

# Perspectives

Supporting sustainable growth

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# A fresh perspective from SAC Consulting

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**We believe here at SAC Consulting that we have a role to play in ensuring knowledge reaches all parts of the industry. In Perspectives we'll share key insights from around the organisation as we strive to turn research into advice and advantage for agriculture and land-based businesses.**

**BY ANDREW LACEY, HEAD OF SAC CONSULTING**

In this first issue of Perspectives we take a look at soil health and the debate over regenerative practices, plus changing consumer habits and their influence on the policies that in turn impact farmers. We highlight a range of field-based innovation projects, how we can build biodiversity into everyday activities and how the beef sector will adapt to current challenges.

Over the last 12 months we've transferred many of our articles and seasonal updates to digital or simplified formats and have seen great interaction with our online newsletter Unearthed and social media, as well as conventional maildrops from your local office team. On the other hand, our national paper-based publication needed a revamp and we aim to do that with Perspectives.

Our priority is finding engaging ways to share knowledge and implement project work across an increasing range of industry challenges, during a period of greater complexity than arguably ever before. Perspectives is for our subscribers as well as our wider stakeholders and is funded by all of our activities across SAC Consulting and SRUC. It's important that we get this right and I welcome your feedback on where our focus should be and what will create most value for you.

## **AS CUSTOMER CHALLENGES CHANGE, SO MUST WE**

I've been here just over three years. During that time, much has changed within SAC Consulting. Yet not all of it is visible to you, our valued customers and wider industry stakeholders. In this new-look publication, we'll tell you about some of these changes and how they are driven by our desire

to provide the best possible service to agricultural and land based businesses across Scotland. Most of you will know that SRUC continues on its transition toward a new model and SAC Consulting is, of course, part of that journey. During the year prior to COVID we began to build wider leadership capability across SAC, with the intention to support teams to focus on specific industry challenges or what was most relevant to their region, moving from a top down approach to one where we always take account of the local context.

We're also mindful of our history, our place in the industry over the last century and the experiences of all those who have interacted for many years with SAC Consulting and its predecessor constituent parts. We cherish that history – it feeds into our core values of who we are – and we're committed to being here, working across the length and breadth of the country for the long-term and being your partner for each and every generation.

### CONTINUING THE CONVERSATION

I must say many thanks for your feedback to our 2021 subscriber survey. We had just under 1200 participants which was a fantastic and much appreciated response. Both kind and candid, and all equally well received. Our last survey was in 2016 and we expected a change in priorities but nevertheless, responses reflected a marked shift in intention.

Various themes emerged beyond the need for technical support; for example, planning the transfer of the business to the next generation, more thought being given to marketability of your produce, and unsurprisingly how to reduce emissions.

The survey helps us to focus our services and has shone a welcome spotlight onto things we can improve. It has helped us to direct our actions to being a more resilient organisation with challenges available to colleagues at all levels whilst improving the network of support.

We had many offers to provide more detail – thank you – we'll be putting forward some ways in which we can continue the conversation.

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*We're also looking for ways to engage with stakeholders beyond our subscriber base and to do that on an annual basis – helping industry to meet its key challenges is essential to our purpose and mission.*



# What did 2020-21 look like?

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Like everyone, SAC's year didn't quite go to plan. We created our business plan for 2021 and our strategy for the next three years – we were confident we had everything covered – a focus on life after Brexit, engaging with the challenges set by the aim for net-zero emissions and a post-CAP marketplace. How would we help farmers navigate these challenges?

BY ANDREW LACEY, HEAD OF SAC CONSULTING

Within weeks, COVID changed the agenda. While the initial impact on many primary producers wasn't adverse, as the year progressed the mental stress and wider industry pressures built up. Our colleagues have felt these pressures alongside our customers, working through uncertainty and adapting fast to doing many things in new ways for the first time.

Thank you for your considerable patience and continued support throughout the COVID period. During this last year we've maintained an almost full-strength workforce, and this is testament to the support we've received from customers and the commitment of our colleagues. The pandemic has taught us to take nothing for granted and to support and encourage our people to work in new ways that give you benefit.

