ONE YEAR OF PRISM

May 2024

abp PRISM 2030

EXECUTIVE SUMMARY

PRISM 2030 Progress.

Year One.

Launched in November 2022, PRISM (Programme for the Improvement in Sustainability of Red Meat) 2030 is ABP's sustainability initiative, in partnership with its farmer supply network, The Andersons Centre and Harper Adams University.

We have assessed the carbon footprint of 353 farms across our network. Each of these farms has received a dedicated report that includes their carbon baseline and an assessment of where they can make improvements to their farm to reduce emissions and increase productivity.

Participants in the programme represent 20% of our beef kill and 15% of our sheep kill.

FROM OUR DATA SET, WE HAVE IDENTIFIED THE FIVE AREAS MOST COMMONLY IN NEED OF IMPROVING:

1. IMPROVING PASTURES
2. REDUCING AGE AT SLAUGHTER
3. IMPROVING LIVESTOCK HEALTH
4. REDUCING FUEL CONSUMPTION
5. USING BY-PRODUCT FEEDS

We have shared our progress through 39 peer to peer information events while a monthly e-zine with tips and data trends is circulated to all PRISM participants and the wider ABP farmer supplier network.

The farmers who have taken part in PRISM so far were able to access an ABP-funded sustainability grant of up to £1,000 to purchase a capital item to help them implement changes to improve their farm's environmental performance.

FOREWORD BOB CARNELL

Chief Executive Officer of ABP UK.

One of Europe's leading food processors.

The food industry is, like all others, working hard to decarbonise and mitigate its impact on the climate. In an era where sustainability has become paramount, lessening the environmental impact of food production has never been more vital.

As one of the largest food processors in the UK – where we work with over 15,000 farm families across the country – ABP recognises how critical it is to get this right. We also understand that there is no 'flick of the switch' moment that makes this a reality; to ensure food products coming from farm-to-fork are as sustainable as possible, it requires working in close collaboration with our farmer suppliers.

This is why we established PRISM 2030. Launched in November 2022, it is a data-driven initiative with a singular, actionable goal: to improve the sustainability of red meat in the UK by 2030.

We believe that PRISM 2030 will help provide farmers and the industry more generally with a blueprint for long-term sustainability.

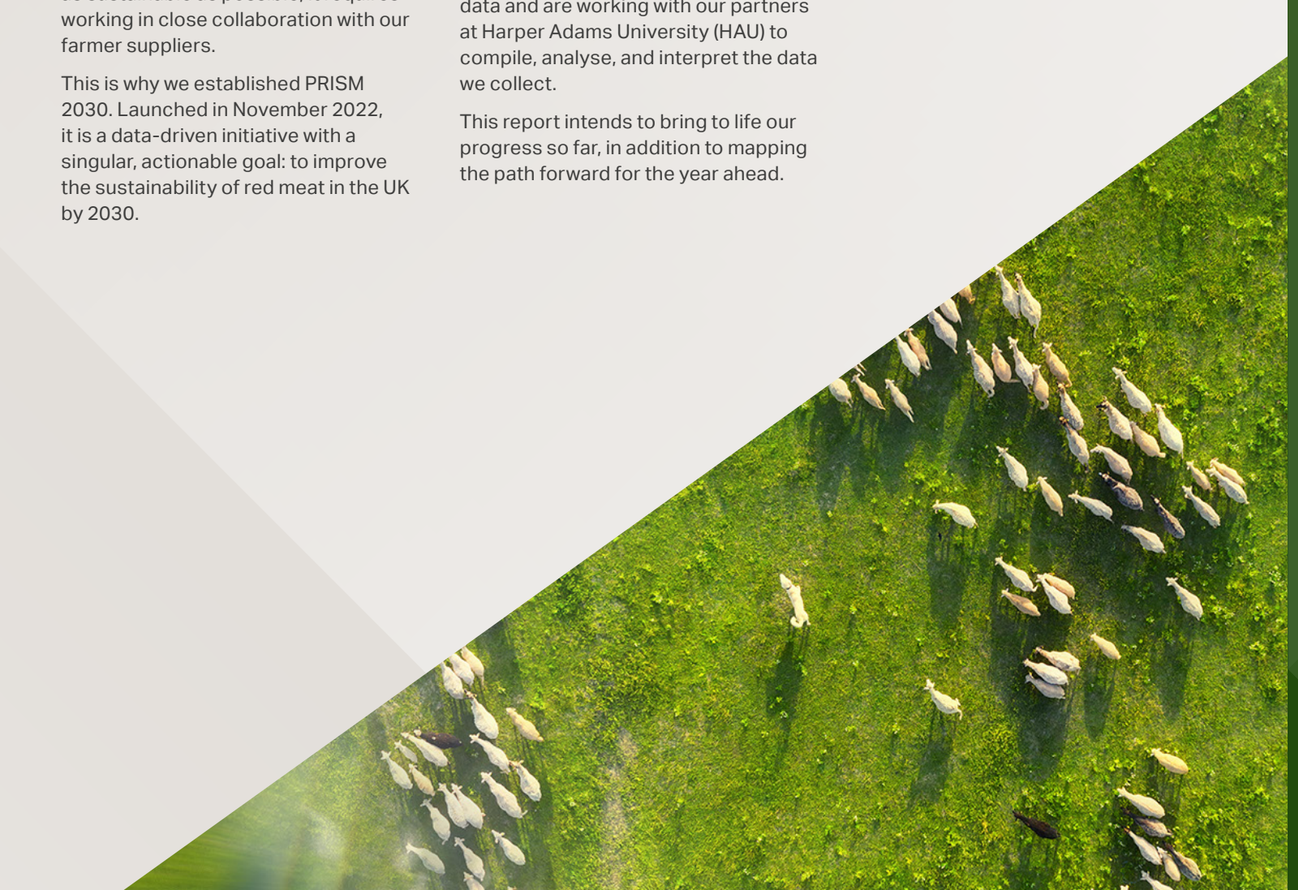
The first step of the PRISM 2030 initiative is assessing the carbon footprint of beef and sheep farms. To that end, we're working with a cross-section of our beef and lamb supplier farmers across the UK. We currently have over 350 farms of varying sizes signed up to the initiative, giving us a sizeable indication of the UK's livestock farming landscape.

