impacts:

Salmon are farmed in the wild lochs around Scotland and are sensitive to environmental changes such as those brought about by global climate change. Changes in the seasonal temperature profile, as well as in the quality and composition of the water, impact the development and physiology of salmon as well as many of the pathogens and organisms that can affect them, including jellyfish and other plankton.

In 2021, salmon farmers were rearing higher than usual biomasses of fish on farms across the sector, as a lasting impact of the COVID pandemic - a situation that was reported in 2020. The challenges surrounding farming in the wild, combined with globally relevant challenges, have placed pressure on fish health management and the control of sometimes complex fish health issues.

Salmon Sector Progress Against Targets

Salmon Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Highest priority antibiotic use	**Only prescribed as last resort after sensitivity testing**	No HP CIAs used in 2021	✔✔✔
Vaccination of Atlantic salmon	**All Atlantic salmon vaccinated before seawater phase**	100% of fish vaccinated against key bacterial and viral health challenges.	✔✔✔
Use of autogenous vaccines	**To be developed in absence of licensed vaccines**	Autogenous vaccines developed where appropriate.	✔✔✔
Prescribing Vets' group input	**Quarterly meetings, antibiotic stewardship a standard item**	Quarterly meetings of the Salmon Scotland Prescribing Vets group (SSPV) held alongside ad hoc meetings as required.	✔✔✔
Compliance with Code of Good Practice	**All producers compliant with Code of Good Practice**	100% of salmon produced to the standards of the Code of Good Practice.	✔✔✔
Collection/ collation of data	**100% collection and reporting of antibiotic use**	Data collated from all prescribing veterinary practices, covering 100% of the salmon farmed in Scotland.	✔✔✔

Salmon Sector Indicators of Progress

Salmon Indicators of Progress		Progress	2021	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Antibiotic use (from usage data)	**Aim for maximum 5 mg/kg annually**	2020 usage = 29.3mg/kg	2021 usage = 43.1 mg/kg The TTF Indicator of Progress is highly ambitious. Fish veterinarians will continue to focus on responsible use of antibiotics, balancing the health and welfare needs of the fish against an overall desire to reduce use and to meet this ambitious level.	✔
Metric for % fish treated	**Develop new metric to indicate the % of fish treated annually**	In 2020 the Prescribing Vets Group established a new metric that reports the percentage of active farms that were treated with antibiotic in 2020. This metric considers the freshwater and marine production phases separately. In 2020 6.9% of freshwater farms and 4.4% of marine farms were treated with antibiotics.	In 2021, 8.5% of freshwater farms and 4.9% of marine farms were treated with antibiotics. This demonstrates that use is restricted to a small number of farms, where antibiotics are responsibly prescribed in response to a specific health issue.	✔ ✔ ✔

Trout Sector

Overview

During 2020-2021, the trout industry has moved towards larger fish production. This means the total tonnage of standard table fish has decreased but total tonnage has increased based on fewer but larger fish. Through the production cycle this means that farms buy fewer fry to grow on, stocking densities are then lower, and as a result, fewer problems are seen.

Usage of antibacterials has fallen again and is well within the sector target. The trout industry is committed to decreasing usage; any use is completely curative. There is no prophylactic usage of antibacterials.

Trout Sector Progress Against Targets

Trout Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Stewardship of antibiotics	**No preventative use; no highest priority antibiotics used routinely; pathogen surveillance through 'bug bank' initiative**	Decreased usage continues but this can only go so far, as treatment cannot be withheld on welfare grounds. With support from Centre for Environment, Fisheries and Aquaculture Science (Cefas) and VMD the 'Bug Bank' project is now up and running.	✔✔
Vaccine uptake	**Vaccination in freshwater phase to be increased, baseline 2020**	Uptake of vaccines continues to be high, held back only by supply.	✔✔
Promotion of best practice	**All members compliant with quality standards**	The industry follows best practice. Table Trout production follows best practice by being audited to the Quality Trout UK Standard.	✔✔✔

Trout Sector Indicators of Progress

Trout Indicators of Progress		2020	2021	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Antibiotic use (from usage data)	**Maintain usage below 20 mg/kg**	13.9mg/kg	5.9mg/kg* *The industry has reduced usage again, but this may be the limit.	✔ ✔ ✔
Metric for % fish treated	**Develop a new metric to indicate the % of fish treated annually**	In progress		✔

mg/kg produced	2017	2018	2019	2020	2021	Change 2017-2021 (%)
Oxytetracycline	7.3	3.8	5.1	7.7	2.9	-61.1
Oxolinic acid	6.6	5.8	2.4	4.3	2.1	-67.6
Florfenicol	4.4	2.2	1.9	1.9	1.0	-78.5
Amoxicillin	0.9	1.2	0.2	0.0	0.0	-100.0
Grand Total	19.2	13.0	9.7	13.9	5.9	-69.1

Gamebird Sector

Overview

2021 saw a substantial recovery in the numbers of birds reared and released to approximately 90% pre-pandemic levels. When this is factored into overall antibiotic use, the sector is close to its target reduction level (despite a rise from 2020 when numbers were significantly reduced by the pandemic) and has achieved its target for HP-CIAs in two consecutive years (with the caveat of 2020 being affected by COVID-19).

Adverse weather at the crucial peak of the releasing season in mid-summer had an impact on antibiotic use, but not to a significant level.