Like many, we've also learned new skills and ways to interact and we'll definitely be taking this forward in the years to come – we can reach more people, bring in global experts and use radio, podcasts, written communications, Farmtext and even YouTube to stay

in contact (if you missed the first episodes of FAS TV be certain to catch-up at [www.youtube.com/FASScot](http://www.youtube.com/FASScot)). Be in no doubt though, we miss human contact and whilst we've learned new skills that can bring value, we can't wait to get back to checking-in on farm, the ring and to seeing you at local events...

We recognise the conditions and pressures for farmers and land managers are changing and we must also evolve in order to continue to provide the very best and relevant consultancy services we can. We're doing that by working with research colleagues on the challenges that are relevant to industry as well as investing in our capability beyond our traditional competencies. You'll find details for researchers we've collaborated with throughout this publication.

## OUR STRATEGIC AMBITION

We will support the growth of our customers, strengthening their ability to overcome challenges while meeting the climate change emergency.

We recognise and are ready to face the challenges faced by our industry, whether they be pressure on finances or changes necessitated by consumer decisions, climate change and the need to enhance biodiversity. We will help our customers find opportunities within this period of change.



We will do this by enhancing our capability within digital, the environment, our business knowledge and agriculture – communicating our story; investing in our people and the framework within which they work. We will ensure that our people are best placed to support the industry as it goes through the biggest transition in a generation.

# The next revolution's under your feet

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**There's an agricultural revolution brewing. Soil is our industry's most expensive and valuable asset but knowledge of the chemical, physical and biological functions of our soils is only just beginning.**

**BY DAVID ROSS, REGIONAL DEVELOPMENT MANAGER**

Post-war farming policy saw a drive for increased production of both livestock and arable crops but at a cost to the environment and biodiversity of our countryside. The basics of good farming practices have been forgotten by a generation of farmers; rotations are heavily geared to continuous cereals or arable cropping, straw is being removed for sale with no inputs of FYM/slurry/digestate being returned and land is left bare over winter, allowing for erosion due to heavier winter rainfall. These changes have resulted in our agricultural soils being in poor health and not functioning as they could or should; they're not able to infiltrate water or hold air and their ability to cycle nutrients are limited due to reducing organic matter levels.

## **SO WHAT'S CHANGED?**

Government policy is now focusing on carbon and emissions from agriculture and how this can be reduced using a combination of production and land-based measures. It is also becoming clear that using fossil fuels either in diesel, chemicals or fertiliser to produce food is becoming increasingly unsustainable. This has led to a growing number of producers adopting 'regenerative or conservation agriculture' techniques to improve soil health and function as well as reduce costs.

## **THE FIVE PRINCIPLES ARE:**

- **Less soil disturbance**
- **More plant diversity**
- **Living roots as much as possible**
- **Keep the soil covered at all times**
- **Integration of livestock**

## **CURRENT RESEARCH AND PROJECTS**

SRUC and SAC Consulting have been working on a number of projects which can help you understand your soils better and how changes in management can have a positive influence on our environment and the profitability of farms. The first of these projects is the Soil Regenerative Agriculture Group which is part of the Farming for a Better Climate Initiative. This brings together a group of like-minded farmers who've adopted reduced tillage and regenerative agriculture techniques to improve their farm's soils and make their businesses less reliant on inputs and ultimately, more resilient. The group is currently looking at topics including cover crops and their establishment, crop establishment techniques, reducing chemical inputs and reducing fertiliser inputs through foliar application. This is based on the principle that a healthier soil produces a healthier crop which is less prone to disease and requires less inputs, whilst



maintaining yield. All members of the group have seen significant improvements in their soils since they started adopting these techniques.