From these farms, we've now collected data and are working with our partners at Harper Adams University (HAU) to compile, analyse, and interpret the data we collect.

This report intends to bring to life our progress so far, in addition to mapping the path forward for the year ahead.

Our farmers start from a great place, but we know there is more our industry needs to do to reduce our emissions and, therefore, the impact on the climate.

The UK livestock industry has rightfully earned its reputation for producing some of the highest quality meat in the world. Now, our focus is to ensure that British beef and lamb lead the way not just in quality, but in sustainability. We believe that PRISM will equip our suppliers with the tools to achieve this goal.



PRISM 2030

PRISM 2030 IN NUMBERS

ABP FOOD GROUP SUSTAINABILITY PROGRAMME FOR ITS BEEF AND SHEEP FARMERS IN THE UK.

365 days

15% of ABP's lamb supply

20% of ABP's beef supply

40% of PRISM farmers interacted with knowledge exchange

353 grant application forms sent

4 countries

67 counties

192 UK lamb suppliers

353 assessments and farmer reports

518 beef and lamb enterprise datasets

330 UK beef suppliers

155 grant applications received

261 feedback sessions (GB)

134 grants processed

39 farmer meetings

966 farmers attended meetings

1.5M investment

PRISM 2030

Your business, your choice.

Improving business performance goes hand in hand with reducing emissions.

GENETICS

Environmental impact and resource usage efficiency have always been important traits for beef producers but recent geo-political events have drawn feed efficiency and methane emissions from ruminants into very sharp focus.

The demands on beef producers to reduce methane emissions has been intense and is very short term in nature. So, what can be done short, medium and long term?

In the short term we can use feed additives.

In the medium term we can do a lot to improve those traits we already have a lot of data on. We could rear calves to first calving at two years of age and grow to slaughter weight at 16-18 months.

We could begin to replace suckler cows with smaller versions. The current age at slaughter nationally is around 28 months. Reducing that to 18 months could reduce methane emissions by almost a half and is achievable by management changes. This is also very good for farm profitability, so it's a win-win outcome.

Breeding is key for the long term, propagating traits that have a direct impact on methane emissions – age at first calving, age at slaughter, weight of suckler cow, cow and calf survival.

Professor Mike Coffey, SRUC

Same age, same management, but genetics have affected the finished weight by 140kg

GLOBAL POSITION

Feeding the world in a sustainable way is a global issue.

Over the past 50 years the global population has doubled and demand for meat has tripled. Meat production can have large environmental impacts through greenhouse gas (GHG) emissions and resource usage and we understand these impacts can vary significantly by geography but are often bundled together as global statistics.

"The amount of land used for agriculture worldwide is 40%. The cropland is the size of South America and pastureland the size of Africa - larger than we would like"

Jack Bobo
Centre Lead & Director of Food Systems Institute at University of Nottingham

Worldwide, we are producing more food, more sustainably and using less land than decades ago. However, with current population growth rates, 25% more food will need to be produced by 2050.

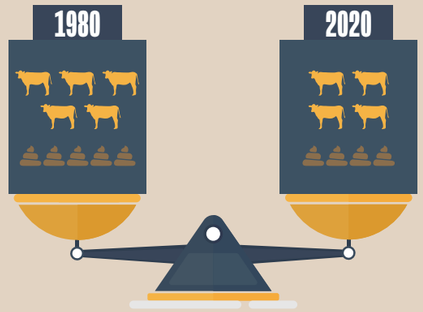
In the UK our emissions are below the global average, but it means playing to our strengths and improving our footprint even further to support both the UK and export market. Exporting our footprint and reducing our resilience is not a sustainable option.

"Things are not bad and getting worse; they are good and getting better, but not fast enough."

Jack Bobo

IMPROVEMENT OVER TIME

In 1980, it took 5 cattle to produce the same amount of beef as 4 cattle in 2020.



Through improved genetics we have increased carcass weight by approximately 80kg since 1980. This means we can now produce the same amount of beef from four cattle instead of five. However, we can't continue to increase the size of the carcass indefinitely, therefore we need to look at other management practices to improve farm efficiency.

PRISM PROGRAMME

PRISM (PRogramme for the Improvement in Sustainability of red Meat) 2030 is ABP's sustainability initiative, in partnership with its farmer supply network, The Andersons Centre and Harper Adams University. The initiative launched in November 2022 and since then has carbon assessed (via Agrecalc) 353 farms from across ABP's beef and lamb supply chain.