British Game Assurance (BGA) independent assessors were finally able to get out to rearing farms and shoots to carry out complete audits (British Game Assurance British Game Assurance - Invest in the future of game) post the COVID-19 restrictions of 2020. However, due to Avian Influenza this was impacted again due to getting the auditors on to the farm for a bio-secure visit.

The Trusted Game health and welfare scheme (Trusted Game - Game bird health & welfare scheme) was piloted in 2021 and was well received. This is a simple audit-based scheme to ensure the health and welfare of gamebirds on shoots and game farms. Developed by vets working in partnership with their gamekeeper and game farming clients through 2021, and incorporating tried and tested systems from other industries, the scheme provides a route to achieving high standards through a simple auditing process linked to training and real-world solutions. This scheme will continue to be reviewed and made more widely available in 2022 and should have a positive impact on the sector's long-term aspirations to make sustainable reductions in antibiotic use through improved welfare standards.

Gamebird Sector Progress Against Targets

Gamebird Targets			
Measurement Metric	**Target**	**2021 status**	✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved
Discussion with vets	**Every rearer to calculate use and discuss with their vet**	This was highlighted in the sector's joint communication on antibiotics again this year and is part of Trusted Game, a new veterinary health and welfare scheme that was piloted in 2021.	✔ ✔
Improve husbandry	**Monitor uptake of new British Game Alliance Game Farm Audits**	Uptake of the British Game Assurance (BGA) audit had stalled because of a variety of challenges facing the sector - most notably COVID-19 impacts and getting the auditors on to the farm for a bio-secure visit due to Avian Influenza. However, this has been partially offset by the introduction of an alternative scheme (Trusted Game) developed by the veterinary sector which had a very successful pilot in 2021.	✔
Increase education	**Enhance existing learning tools**	The British Veterinary Poultry Association (BVPA) training modules introduced last year have been improved and have been well received by the sector in 2021 with good uptake. Two of the three modules were trialled - one for rearing and one for releasing. Each module contained disease identification and possible treatments along with husbandry ideas to prevent disease. Game vet practices trained hundreds of enthusiastic gamekeepers.	✔ ✔
Medicated feed stewardship	**Work with Game Feed Trade Association to steward sales**	Widespread engagement and communication with the Game-feed Trade Association and the AIC (Agricultural Industries Confederation) continues and has resulted in significant progress.	✔ ✔
Monitor welfare effects	**Ensure antibiotic reductions are safe and sustainable**	Discussions as to how this will be progressed have taken place but not yet actioned, mainly due to complications caused by COVID -19 during the rearing seasons of 2020 and 2021. However, a number of regional meetings are being planned for winter 2022 to engage new game farms to support this work.	✔
Research into damaging diseases	**Promote research into ways to reduce disease pressures**	After an interruption to two major research projects due to COVID-19 in 2020, both projects restarted last year and have progressed well through the 2021 and 2022 rearing season.	✔ ✔

Gamebird Sector Indicators of Progress

Gamebird Sector Indicators of Progress		2020	2021	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Antibiotic Use (from usage data)	**Reduce use by 40%, baseline 2019 of 10.4 tonnes**	2020 use: 6.0 tonnes (42% reduction from 2019 baseline)	2021 use: 9.0 tonnes in line with the 40% reduction by 2024. A 10%* reduction was made when compared to 2019. *excluding 2020 figures due to pandemic.	✔ ✔
Highest priority antibiotic use (from usage data)	**Reduce use by 19% to 47kg, baseline 2019 of 58 kg**	2020 use: 22Kg (63% reduction from 2019 baseline)	2021 showed a 48% reduction compared to base year of 2019.	✔ ✔ ✔

Laying Hens Sector

Overview

Like many sectors, 2021 remained an unusual year for the egg laying sector. After the COVID-19 lockdowns drove high demand for eggs (+30% in the spring and summer of 2020 which went up again later in the year with the further lockdown), 2021 saw a small reduction. During 2021 the UK national flock was 43 million hens.

Whilst the laying hen sector is a low user of antibiotics, 2021 has seen a further notable reduction in use. Antibiotic use data is collected by the British Egg Industry Council (BEIC), which represent the UK egg industry. The Lion Quality scheme currently accounts for over 90% of the UK egg industry (and includes layers, breeders and pullets). BEIC members submit antibiotic use data quarterly and this data is used to calculate total antibiotic use and also the 'daily dose/100 chicken days at risk' (e.g. percentage of bird days over which antibiotics have been used) in the majority of the national flock which is represented by BEIC.

Overall, the laying hens sector recorded a total of 2.46 tonnes of antibiotic active ingredient use in 2021. This represents a notable reduction in usage compared to 2020 (3.1 tonnes of antibiotic active use). 0.33 actual bird days treated /100 birds was recorded during 2021. This represents a further reduction on the reported values for 2020 which then stood at 0.47 actual bird days treated/100 birds.

Whilst Highly Pathogenic Avian Influenza (HPAI) affected the poultry sector from autumn 2020, carrying on through the winter and into spring of 2021, the laying hens sector was relatively unaffected until the autumn/winter of 2021. Mandatory housing of free-range flocks came into effect in December 2020 and was lifted at the end of March 2021. Mandatory housing then returned at the end of November 2021. The majority of laying hens in the UK are kept in free-range systems and given daily access to outside ranges.

However, despite the effects of HPAI and COVID-19, the significant drop in antibiotic use in laying hens owes much to heightened biosecurity practices in the sector and ongoing use of vaccines as part of preventative health programmes across the industry.