Another project with a group of farmers who were interested in grazing winter cereals by livestock through the winter has developed into an SRUC research project. Led by Christine Watson, Professor of Agricultural Systems at SRUC and funded by Horizon 2020 this project will put more science behind the benefits of grazing winter cereals. It will look more specifically at the changes in crop growth and yield and the chemical, physical and biological properties of the soil. This three year trial is sited at the SRUC Craibstone farm in NE Scotland where winter barley and winter wheat are being grazed by sheep.

#### HOW CAN WE HELP YOU?

SAC Consulting has been working on and developing the soil health test which combines the physical, chemical and biological measures of a soil to give an overall assessment of your soil's health. Our crop and soil diagnostics service allows plant tissue, soils and grain to be tested using methodology for Scottish conditions for numerous nutrients, pests and diseases. These services are continually being developed. With compulsory five year soil testing being mooted under new government policy, we believe analysis will be an increasingly important part of future production systems.

*"Regenerative farm practices are not seen as the 'muck and magic' they once were but have proved that by adopting basic principles significant soil improvements can be made."*

#### Discover more at

[farmingforabetterclimate.org](https://farmingforabetterclimate.org)

#### Get in touch

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# The perfect storm for a bright future

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**Brexit, the pandemic and Scotland's wealth of fantastic produce – almost the perfect storm to encourage enterprising individuals to broaden their business outlook.**

**BY CERI RITCHIE**, SECTOR MANAGER, FOOD & DRINK

Scotland's local food and drink businesses were the heroes of the first lockdown, and for many, this was the making of their business. Yes, there are many challenges to be overcome, but if you're serious about getting more of the population to eat good food of Scottish origin then this is an opportunity. This isn't limited to food – lockdown and limited overseas travel has driven a greater appreciation of our rural environment. What's stopping you thinking of a way to develop a new enterprise?

SAC Consulting is here to support industry and its ambition, and provides the opportunity to access expertise from production to consumption in one organisation, with access to the complete rural business solution.

It's never been more important for businesses to keep close to their customers and their communities, and to understand market opportunities. Predicting the market has never been harder. However, it's vitally important to review and keep abreast of key themes. As always, innovation will be key to successful business development. Lockdown behaviour is familiar to all of us and some habits will remain.

## **83% of people in the UK**

made changes to their food behaviour – from online purchasing, cooking from scratch, reducing food waste and making mealtimes an opportunity to spend time together\*.

## **7 billion extra meals**

were consumed within the home, with the biggest growth being lunches\*\*.

## **51% of consumers**

ate fruit and vegetables more often during lockdown†.

## **Online trading grew**

from 28% to 39% penetration during 2020 and it's expected to increase††.

\*IGD, 2021. \*\*Kantar, 2021. †Mondelēz, 2021. ††Kantar, 2021.



Savvy businesses will start to consider how they can capitalise on these trends. Throughout 2020, leading-edge farm retail businesses grew their online offer, whether through click and collect or click and deliver. They also got better at e-commerce and maximised their prepared meal offer (pivoting from in-café to in-home and takeaway). Going forward, how will food and drink businesses capitalise on key trends such as plant-based, snacking, natural functionality, digestive wellness and convenience? Then there's key opportunities facing the sector such as staycations and food tourism.

It's a difficult time for businesses to plan ahead, battered by both the pandemic and Brexit, but it's essential you undertake planning.

*"Few places in the world have been left untouched by the COVID-19 pandemic. Nations and their food and drink industries are each charting their road out. The speed at which we respond now, in recovering lost ground and exploring new opportunities, will be critical."*

**Recovering from Coronavirus and Fuelling Brexit Preparation, Scotland Food & Drink Partnership.**

SAC Consulting helps businesses to capitalise on demand and works with them to pivot their offering to adapt to changing circumstances.

In recent years, we've successfully facilitated growth and innovation in Scotland's food sector.

This has included the delivery of Connect Local – reaching over 700,000 people, delivering 60 workshops and working with 59 regional and sector-specific groups to grow the local food and drink sector. In the last two years alone, we've worked on a one-to-one basis with 15 businesses, addressing product issues and bringing new products to market.