The total livestock in the programme represents:

20% of ABP's beef supply

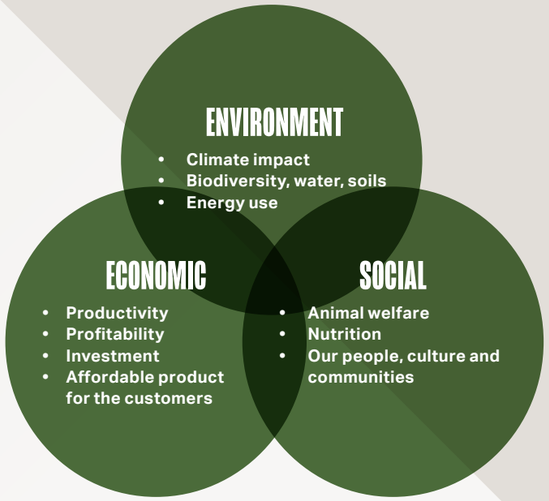
15% of ABP's lamb supply

By working together with The Andersons Centre and Harper Adams University, we have identified focus areas which will help farmers set actions to reduce emissions on each farm. Farmers must drive changes according to their farm ambitions and opportunities, so we have developed a programme of events to help enhance knowledge and understanding on key topics.

But we cannot do this alone. Farmers, processors and customers must work together and support each other in producing food that is both environmentally and financially sustainable for the future.

Sustainability is not just about carbon: we have 14 farmers who have used the Global Farm Metrics (GFM) framework to evaluate 12 categories relating to the farm system, including inputs, farmers and workers, community, soil and water. Following on from this, we are exploring avenues to evaluate a further 36 farmers using a different tool.

SUSTAINABILITY IS A BALANCE

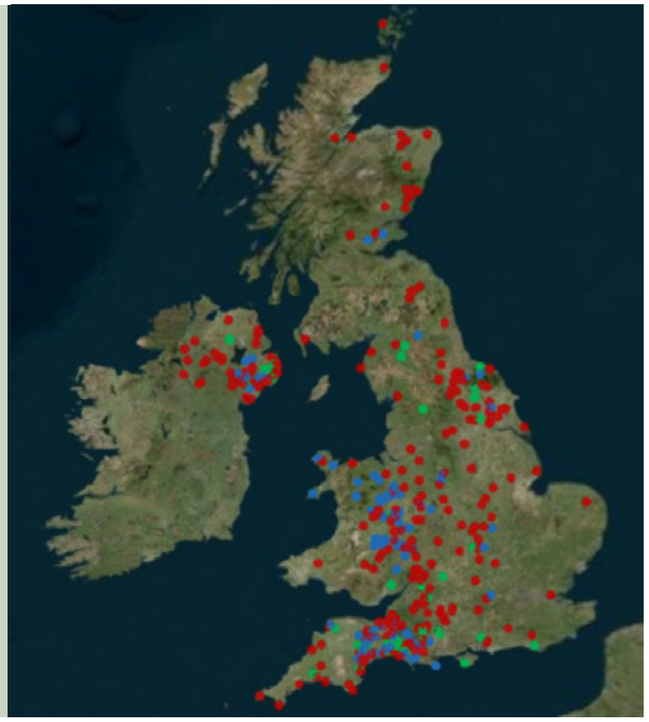


We work with a wide range of farm sizes and locations which encompass a range of different enterprises. Therefore we cannot compare like-for-like, and there is no 'one size fits all' in terms of what everyone should do.

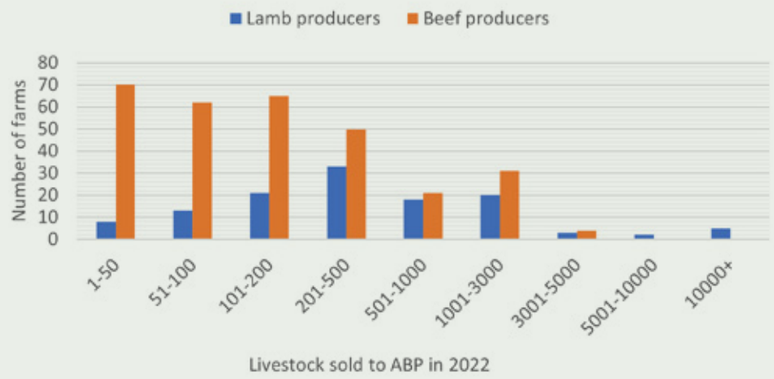
PRISM 2030 FARMS

The map shows the spread of farms from Orkney to the Isle of Wight and Norwich to County Fermanagh.

- **Beef producers**
- **Beef & Lamb producers**
- **Lamb producers**



PROFILING OF PRISM FARMERS



PRISM ONE YEAR INITIAL RESULTS

Within this dataset we have 518 sets of farm data, which provides a solid baseline.

The average carbon footprint of a kg of beef supplied by PRISM participants is 26.2 kg CO_2e per kg dwt, and equivalent footprint of a kg of lamb supplied by PRISM participants is 22.3 kg CO_2e per kg dwt.

However, these statistics hide a huge amount of variation both within the sector and between different types of operation. Early analysis shows that dairy beef finishing units and store lamb operations tend to have the lowest footprints within their sector.