Laying Hens Sector Indicators of Progress

Laying Hens Sector Indicators of Progress				
Measurement Metric	**Indicator of Progress**	**2020**	**2021**	**✔ = in progress ✔ ✔ = well advanced ✔ ✔ ✔ = achieved**
Antibiotic use (usage data)	**Maintain bird days treated below 1%**	The antibiotic usage data from members of the BEIC Lion Scheme for 2021 continues to be below the %1 bird days.		✔ ✔ ✔
HP-CIA use (usage data)	**Fluoroquinolone days medicated remains below 0.05%**	No HP-CIAs were used for the fourth year in a row.		✔ ✔ ✔

Poultry Meat Sector

Overview

Britain's poultry producers faced a number of challenges during 2021 and into 2022, from an ongoing labour shortage to the worst case of bird flu ever seen and now, with the cost-of-living crisis, it is more important than ever for farmers and producers to put quality, nutritious food on every table. Despite the challenges, demand for safe, affordable and wholesome food prevails. There has been a further decrease in antibiotic usage in broiler chickens, now 13.66 mg/kg PCU, a further drop from 2020, and still well under the 25mg/PCU sector specific target.

There has been a rise in usage in turkeys following a disease challenge that required the most effective antibiotic following consultation with the vet. The treatment did not require the use of any critically important antibiotics. This resulted in an increase in the mg/kg PCU to 42.55 mg/kg PCU, but this is still under the 50 mg/kg PCU sector specific target.

This demonstrates the British Poultry Council's (BPC) Antibiotic Stewardship approach to treatment in real time and in response to specific disease challenges, but always striving to keep antibiotics effective and fit for purpose and only used when necessary. Use of the CIAs (Fluoroquinolones, Macrolides, Polymixins) are used only as a last resort and only after other treatments have been considered.

The BPC Antibiotic Stewardship continue their work to understand where further improvements can be made, including looking at alternative interventions and into the granular detail of reason for usage. The challenges poultry producers are up against are varied, and often extreme.

The sector is currently in the midst of the worst case of Highly Pathogenic Avian Influenza (HPAI) seen, not only in the UK, but across Europe, the effects of which are devastating to businesses. Combined with rising production costs, ongoing labour shortages and challenging EU-UK trade conditions, British poultry meat businesses are being pushed to capacity.

Nevertheless, ensuring responsible usage of antibiotics remains a priority for British poultry producers.

Poultry Meat Sector Indicators of Progress

Poultry Meat Indicators of Progress		2020	2021	✔ = in progress ✔✔ = well advanced ✔✔✔ = achieved
Antibiotic use (usage data)	**Use remains < 25mg/kg PCU in broiler production; reviewed 2021**	16.3 mg/kg PCU	13.66 mg/kg PCU	✔✔✔
	Use remains < 50mg/kg PCU in turkey production; reviewed 2021	25.7 mg/kg PCU	42.55mg/kg PCU	✔✔✔

Industry and sector initiatives

Overview of key industry and sector initiatives, tools and resources

There are many industry initiatives that have been developed in recent years which further demonstrate the industry's commitment to tackling AMR. Below is an overview of a number of these projects and in some cases, a selection of accompanying case studies and testimonials that highlight the initiatives, tools and resources in action.

All of these initiatives have been generated in the last ten years and clearly demonstrate the unity and collaboration that is embedded into the industry, in particular a commitment to data collection, training and best practice.

Medicine Hub (MH) developed by AHDB

MEDICINE+HUB
Powered by AHDB

About:

Medicine Hub (MH) is the industry-wide voluntary initiative gathering antibiotic use data from cattle and sheep enterprises in the UK. Developed and hosted by AHDB, Medicine Hub's creation has involved input from veterinary and farming organisations, milk processors, milk and meat buyers, retailers, the VMD, RUMA and the NFU. MH has been developed by the industry for the industry.

In practical terms, MH is an online tool to help dairy, beef and sheep producers monitor and compare medicine use and tackle the threat of antimicrobial resistance. MH provides a safe, secure and independent central repository to collate, report and compare antibiotic use at individual farm level. AHDB has played an important role developing the infrastructure for MH along with industry partners. MH will help prove the industry's credentials to the public, the supply chain and to competitors and customers around the world.

For more information visit: **https://medicinehub.ahdb.org.uk/**

Bryan and Liz Griffiths

Medicine Hub (MH) case study – a sheep farmer perspective

One user who has played a key role in using MH during both the test phase and now that it is live, is North Devon sheep farmer and former Chairman, now Vice President of the National Sheep Association (NSA), Bryan Griffiths and his wife Liz, who farm more than 300 acres near Burrington. Their flock comprises 850 Mule and Suffolk cross breeding sheep alongside 30 finishing cattle.

Bryan and Liz have always focused on conventional beef and lamb production, selling finished stock through live markets and direct to abattoirs. Their ongoing enthusiasm for a deeper understanding of livestock production has led to their involvement

in many tests, trials and research projects, including the earliest beginnings of faecal egg counting, commercial drug trials, benchmarking, the Sustainable Farming Initiative (SFI) pilot and supporting MH user testing. Bryan and Liz were involved in the trial of MH before its launch and provided valuable feedback to help ensure it was user friendly for vets and farmers.