We have a strong legacy of working innovatively with Scotland's regional food groups, as well as small and micro businesses and continue to deliver in this sector, bringing our extended experience to the table. Looking to neighbouring countries for inspiration provides an opportunity for Scotland's regional food sector.

*"For decades, Denmark's food businesses were dominated by big coops, exporting bulk meat and cheese to the UK and the rest of Europe. There was little Danish food culture to speak of – only the infamous open rye sandwiches accompanied with plenty of snaps – interest and innovation in food and farming was limited, and new businesses were few and far between. However, in the mid 2000s, Denmark started attracting attention for a new wave of food entrepreneurship based on re-imagining Danish produce in the top-tier restaurants. Today, the Danish food scene is unrecognisable from 20 years ago with one of Europe's most innovative food start-up cultures attracting talents from around the world."*

**Mads Fischer-Moller, Professor in Food Policy at SRUC**



A food tourism opportunity, deviating from the conventional food system and focussing on food linked to the high-value experience economy, is something the Faroe Islands did effectively. They moved from a fishery-dominated economy, with unfertile soils and a cold environment to championing green and foodie tourism. This pivot paved the way for a new food entrepreneurial culture, leading to Faroe businesses winning a stunning five out of the last 14 Embla Nordic Food Awards. As my colleague, Mads Fischer-Møller says, *"Common to both Denmark and Faroe was the realisation that deviating from the conventional food system (big farming, big fishery) and focussing on food linked to the high-value experience economy could offer new revenue streams, new jobs and a better food future."*

A great example of a business that started as a simple farm-to-table box scheme is Aarstiderne in Denmark. This business is now a leading force for food culture change, influencing over 60,000 households per week and actively testing new varieties of vegetables in partnership with leading Danish restaurants.

As an organisation, SAC has always worked with entrepreneurs and now, more than ever, the entrepreneurial approach is important. We're doing a number of things to support our customers. One key initiative is THRIVE – a new free collaborative initiative for our students and graduates that supports the next generation of food and drink sector entrepreneurs.

This initiative comprises two days of intensive online sessions. Attendees will gain essential business skills and knowledge to support their business idea – whether product or service, including concept development, planning, marketing, pitching and access to general business support information. We're investing in enterprise across the organisation, creating depth and vision.

Finding solutions for larger food and drink businesses is also part of the day job at SAC Consulting, with advice supported by in-depth research experience. Recent projects have included:

- **The assessment and implementation of blockchain technology to support digital transformation, efficiency and provenance.**
- **Reviewing markets for new products from 'waste streams' and undertaking carbon footprint analysis for new supply chains.**
- **Food safety – for example, antimicrobial resistance work considering the impact down the food supply chain of using antibiotics to control disease in livestock.**

Critical to our success is our mix of people with commercial industry experience and people with leading-edge research expertise to provide solutions for many of the issues facing industry today.



## Get in touch

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For more examples of SRUC's food safety work,  
please contact [Nicola.Holden@sruc.ac.uk](mailto:Nicola.Holden@sruc.ac.uk)

## Dates for the diary

The next THRIVE online sessions for students and graduates takes place on 6 and 13 November 2021.  
Contact [Ceri.Ritchie@sac.co.uk](mailto:Ceri.Ritchie@sac.co.uk) for more information.

# Turning great ideas into reality

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Our consultants have played a major role in organising, facilitating and delivering a series of ground-breaking projects from the Highlands to the Borders.

BY IAIN RIDDELL, HEAD OF PRODUCTS AND SERVICES

As part of the Rural Innovation Support Service (RISS) consortium, our consultants have facilitated 28 farmer or supply chain groups working on new ideas or problems that needed solving, bringing in the best expertise available. We've also helped other groups of farmers deliver six Knowledge Transfer Innovation Fund (KTIF) projects. Both of these Scottish Government funded initiatives were created to encourage new thinking, new processes or applying something that works in another industry to agriculture. A good facilitator has been crucial to the progress of all these projects.