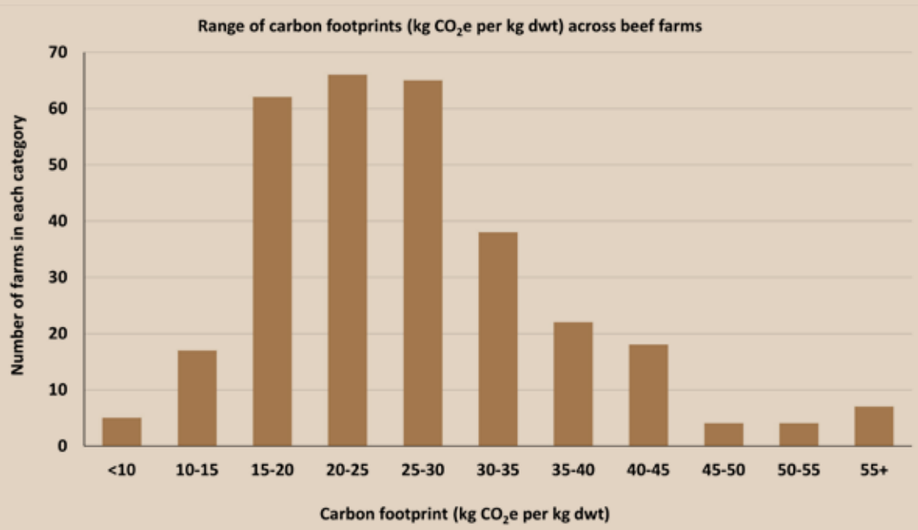
However, it's important to understand that these operations are not necessarily better performing or more efficient. Rather, it's primarily because cattle or lambs tend to be bought in, i.e., there's no suckler herd or ewe flock on farm. Within the suckler sector we have seen considerable variation in carbon footprints, from 6.24 - 123.49 kg CO_2e per kg dwt, and similar trends within the sheep sector. As every farm is different, the challenge now is to forensically examine the dataset so that we can understand exactly what makes one farm different from another, and which key performance indicators or farm attributes are most important in reducing carbon footprints.

GHG emissions vary considerably from farm to farm. Farms all have unique situations, with different systems and stock numbers. Therefore, there is no one-size-fits all solution, but there are five common areas for improvement:

1. **Improving pastures**
2. **Reducing age at slaughter**
3. **Improving livestock health and reproduction**
4. **Reducing fuel consumption**
5. **Using by-product feeds**

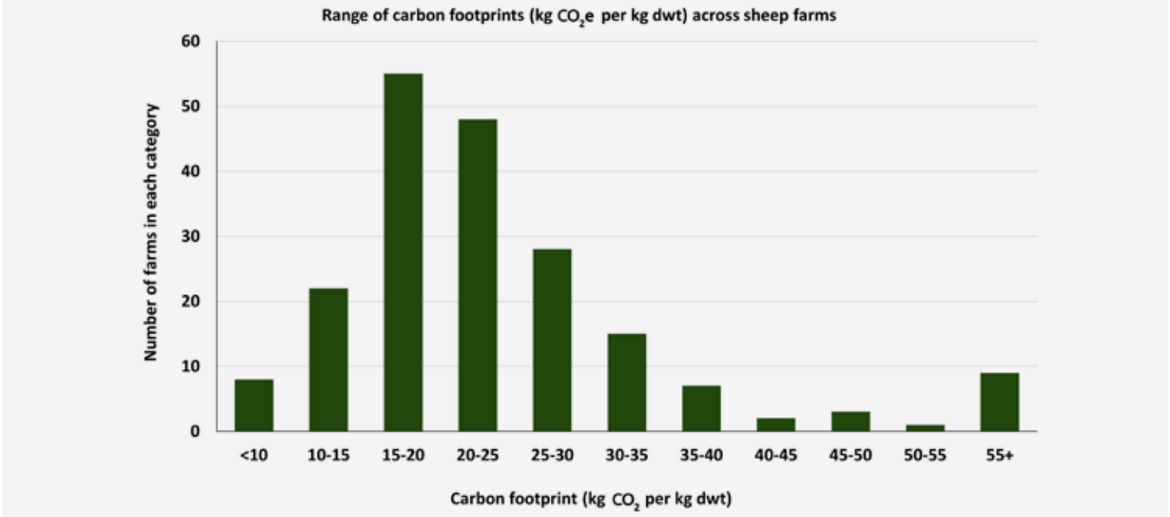
BEEF BY ENTERPRISE:

Enterprise	Number of farms	GHG (kg CO_2e/kg dwt)
Hill and upland sucklers	22	31.4
Lowland sucklers	120	30.8
Beef-bred or continental finishers	68	23.7
Dairy/beef cross finishers	108	22.9
Total	**318**	



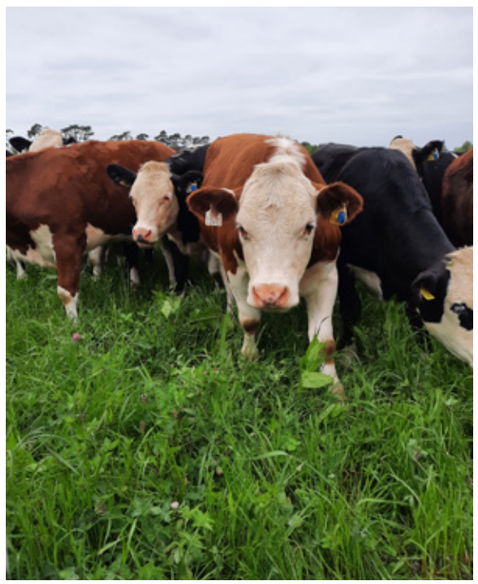
SHEEP BY ENTERPRISE:

Enterprise	Number of farms	GHG (kg CO_2e/kg dwt)
Crossbred flock	64	26.8
Early lambing flock	39	20.4
Hill flock	9	24.5
Late lambing flock	52	24.2
Store lambs	36	21.8
Total	**200**	



DIFFERENCE BETWEEN THE TOP AND THE BOTTOM THIRDS.

	Beef KgCO$_2$e/kg dwt	Sheep KgCO$_2$e/kg dwt
Top 1/3	17.00	14.41
Bottom 1/3	39.63	38.86
Difference	22.63	24.45



OUR PROGRESS

We are excited by our achievements over the past year and looking forward to discovering what the future holds. It is not an easy journey - there will be a few hurdles to negotiate.