Bryan says: "The UK sheep industry has found itself in a time of uncertainty recently with worries over future trade, changes to agricultural and environmental policy and when it comes to antibiotics, not being able to robustly evidence its claims of being a low user. That's why Medicine Hub is a much-needed tool for the sheep sector, and it is important that data is now uploaded, in volume, onto the system.

"Producers in the UK adhere to some of the most rigorous and robust production standards and work hard to achieve high levels of health and welfare as well as responsible antibiotic use. But until now, there has been no central resource for building a picture of antibiotic use at a national level."

Bryan, who has been involved with the NSA for over thirty years, continues: "Recording antibiotic use will prove the integrity of the responsible use we are claiming. The ruminant sector must be able to defend its own reputation with tangible facts. The average sheep farmer believes they are a responsible user, but just saying that isn't sufficient to defend ourselves and the wider industry. Medicine Hub is our opportunity to collect this evidence. We use it here on our farm and are proud that our data is helping to develop that all important national picture."

"The ongoing development of Medicine Hub will aid the defence of the livestock sector's reputation and help protect antibiotics for human use in the future." *- Bryan Griffiths*

Talking about the importance of the vet-farmer relationship when it comes to using MH, Liz says: "We have always had a close relationship with our vet and that really matters, because this isn't just about farmers working in isolation when it comes to using Medicine Hub.

"Farmers can work with their vet to input data onto Medicine Hub. Vets can help with supplying the numbers needed and can play a part in actually uploading data. For this year we have entered data onto Medicine Hub ourselves, but in the future as the system develops, we will give permission for our vet to upload our antibiotic data direct from dispensing records. It is hoped in the future the hub will be able to accept data from farmers, direct from vets, or farm software, at the press of a button subject to essential permissions."

Farmers retain full control over their data. They have to grant permission to their vet to upload data on their behalf. Only the farmer and their vet can access their account and the information it contains; beyond that, anything reported by Medicine Hub is aggregated and anonymised. It is always controlled by the farmer and will only be shared onwards if specific permission is given for that to happen.

Bryan adds: "We need to ensure the responsible use of antibiotics. This does not automatically mean using less but adhering to the principle of as little as possible but as much as is necessary – welfare standards should never be compromised.

"The ongoing development of Medicine Hub will aid the defence of the livestock sector's reputation and help protect antibiotics for human use in the future."

Further industry comment on the importance of using MH

"Recording data is crucial – you can't improve until you measure. As a practice, we strive to deliver solutions for our clients. We sit down and develop feeding and health plans with them and focus on preventative health management as a way to optimise health and performance, reducing the need for antibiotics. We have recorded specific antibiotic use since the practice was formed just over four years ago, knowing it is essential for us, our clients and the industry.

"As vets, we have sales data in our practice management software programmes so having the practice share this with Medicine Hub will be more accurate, streamlined and require minimal time from the farmer. The level and method of data collection on farm can be hugely variable with some using farm management software and others paper-based systems; another reason for practices to share data on clients' behalf."

- Jenny Hull, vet

"There are two areas which will benefit from gathering antibiotic use data – individual farm and the whole ruminant sector. At individual farm level, its hugely powerful for the vet to see evidence of what's going on, what is being used where, and why. Antibiotic use is a proxy for animal health on a farm however, it's the direction of travel that's important for overall animal health on a unit. Farmers farm for many, many different reasons but for all, it's important that the farm is regarded as their own business that they, ultimately, are responsible for. That said, it's important to frame their business as one part of a larger industry when it comes to the area of responsible antibiotic use. Collectively, everyone shares the efforts to ensure responsible use."

- Emily Gascoigne, vet

"The Veterinary Medicines Directorate has been collecting sales data relating on the veterinary medicines and feeding that information into a pan-European comparison report for some time. This has shown the UK to be leading the way across Europe in the responsible use of antibiotics. To truly understand which products are being used to treat specific animals at a farm level, and what opportunities exist to use products more responsibly, we need to monitor and measure useage data. Anecdotally, we know that the ruminant sectors are not high users of antibiotics, but we need more accurate data to defend the sector."

- Cat McLaughlin NFU

"It gives an opportunity to record and identify farm medicine use and then benchmark own use against other ruminant farms. Over time, as more farms contribute, it will build a report on antibiotic use for the UK ruminant sector, as already exists for the pig and poultry sectors."

- Paddy Gordon, Shepton Vets

"Knowing what is being used, what for, when and how is vital for ensuring animal health and welfare. Evidence that the sector is using antibiotics responsibly is key to trade, both nationally and internationally. The more farmers take part, the better the data will be, so set up an account now, or ask your vet to do so on your behalf."

- Mandy Nevel, AHDB

Farm Vet Champions (FVC)

About:

Farm Vet Champions, a major collaborative project that is spearheaded by RCVS Knowledge and funded by the VMD, aims to unite and empower UK farm animal veterinary practitioners to establish good antimicrobial stewardship in practices and on farms. A Farm Vet Champion (FVC) is a steward within their work setting for the responsible use of medicines; they champion better practice for the responsible use of medicines within their farm animal setting.

Farm Vet Champions have direct access to a free online learning platform containing a variety of modules relevant to their area of work, to establish a concerted approach towards good antimicrobial stewardship in practices and on farms. There are over 20 hours of free on-demand CPD. These materials are invaluable to all farm-associated veterinary professionals as well as their wider practice teams. Farm Vet Champions can be accessed on the RCVS Knowledge Learn platform. The learning modules cover:

- technical species-specific modules
- vet-farmer communication skills and behaviour change principles
- the legal use of veterinary medicines, policies, and One Health aspects of antibiotic prescribing and stewardship

Once signed up to Farm Vet Champions, users can start setting and tracking your own SMART goals via the SMART goal dashboard. This free, online tool is designed to help you formulate personal and team goals that are Specific, Measurable, Achievable, Realistic and Time-bound, with a focus and priority to Plan, Prevent and Protect our herds and flocks from disease threats. Farm Vet Champions aims to improve responsible use of antimicrobials and safeguard their availability.