To give you an example, OPA is a damaging sheep respiratory disease. A group of Speyside farmers keen to eliminate it from their flocks were frustrated that they could spend a lot of money identifying and removing affected ewes, but this would have minimal impact unless their neighbours followed suit. They involved Elgin consultant and former vet, Laura Henderson, to help the group draw up a strategy to increase understanding of the risk factors for OPA spread, raise awareness of the disease with other local farmers and work with more local vets to start offering an ultrasound scanning service.

Another group of sheep farmers, keen to make better use of their digital flock records were supported by Daniel Stout to streamline the data to aid selection and management decisions. Thanks to the RISS groups development this project is now part of the international Sm@RT Horizon 2020 project. There's also the Lanarkshire farmer group keen to improve habitat for wading birds who worked with Jennifer Struthers and now have funding from RSPB to test ideas. Malcolm MacDonald's Highland group is pioneering technology that confines livestock to fenceless fields or moveable areas through virtual fencing. Alex Pirie's Net Zero Arran group links farmers and businesses through Taste of Arran, who are all keen to reduce greenhouse gas emissions and market their produce on the back of this. Also on the climate change theme, we have Rebecca Audsley's facilitation of a group working on farm hydrogen fuel with plans to set up a Farm Hydrogen Hub and Moira Gallagher and Mark Bowsher-Gibbs' Lothians and Borders group developing best practice for cover crops.

An enforced benefit of virtual working has been pulling in farmers and experts from far and wide, notably Poppy Frater and Stephen Adlard's agroforestry group working on the support and back-up required to develop best practice for farmers keen to try agroforestry on their land.

Similarly, my Sugar Beet group looking into the feasibility of reintroducing the crop to Scotland after a 50 year gap, to provide biofuel to add to petrol and a range of ethanol derived bioplastic products that help decarbonise Scottish industry.

In addition, the SAC Consulting Food and Drink team has facilitated a raft of novel food supply projects such as Calum Johnston and Janette Sutherland's Skye mutton project, Ceri Ritchie and Alistair Trail's work with NE estates on new markets for estate game, Alistair Trail's Scottish Oat Milk project, Paul Mayfield's initial RISS Blockchain work on traceability for gluten-free oats, and Alistair Trail's Scottish tea growers.

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*The RISS program has received positive feedback and outcomes and we are looking out for any further funding of this type where good ideas from your business area can be taken forward.*

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KTIF groups include Kirsten Williams and Poppy Frater's highly successful Live Lambs project working with five focus farms and many others to promote best practice for lamb numbers, survival and growth; Lorna Macpherson's Reducing Antibiotic Use in Scottish Dairy Farms; Zach Reilly and Kyran Maloney's testing of Tuberzone technology to predict seed potato growth and burn down dates; Paul Mayfield's group using blockchain technology to record traceability for gluten-free oats; Lorna MacPherson and Karen Stewart's group Feeding for Fertility using metabolic profiling to fine-tune suckler cow nutrition and Building Resilience into Scottish Lamb Supply Chains, which was led by Farm Stock Scotland and supported by Kev Bevan and Poppy Frater.

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*RISS turns a good idea into a properly thought through project plan, and KTIF funds projects that test and encourage uptake of innovative technologies or processes.*

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## Get in touch

Tell us about your great ideas:  
[sacconsulting@sac.co.uk](mailto:sacconsulting@sac.co.uk)

# Boosting biodiversity

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**What does it take to attract a corncrake from Africa to Uist?**

**It turns out you need people on the ground working together, a bit of passion, good relationships, funding doesn't go amiss, and a fair amount of manure.**

**BY SIOBHAN MACDONALD, SENIOR CONSULTANT & AREA MANAGER**

Crofters and hill farmers are the principal managers of a huge proportion of Scotland's agricultural land. As such, they have a key role to play not only in maintaining good quality food production but also in maintaining a wide variety of habitats and wildlife species and in providing a wide range of other public benefits to society. SAC Consulting and SRUC have been involved in many initiatives this year and I'd like to talk about a few of the biodiversity boosting measures undertaken with crofters and farmers.