We are grateful for the time and effort contributed by our PRISM farmers and their support has helped us supply them with:

- A carbon baseline
- GHG emissions figures per enterprise and a list of the areas where reductions can be achieved
- A HAU report - 3-4 areas where improvements can be made to impact both productivity and GHG emissions – specifically for each farm using the Agrecalc report and farm KPI data

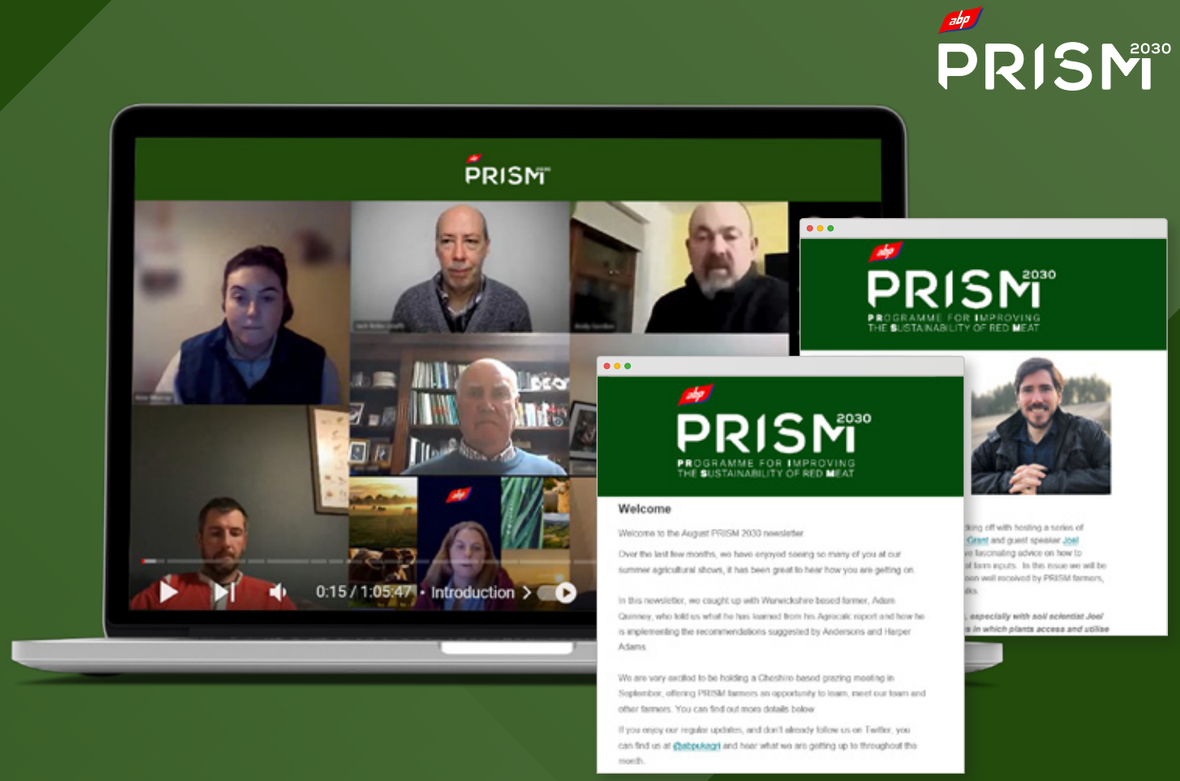
Every GB farm was offered a feedback meeting with their Andersons consultant, while 261 farmers had a discussion to fully understand what their report means.

Knowledge transfer

Over the past year we have hosted 39 in-person and online meetings with 966 farmers. These have offered discussion forums for like-minded farmers to learn from each other, plus professional advice on PRISM farmers' selected topics.

It's been encouraging to see so many joining in to discuss their different situations. For most farms, the recommendations involve tweaks to the current systems rather than anything more significant. These changes can improve efficiencies, productivity and, ultimately, profitability.

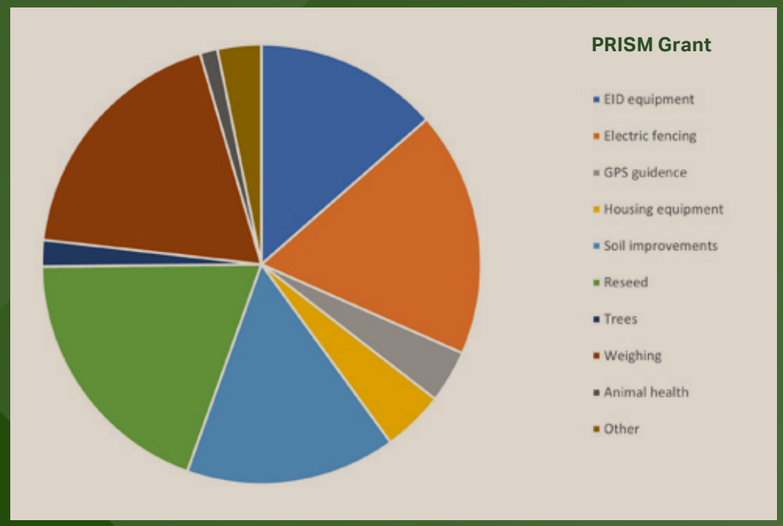
All the online meetings have been recorded and are available on our YouTube channel (PRISM 2030).



The Newsletter

The PRISM newsletter has been distributed to 6,500 farmers with an average open rate of 49.8% over the past 10 months - far above the industry average.