To find out more go to **www.rcvsknowledge.org/fvc**

Farm Vet Champions - case study

Fiona Lovatt, the Clinical Lead for Farm Vet Champions at RCVS Knowledge says: "For grass-root progress in good antimicrobial stewardship in the ruminant sectors to be made, it is necessary to empower the gatekeepers of antimicrobial prescribing, namely farm veterinary practitioners and their wider practice teams. This re-focus at the point of general practitioner-farmer interaction led RCVS Knowledge to spearhead the development of the innovative and widely collaborative Farm Vet Champions (FVC) initiative. The community continues to grow since its launch in May 2021 and the online learning platform and SMART Goals tool are an excellent resource to support veterinary teams in responsible antimicrobial stewardship. The principles of this initiative are to plan ahead to know the risks and disease threats, to prevent these threats by reviewing animal management and husbandry, and to protect patients and the wider population. Importantly, this is about thinking more laterally than simply applying treatments, it is fundamentally about a holistic approach that focuses on good health rather than treating disease."

"Farm Vet Champions drives better practice for the responsible use of medicines within a farm animal setting and the online modules and learning are easy to access and use."
- Stephanie Winslow

Stephanie Winslow

Vet Stephanie Winslow from Northern Ireland is a Farm Vet Champion. During the 2022 lambing season, one of her farm clients had a strong desire to reduce oral antibiotic use on farm. Together they formulated a strategic approach to reduce Escherichia coli infections causing Endotoxaemia 'watery mouth disease', Colisepticaemia or localised enteritis in neonatal lambs.

Stephanie says: "Plan, prevent, protect was the foundation of the strategy. Pre-lambing body condition scoring, nutritional analysis, and metabolic profiling guided the changes in dietary provision and housing management essential for success. A subset of ewe colostrum was tested using a Brix refractometer indicating good colostrum quality and nutritional adequacy.

"Appropriate pre-lambing transition, hygiene plans, monitoring colostrum quality, quantity and timing, environmental factors, udder and feeding hygiene all ensured a successful transition away from the need for any oral antibiotics."

The results were incredibly positive, says Stephanie who is working with other sheep farmers in the same way: "No lambs died from scour or watery mouth this year."

Talking about the benefits of the FVC initiative, Stephanie says: "Farm Vet Champions drives better practice for the responsible use of medicines within a farm animal setting and the online modules and learning are easy to access and use. It's also really flexible - I didn't complete it all at once but worked it around my schedule; that's the joy of online support like this, you can come back to it when it's convenient.

"I believe this is an important industry initiative and I would encourage others to register and take advantage of the free training.

"Making any changes on farm can be daunting but this case just goes to show what can be achieved with the right planning and support in place, and vets and farmers working closely together."

Arwain DGC

About:

Arwain DGC (Responsible Antimicrobial Use) is at the forefront of the drive to prevent the spread of antimicrobial resistance (AMR) in animals and the environment in Wales. The project aims to reduce the need to use antimicrobials such as antibiotics by improving productivity, animal health and welfare through new and innovative technology and 'good practice'.

- Support Vets to set high standards of antimicrobial prescribing
- Establish a code of conduct and guidelines for antimicrobial prescribing across Welsh farm practices
- Use novel technology to explore biosecurity and precision agriculture solutions to reduce overall disease burden and the need for antimicrobials in farm animals
- Collate and analyse a large dataset of antimicrobial use (from 4500 farms) to enable better understanding of antimicrobial use on livestock units in Wales.
- Investigate and build an understanding of AMR on Welsh dairy, beef and sheep farms through environmental sampling on farms
- Provide factual information on antimicrobial stewardship to vets, farmers and equine owners
- Collect syndromic surveillance data and pilot a system for vets and farmers to use active surveillance programme
- Support the equine industry to understand and reduce the need for antibiotic use.

The project brings together five organisations to deliver a programme addressing antimicrobial resistance (AMR) in animals and the environment. They include;

- **Menter a Busnes** – lead partner in the project and also representing vets in North Wales. MaB will also be working with i) farmers to investigate how technology can be used to reduce the need for antimicrobials; and ii) equine owners and vets to reduce the need for antibiotics in horses.
- **Iechyd Da** – representing vets in south Wales and leading on developing a biosecurity app
- **Welsh Lamb and Beef Producers** – supporting Welsh farmers to maintain and raise standards on farm
- **Aberystwyth University** – leading on training and supporting the Veterinary Prescribing Champions network, establishing a veterinary Code of Conduct and clinical guidelines on antimicrobial prescribing and exploring patterns of AMU in the equine industry
- **Bristol University** – leading on minimising the spread of AMR through the environment

For more information visit **Home - Arwain DGC - Responsible Antimicrobial Use (menterabusnes.cymru)**

Electronic medicine book for pigs (eMB-Pigs) developed by AHDB

The electronic Medicine Book for Pigs is a UK-wide service for the collection of data on antibiotic usage in the pig sector and, optionally, the full legal medicine book for a pig holding.