## **CROFTING DELIVERS**

A combination of changes in habitat management and condition (in some places associated with increases in grazing pressure, or loss of hay meadows, but in many others associated with marked reductions in livestock over the last decade) and increased pressure from predators (especially from foxes and crows during the breeding season) have been identified as the major constraints on farmland and wading bird populations. Initiatives such as the Skye Corncrake Partnership and Working for Waders have encouraged landscape scale management to help address these declines. SAC Consulting's advisors on the ground have provided practical advice on matters such as grassland management and cropping, whilst partners such as the RSPB have provided advice on fine-tuning habitats. Scottish Government's schemes have been drawn up by SAC Consulting to help crofters with the capital costs of the creation of habitats and ameliorate losses of income. But it's the crofters and farmers on the ground who engineer the outcome.

*A decline in upland birds has been evident across Scotland since 1994, with some species like curlew and lapwing undergoing major declines in populations, and corncrakes, corn buntings and chough are teetering on the edge.*

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## **NEW IDEAS BRING HOPE**

On the subject of 'outcome', SAC Consulting has been involved in investigating a pilot scheme with an entirely new way of supporting farmers and crofters. It's widely recognised that active management by hill farmers and crofters has a crucial role to play in maintaining and increasing habitats, and since such work requires support – both advisory and financial – NatureScot have led a project looking at support from a fresh perspective. Several organisations including SAC Consulting, RSPB and EFNCP along with NatureScot are working locally with crofters and farmers in piloting an outcomes-based approach in Scotland. This outcome or results-based approach supports the crofting or farming system and makes it more sustainable for everyone concerned. The skills involved in looking after high-nature value farmland are numerous, such as judging appropriate grazing levels in grassland and moorland habitats for nesting waders, or managing a variety of crops and fallow on machair. By working locally with farmers on the ground, there's hope for a workable and practical approach.

### THE NEW TAKE ON HAY MEADOWS

Everything comes back into fashion, and the new take on a traditional hay meadow, which often contains 30 different species, is a multi-species grassland sward. With intensification, the number of species in many fields has fallen, as we have become more reliant on perennial ryegrass. Recent research has shown numerous benefits of increasing the plant diversity in our grazed and mown pastures. There have been trials which demonstrate a yield increase from their use. Moreover, there are trials that show less need for bagged fertiliser and maintaining yields which is a boost for farm profitability. The Smart Grass Project, led by University College Dublin found that compared to perennial ryegrass, multispecies swards produced the same quantity of herbage dry matter with 45% less fertiliser nitrogen.

All fields are unique, so advisors at SAC Consulting, through the Farm Advisory Service, have developed an online tool to determine the species to consider for inclusion within a seed mixture. The tool will provide a brief description of the species and their attributes and the benefits they can bring to you and your wildlife. Multispecies swards can be more resilient, which is of increasing importance with a changing climate, for example, species with deeper roots can be beneficial during a time of unexpected drought, and there is less need for bagged fertiliser which is a boost for croft and farm profitability.

### BANKING CARBON

Peatlands cover more than 20% of Scotland's land area and have the potential to be an important carbon and water store as well as internationally important wetlands. It's estimated that over 70% of peatlands in Scotland have been damaged to some degree and therefore are not only a source of climate-warming greenhouse gases but also have a markedly reduced capacity to store water and support biodiversity. Upland and managers have a huge role to play in helping tackle these environmental issues on behalf of wider society. However, as SAC Consulting's rural business team have reported, many of these environmental concerns are in parts of Scotland which are especially sparsely populated and where demographic projections indicate declining populations over the coming decades. There is therefore a need to carefully consider what type of support mechanisms may be most appropriate to maintain active populations in rural areas capable of ensuring multiple agricultural and environmental benefits from such integrated upland land management systems. SRUC staff are actively investigating the agricultural and environmental challenges and opportunities facing upland systems and are also providing advice to the new farmer-led groups, such as that for Hill, Upland & Crofting, charged with providing recommendations to Scottish Government on future policy needs.