	Open Rate	Click Throughs
Industry Average	23.3%	2.94%
PRISM Average	49.8%	2.59%



Sustainability Grant

We offered the PRISM farmers the opportunity to access an ABP funded 'Sustainability Grant'. Farmers could apply for up to £1,000 to purchase a capital item to help them to implement changes to improve their farm's environmental and sustainability performance.

155 Grant applications were received

134 Grant applications have been claimed

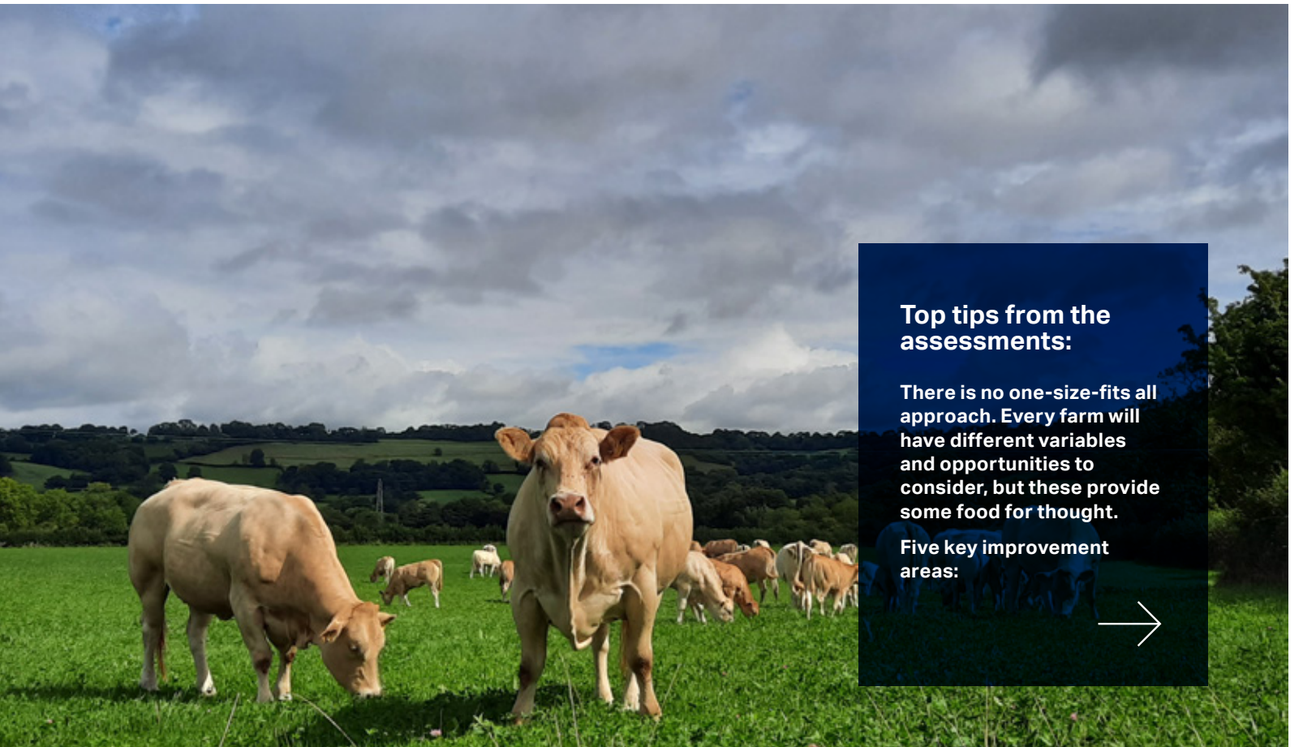
BEST PRACTICE TIPS

Professor Jude Capper has been providing practical, bespoke recommendations for each farm involved with PRISM. Jude's overview of the first year of PRISM is promising. After completing more than 350 HAU reports, she concludes:

"This has been an amazing year of data collection and analysis, with so many interesting insights from farms of all types and sizes across Great Britain and Northern Ireland. It's clear that there are opportunities to improve on every single farm, regardless of the baseline, and these are linked to improving both productivity and profitability"

"Having established the carbon footprint baselines, we're now analysing the data further to identify what characteristics or practices are associated with the best farms so that those can be shared with the wider group. It's ultimately very simple for any farm – take a good look at your key performance indicators compared to similar farms, identify where you could improve, and then do it!"

Professor Jude Capper
ABP Chair of Sustainable Beef and Sheep Production, Harper Adams University



Top tips from the assessments:

There is no one-size-fits all approach. Every farm will have different variables and opportunities to consider, but these provide some food for thought.

Five key improvement areas:

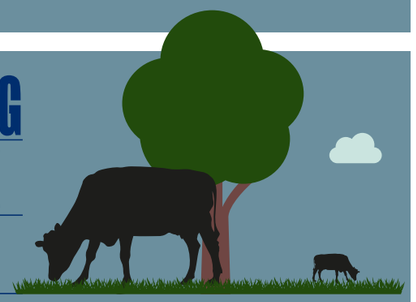
1 IMPROVE PASTURES

- Using rotational grazing
- Multi-species swards
- Plate meters
- Reduced nitrogen
- Soil testing
- Reduce wastage and improve overall utilisation
- Liming and soil testing – increases activity of soil microbes, better availability of nutrients, improved plant growth, so better productivity and lower emissions
- Optimising fertiliser use via nutrient management planning and using variable rate applications

2 REDUCE AGE AT SLAUGHTER

- Increasing growth rates
- Genetic selection for improved growth
- Reducing diseases that impact performance
- Improved feed efficiency
- Targeted ration formulation
- Feed analysis