Electronic medicine book for pigs (eMB-Pigs) | AHDB

Welsh Lamb and Beef Producer's (WLBP) AMU Calculator

About:

Members of WLBP's Farm Assured Welsh Livestock Scheme (FAWL) need to undertake annual livestock and welfare reviews with their vets. Part of the review includes analyses of medicine data with vets, who offer advice on reducing the need to use antibiotics. A partner in Arwain DGC, WLBP is helping to improve data collection and analysis by using their bespoke Antimicrobial Usage (AMU) calculator. The AMU calculator supports farmers and vets to easily collect antibiotic data to improve productivity and welfare and reduce the use of antibiotics on sheep, beef and dairy farms in Wales.

For more information visit **https://www.wlbp.co.uk/**

Sheep sector case study: How the WLBP's AMU calculator is having a positive impact on reductions in antibiotic use

AMU Calculator

Gwynedd farmer Alun Wyn Evans has been working with his vet to record and reduce antibiotic use on his farm in Tywyn, where he runs an early lambing Dorset and Suffolk x flock alongside a suckler herd. After completing the farm's animal health and welfare review, Mr Evans has focused on hygiene at lambing and ensuring the individual pens are cleaned and disinfected between each ewe, and that the quality of the colostrum is as good as possible. Also, body condition scoring of the ewes is done regularly and ensures that the optimum body condition of between 3 – 3.5 is achieved at lambing.

As a result of these changes, Mr Evans had the confidence to stop using an oral antibiotic treatment as a preventative measure in controlling watery mouth in newborn lambs.

Mr Evans said, "When I completed my annual health and welfare review with my vet, she was able to provide me with a figure for the use of antibiotics on my farm when using the WLBP AMU calculator. This was very interesting and allowed me to understand and compare my antibiotic usage against the industry target for sheep and cattle.

"The process was seamless and did not involve me having to do any additional work – just discussing and reviewing the past year with my vet, which is always a benefit to plan forward on how to keep disease issues out of our farm and reduce the need to use antibiotics as much as we can on the farm at the same time."

Mr Evans' Vet, Claire Jones, from Dolgellau Vets, has been using the AMU calculator while working with clients to reduce antibiotic use on their farms. She said: "Farmers need to be aware of the antibiotics they are using and why, and more importantly, is there a way to avoid the need to use antibiotics through different management or by vaccine to prevent whatever health issue has occurred."

Claire says it is important that clients understand what they are using and how long for, making sure that any animal that needs antibiotic treatment is getting the correct dose.

She adds: “We are extremely pleased that we are able to take advantage of WLBP’s AMU calculator. Having the ability to measure the use of antibiotics on our clients’ farms in a standardised way, which has been agreed by the industry, puts us in an unrivalled position in being able to demonstrate responsible use and improving the health and welfare of our farm clients. Not only will this benefit us and our farm clients, but also the Welsh farming industry by being able to evidence responsible use of antibiotics in a sustainable way.”

WLBP General Manager, Iestyn Tudur-Jones, said: “We believe that farmers are using antibiotics responsibly, but we need the evidence to prove it. This process, based on vets and farmers working together, starts to take us far down that road. Being proactive in collecting this data demonstrates to government and consumers that livestock produced on farms in Wales are done so to the highest standards.”

When calculating AMU, a range of information is gathered, including the type of antibiotic, the amount bought and administered, along with the animal’s species, age, and sex. The AMU calculator collects the data from the veterinary practice, BCMS and WLBP records and presents them in a clear, standardised format.