Scotland has a target to restore 250,000 ha of degraded peatlands by 2032, which will require not only support from public and private funding but also active land managers capable of undertaking the restoration and follow-up habitat and grazing management.



### Get in touch

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# A vibrant future for beef breeding

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**Climate change is impacting all our lives and we all have a responsibility to adapt our lifestyles in order to reduce our impact on the planet.**

**BY ROBERT RAMSAY, BEEF SPECIALIST**

Scottish Government has set the very ambitious climate change target of achieving Net Zero by 2045, meaning many aspects of our lives will need to change. What does this mean for beef farmers?

The environmental credentials of beef production have been heavily scrutinised in the media, with a huge amount of airtime devoted to the subject, particularly pre-COVID. As we (hopefully) head towards a post-COVID future, and look towards a so-called 'Green Recovery', it's clear that climate change is going to be even more important in the eyes of the government and the consumer.

Where we can make reductions in emissions, we have a responsibility to do so. But consumer attitudes are changing and low carbon is high on the agenda. We expect that future support mechanisms will very likely focus on reducing emissions, improved herd metrics and greater biodiversity. As farmers, we must engage in the carbon reduction process, engage with our consumers, and sell high-quality, safe, traceable, low carbon beef and in doing so, also secure a vibrant future for our great industry.

**Scotland produces high quality beef** which is among the safest and most traceable in the world, something we should be proud of and something our consumers have come to appreciate, particularly in the last year.

## **TECHNOLOGY AND INNOVATION**

Professor Bob Rees of SRUC, highlighted in the CIEL report, 'Net Zero Carbon & UK Livestock', the need for new innovations to reduce emissions beyond the levels that currently known mitigation strategies will deliver. The report identified that even if all known methods for mitigation of carbon emissions were taken up rapidly, the industry could only deliver 19% of the aspirational carbon reduction target by 2035. This highlights the urgent need to advance technologies and develop new innovations to address this critical issue.

From sensors for oestrus detection and pre-calving monitors to increased use of AI, robots, and temperature and moisture sensors to aerial images and GPS technology – many technologies are becoming more applicable to commercial farmers as the cost of systems come down.

## **DRIVING OUT INEFFICIENCIES**

At farm level, reducing carbon emissions and improving profitability go hand in hand. We expect to see more moves to look at cow types and breeding to suit the market as the processing retail sectors drive for uniformity and eating quality. We'll also see an increase in the use of genomics to allow producers to better predict the genetic merit of progeny from young animals before they've produced any calves, and to identify high-merit efficient finishing cattle.

Don't forget where it all starts – soil health. We expect there to be a continued drive towards regenerative agriculture, where cattle have an important and exciting role to play in increasing organic matter, particularly in degraded arable soils, but also in

grassland situations. With a major investment in the development of Agrecalc, our market leading carbon calculator, we are entirely committed to helping farmers to identify opportunities to reduce emissions as well as become more profitable.

Watch out for more news soon to help you identify cost-effective opportunities to improve technical efficiency. SRUC vets are developing a new programme that combines basic on-farm performance data with mandatory recorded information and translates this into an 'actual' and 'target' Net Output financial measure. The output is simple and covers three key areas – fertility, calf survival and growth rates, allowing the farmer to target time and resources only to the areas likely to yield the most benefit to the business.

*By minimising inefficiencies in systems, much progress can be made in terms of carbon and financial performance.*

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*The suckler cow has had a tough time in recent years with regards to methane emissions but as we develop our understanding of soil carbon and sequestration, the cow should go from villain to hero.*

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*Many farmers are already seeing the benefit of better management of grass. Systems such as rotational and paddock grazing have resulted in significant improvements in livestock performance. Many have also seen reduced fertiliser bills with better grass varieties and analysis of soils together with more targeted use of on-farm manure.*



#### **CHANGE IS (ALWAYS) HERE**

The message of improving efficiency is of course nothing new. Farmers have been working hard to reduce costs and improve output since the agricultural revolution. If we look back even just one or two generations, the progress made in farming is abundantly clear to see. In the past, a farm would carry a small herd of cattle and a few sheep while supporting several full-time labour units. Increased mechanisation and technology, along with tightening margins have meant farms have become much bigger with much less labour. We often hear that change is coming but our industry is dynamic, and change isn't coming – change is here, it always has been and always will be.