3 IMPROVING LIVESTOCK HEALTH



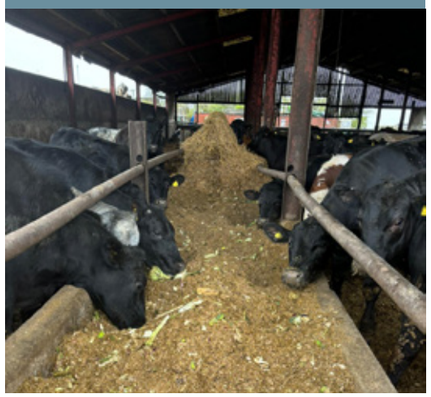
- Implement a herd/flock health plan
- Record fertility and disease issues and take action
- Use vaccines where appropriate
- Examine replacements strategy – breed replacements that have the best calving intervals, calving histories, and weaning weights (breeding for reduced enteric fermentation will also be part of this)
- Biosecurity – double fencing should be considered - minimise nose to nose contact and contamination from wool on neighbouring fences where possible. This should reduce disease exposure and burden thus leading to better productive performance
- Better utilisation of bedding

4 REDUCING FUEL CONSUMPTION

- Instead of idling, turn off machines. This will save a lot of fuel over the year
- Use smaller machines
- Checking tyre pressures can save a lot of fuel over the year
- Ensure machinery maintenance is up to date

5 USE BY-PRODUCT FEEDS

- These have a lower carbon footprint than main crops but there is limited availability in some areas
- Consider contracts with local vegetable, fruit or bakery companies or factories



WORDS FROM OUR PRISM FARMERS

We work with farmers across the UK - farmers who are as committed to a sustainable future as we are. Here are some of their thoughts on being part of PRISM.

JONATHAN LEWIS

"Being part of the PRISM project has really opened my eyes to where carbon is being produced on our farm, and given me clear goals. Reducing days to slaughter, maximising the number of animals sold and grassland management are our main priorities."

SAM CHESNEY

"PRISM is working with other farmers to make ourselves sustainable, responsible, resilient and profitable."

GAVIN HERON

"Being part of the PRISM program allows discussions with like-minded farmers looking to benefit from discussions and online meetings. We as farmers are trying to work towards a more sustainable future."

CLAIRE WILSON

"Being involved in PRISM has given me the opportunity to learn and reflect on best practices to make my business more sustainable economically and environmentally in the future."

DALE ORR

"The programme is helping me to reassess my farm and encouraging me to focus on improving my soils for the future."

JAMES READ

"Being a part of ABP's PRISM gives us an opportunity to improve the environmental impact of our farm's beef production via the sharing of knowledge between like minded farmers and industry experts. It also gives us evidence that not all UK beef production is damaging to the environment."

IAN NORBURY

"PRISM data allows us to give the consumer what they desire and add value."

DANNY MILLER

"I have enjoyed the PRISM meetings that I have attended and find them both interesting and often informative. It is always good to listen to what other farmers are doing and consider whether it would suit or help improve things within my farm."

RICHARD SHIRES

"I have enjoyed the PRISM meetings that I have attended and find them both interesting and often informative. It is always good to listen to what other farmers are doing and consider whether it would suit or help improve things within my farm."

DEWI DAVIES

"The quality of the PRISM webinar speakers and breadth of subjects covered has significantly improved my understanding of the farm's carbon footprint. It's challenged me as to how and why things are done in a particular way."

IAN WILSON

"Being part of the PRISM group has given me an opportunity to listen to various industry leaders and experts on their subject. This knowledge will aid us all in making choices as we strive to make our business more efficient and profitable."

NIGEL BOWYER

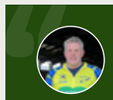
"We've had some very interesting webinars, especially the one with the soil scientist Joel Williams. The discussion around the ways in which plants access and utilise nutrients was fascinating. There is so much to learn."

BILLY CUTHBERTSON

"When it comes to the PRISM programme, open ears and an open mind are more important than an open wallet."

STEPHEN DOBLE

"PRISM has helped me find practical ways to reduce my carbon footprint without reducing production."



ADRIAN IVORY

"Being part of the PRISM group allows me to chat with like-minded farmers who are keen to improve their green credentials, while still remaining profitable and sustainable."

MIKE POWLEY

"The PRISM program has accurately benchmarked my carbon footprint and efficiency. Access to leading experts has enabled me to make changes to my business. Webinars with leading experts and like minded people have helped with more practical ideas. An excellent programme! "

JOHN MILLIGAN

"It's good being involved with a group of farmers who are working with other partners in the food chain to achieve a more sustainable product. "