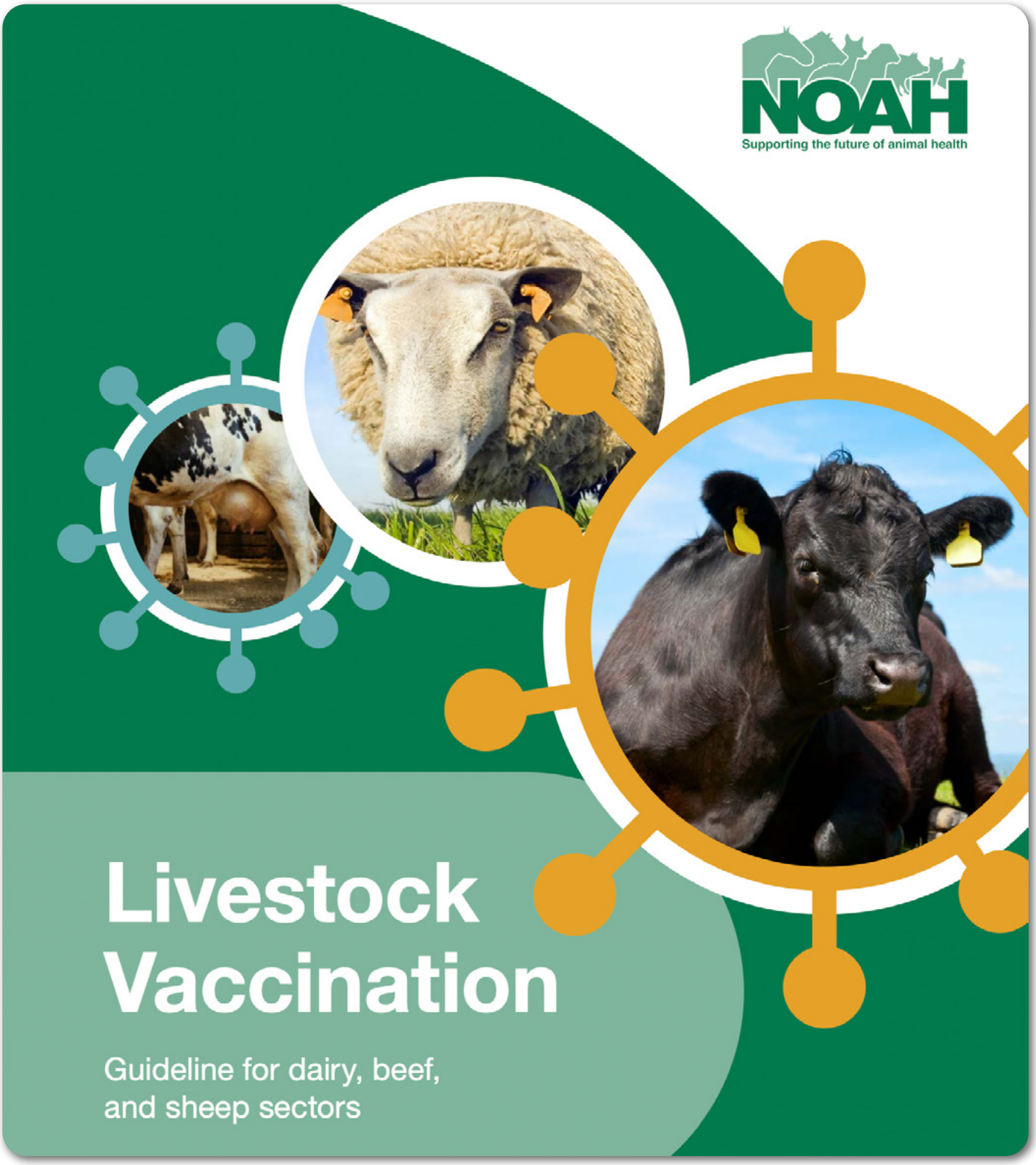
Over time, it’s planned that the AMU data of up to 7,000 WLBP members will be used to produce accurate, and individual, usage reports. Also, collectively, the data can be used to identify key diseases that could be treated earlier and ideally without antibiotics.

“The WLPB AMU calculator is a brilliant example of one of the many industry initiatives helping farmers capture and standardise their data and get some value from it.” - *Chris Lloyd, RUMA*

Chris Lloyd, RUMA Secretary General, says: “The WLPB AMU calculator is a brilliant example of one of the many industry initiatives helping farmers capture and standardise their data and get some value from it. Hearing Mr Evans’ story further reinforces the positive impact that such tools are having and the ease of the process – it can be done as part of the annual health and welfare review, with no additional record keeping needed and enhances discussions between the vet and farmer. Moving forward it is about exploring ways to use such initiatives to help build up the national picture of antibiotic use for the sheep industry.”

NOAH Livestock Vaccination Guideline

NOAH has launched a Livestock Vaccination Guideline (for dairy, beef, and sheep sectors), providing support to vets, SQPs and farmers, to help improve the health and welfare of UK sheep and cattle and support farm resilience and sustainable improvements in productivity.



Appendices

The RUMA Targets Task Force 2:

Chair of the RUMA TTF - Cat McLaughlin

Beef	**Mark Jelly** – Beef Farmer **Elizabeth Berry** – Vet
Dairy	**Elizabeth Berry** – Vet
Calves	**Richard Cooper** – Vet
Sheep	**Charles Sercombe** – Sheep Farmer **Fiona Lovatt** – Vet
Pigs	**Richard Lister** – Pig Farmer **Jim Morris** – Vet
Salmon	**Iain Berrill** - SSPO
Trout	**Oliver Robinson** – BTA **Peter Scott** – Vet
Gamebirds	**Paul Jeavons** – Game Farmer **Dr Kenny Nutting** – Vet
Laying hens	**Ian Lowery** – Vet
Poultry Meat	**Thomas Wornham** – Poultry Farmer **Daniel Parker** – Vet

Observers:

Gwyn Jones – Past Chair, **James Russell** – BVA, **Fraser Broadfoot** – VMD, **Donal Murphy** – NOAH, **Georgina McDowell** – Red Tractor, **Mandy Nevel** – AHDB

RUMA Chairing and Organisation:

Catherine McLaughlin - Chair, **Chris Lloyd** - Secretary General, **Dawn Howard** - Deputy Chair, **Tim Brigstocke** - RUMA Treasurer, **Mary Bawn** - Communications Manager

Abbreviations & glossary

AHDA	Animal Health Distributors' Association
AHDB	The Agriculture and Horticulture Development Board (AHDB) is a statutory levy board, funded by farmers, growers and others in the supply chain to help the industry succeed in a rapidly changing world.
AIC	Agricultural Industries Confederation
AMR	Antimicrobial Resistance
AMU	Antimicrobial Use
Antibiotic	A medicine specifically used to prevent and treat bacterial infections. This report is primarily focused on the use of antibiotics, as a subset of wider antimicrobials
Antimicrobial	A product which kills or slows the spread of a range of microorganisms including bacteria, viruses, protozoa, and fungi. Antibiotics are antimicrobials.
APHA	Animal and Plant Health Agency, formerly AHVLA
AHWBE	Animal Health and Welfare Board England
BCMS	British Cattle Movement Service
BCVA	British Cattle Veterinary Association
BEIC	British Egg Industry Council
BGA	British Game Assurance
BMPA	British Meat Processors' Association
BPC	British Poultry Council
BTA	British Trout Association
BVPA	British Veterinary Poultry Association
BVA	British Veterinary Association
BVD	Bovine Viral Diarrhoea
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CHAWG	Cattle Health and Welfare Group of Great Britain
CoGP	Code of Good Practice for Scottish Finfish Aquaculture
CTS	Cattle Tracing System
CVO	Chief Veterinary Officer
Dairy UK	The trade association for the British dairy supply chain
Defra	The UK Government's Department for Environment, Food and Rural Affairs
DCDVet	Defined Course Dose for animals, the assumed average dose per kg animal per species per treatment