TIMELINE

PRISM idea
Jun 2022

Pilot farmers carbon footprint
Sep 2022

Official launch
Nov 2022

Recruitment & assessments
Nov 2022 - Sep 2023

Group discussions
Apr 2023

Grant launch
Jan 2023

Royal Welsh Show
Jul 2023

Grassland event
Summer 2023

Online events
Sep 2023 onwards

Discussion group x 4
Sep 2023

GFM - ELM40 trial
Dec 23 - Mar 24

Grant Closed
Dec 23

Online events
Jan 2024 onwards

Initial results
Spring 2024

Open event Bromstead
Jul 2024

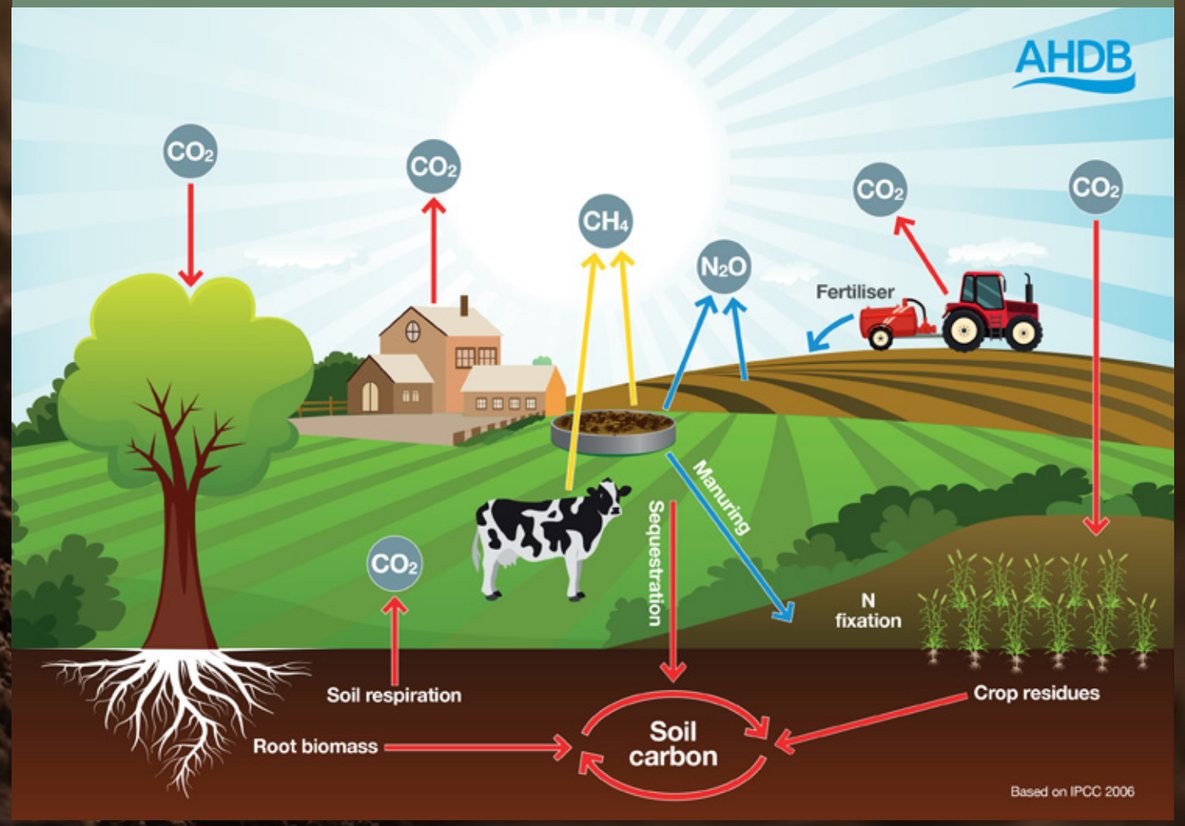
Shows
Summer 2024

Soil & biodiversity Farmeye trial
Summer 2024

2nd assessments
Sep 2024 - Mar 2025

Online events
Autumn / Winter 2024

Carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_20) are the major GHGs associated with beef and sheep production. Methane comes from the animal's digestion and manure storage. Nitrous oxide is from fertiliser and manure storage and application. Carbon dioxide is from energy and fuel use. To calculate the carbon footprint each is converted into carbon dioxide equivalents (CO_2e). Under GWP100, carbon dioxide is currently set to 1, methane to 28 and nitrous oxide to 265 . That means that 1 kg of methane is 28x more potent at causing global warming than carbon dioxide, and nitrous oxide is 265x more potent than carbon dioxide.



NEXT STEPS

- Continue our knowledge transfer programme
- Develop wider sustainability measures on farms
- Second assessments
- Analyse data

REMINDERS

- Be consistent - use the same carbon calculator (the methodology differs between tools)
- Carbon footprinting each year (over the same 12-month period) and creating multi-year averages will show farm trends without seasonal or market-related variations
- When comparing different years, ensure you're using the most up-to-date version of your chosen tool so that you're comparing like with like
- Set yourself targets/actions for improvement - measure and record

EXPLANATION OF TERMS USED

Term	Description
Carbon net zero	The balance of emissions emitted by human activity against carbon removals over a specific time-period.
Carbon sequestration	The capturing and storage of carbon dioxide (CO_2) from the atmosphere.
Carbon stocks	The amount of carbon that has been removed from the atmosphere into long-lived biomass and soil e.g. hedges and/or trees on farm.
Global Warming Potential (GWP100)	Global Warming Potential (GWP), an internationally accepted metric, that describes how much impact a gas will have on atmospheric warming over a specific time period (typically 100 years), compared to carbon dioxide.w
Global Warming Potential (GWP*)	An alternative way of reporting methane emissions. Methane breaks down much faster than other GHG but has a large upfront warming impact. GWP* aims to capture this effect better than the standard GWP100 metric. When measuring using GWP*, increasing methane emissions have a large impact, but steady or declining emissions have a much smaller impact. The use of this new metric in GHG calculations is currently under review.
Carbon credits	Carbon credits are a way for companies to compensate for their GHG emissions and support activities. One carbon credit is typically equal to one tonne of carbon dioxide and can be traded on a market, however caution is advised as there are few standards, guarantees or protocols involved at present.
Carbon Insetting	Strategy used by companies to reduce their carbon footprint within their industry.
Carbon Offsetting	Is a trading mechanism that allows businesses to compensate for their GHG emissions.


We will continue to work with our farmers to drive change and improvements, with continued periodic updates for all stakeholders.
abp
PRISM 2030