DDDVet	Defined Daily Dose for animals, the assumed average dose per kg animal per species per day
DMCP	Dairy Mastitis Control Plan
DSC	Disease Surveillance Centres
EBV	Estimated Breeding Value
EFSA	European Food Safety Authority
eMB-Pigs	The electronic Medicine Book, developed by AHDB to electronically collate anti-biotic usage data from the UK pig sector
EMA	European Medicines Agency EMA
EMS	Extra Mural Studies
AMEG	European Medicines Agency's Antimicrobial Expert Group
FAO	Food and Agriculture Organisation of the United Nations
FAWL	Farm Assured Welsh Livestock
FSA	Food Standards Agency
FSS	Food Standards Scotland
FUW	Farmers Union of Wales
FVC	Farm Vet Champions, a collaborative antimicrobial stewardship scheme led by RCVS Knowledge
FVS	Fish Veterinary Society
GFA	Game Farmers' Association
HCC	Hybu Cig Cymru, responsible for the development, promotion and marketing of Welsh red meat
HPAI	Highly Pathogenic Avian Influenza
HP-CIA	Highest Priority Critically Important Antibiotic (for human medical purposes), as defined by the European Medicines Agency (category B)
IBR	Infectious Bovine Rhinotracheitis
iSAGE	Innovation for Sustainable Sheep and Goat Production in Europe
ISG	Independent Scientific Group (RUMA)
MA	Marketing Authorisation
Medicine Hub (MH)	The centralised database for medicine use in UK ruminants, developed by AHDB
Metaphylaxis	The treatment of a group of animals after the diagnosis of infection and/or clin-ical disease in part of the group, with the aim of preventing the spread of infec-tious disease to animals in close contact and at considerable risk and which may already be (sub-clinically) infected or incubating the disease. Also called Control treatment
mg/kg PCU and mg/kg	Milligrams per PCU, the unit of measurement developed by the EMA to monitor antibiotic use and sales across Europe, which has also been adopted by the UK in its national reports although convention in 2017 was to refer to mg per kg for simplicity

NFU	National Farmers' Union (England and Wales)
NFU Cymru	The National Farmers' Union (Wales)
NFUS	National Farmers' Union of Scotland
NIBL FQAS	Northern Ireland Beef and Lamb Farm Quality Assurance Scheme
NPA	National Pig Association
NSA	National Sheep Association
PCU	Population Correction Unit, which is used to help measure antibiotic use. PCU takes into account the animal population as well as the estimated weight of each particular animal at the time of treatment with antibiotics
PCV2	Porcine Circovirus Type 2 viruses
PCVAD	Porcine Circovirus Associated Disease
PHU	Persistently High Use/Users (of antibiotics)
PHWC	Pig Health and Welfare Council
PI	Persistently Infected (with BVD)
Prophylaxis	The treatment of an animal or a group of animals, before clinical signs of infectious disease, in order to prevent the occurrence of disease or infection. Also called Preventative treatment.
PRRS	Porcine Reproductive and Respiratory Syndrome Virus, also known as Blue Ear Disease
PVS	Pig Veterinary Society
QMS	Quality Meat Scotland, the levy board representing the red meat industry in Scotland
RABDF	Royal Association of British Dairy Farmers
RCVS	Royal College of Veterinary Surgeons
Red Tractor (RT)	A food assurance scheme which covers production standards on food safety, hygiene, animal health, welfare and environment
RTFS	Rainbow Trout Fry Syndrome
RUMA	Responsible Use of Medicines in Agriculture
SAAG	Sheep Antibiotic Guardian Group
SHAWG	Sheep Health and Welfare Group
SSPCA	Scottish Society for Prevention of Cruelty to Animals
SSPO	Scottish Salmon Producers' Organisation
SSPV	Salmon Scotland Prescribing Vets
SVA	Sheep Veterinary Association
Therapeutic treatment	The curative treatment of a sick animal or group of animals following the diagnosis of infection and/or clinical disease in those animals.
Trusted Game	Gamebird Health and Welfare Scheme

TTF	Targets Task Force group, established to reduce antibiotic use in food producing animals
TTF1	The first Targets Task Force and the period their targets cover (2017-2020)
TTF2	The second Targets Task Force and the period their targets cover (2021-2024)
VARSS	Veterinary Antimicrobial Resistance and Sales Surveillance, a collection of reports from the VMD providing the details of UK veterinary antibiotic resistance & sales surveillance
VMD	Veterinary Medicines Directorate
VPC	Veterinary Products Committee
WHO	World Health Organisation
WLBP	Welsh Lamb and Beef Producers Ltd

RESPONSIBLE USE OF MEDICINES IN AGRICULTURE ALLIANCE

RUMA

Published 8th November 2022