The challenges on the horizon may seem daunting, but SAC Consultants along with SRUC vets and researchers, continue to work with you and on your behalf to make sure the beef sector has a bright future.

#### **Discover more at**

[Cielivestock.co.uk](https://cielivestock.co.uk) and search net zero carbon and UK livestock

[Gov.scot](https://gov.scot) and search suckler beef climate scheme

#### **Get in touch**

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# How healthy are your crops?

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The arable sector, along with the rest of the industry and wider economy, has been challenged to reduce emissions with an ultimate goal to meet 'Net Zero' by 2045. SRUC and SAC Consulting are working to help the industry to achieve these targets.

BY PETER LINDSAY, PRINCIPAL CONSULTANT

To make the fastest progress possible and to strongly support the sector we have made changes to the internal structure of how the Crop Trials teams, Crop Clinic and Soils Labs are integrated between Academic colleagues and SAC Consulting. This is another of those changes not yet visible from the outside but key in our strategy to bring advisors together with field trialists and like-minded practical researchers such as Dr. Phil Burgess in Potatoes, Dr. Neil Havis in crops and Prof. Fiona Burnett to work on industry challenges.

Many of our consultants in the arable parts of the country provide an independent agronomy service for farmers, walking crops and providing recommendations on fertiliser and pesticide use. This service is backed up by the independent research work carried out by our own SRUC Crop Trials Service, and we have strengthened these linkages this year. It allows farmers to get unbiased agronomic advice based on independent research, whilst benefiting from being able to shop around to buy chemicals and fertiliser from the most competitive supplier.

The Crop Trials Service has appointed a new manager, Pierre Alain Bouffandeau, to head up our trials teams based in Ayr, Edinburgh and Aberdeen. Pierre brings a wealth of technical and commercial experience in managing crop trials and is a key appointment as we bring our advisors and trials work closer together. The service is steered by a senior group with representatives from SAC Consulting, Research and Education giving a more integrated approach to trials and allowing this work to better meet the needs of farmers.

One recent example that demonstrates the benefits of this integration, is work being carried out by the Crop Trials Service for the Research Division looking at the merits of grazing livestock on winter cereal crops. This started off as an interesting discussion between a farmer and his SAC Consulting agronomist during a drought when grass growth was slow. It then developed into a RISS project, having a quick on-farm trial and grazing sheep on cereals, which showed positive benefits to the crop yield. Funding was then sought to investigate this more scientifically to see what benefits this may have on soil health.

In a similar vein, SAC Consulting is backed up by our own Crop Clinic and Soil Laboratory currently being merged into one facility. Work is under way to increase the capacity of the Soil Labs in preparation for compulsory soil analysis that we expect to be implemented in Scotland in the not too distant future. SRUC Soils Labs are set up specifically for analysing Scotland's acidic soils using Modified Morgan Extraction. The labs are UKAS Accredited to ensure reproducibility and consistency of analysis and are fully independent. Again, at the heart of our thinking is how we set ourselves up to serve our customers quickly and accurately.

SRUC researchers and scientists are continually updating and tailoring fertiliser recommendations for various crops and soils which can be found in our technical notes which also provide the basis for the national NVZ regulations that are heavily influenced by Dr Alex Sinclair.

SAC Consulting can provide the complete package of advice on grassland and arable production based on independent research carried out using our own Crops Trials Service and supported by our own fully accredited independent Soils Laboratory.

*SRUC Crops Trials Service carries out trials work for both research projects and commercial clients and has around 9,000 cereal/oilseed plots, 6,500 grass/herbage plots and 1,500 potato plots based on eight sites throughout Scotland serviced by 14 trials officers.*



## Get in touch

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# Carbon accounting. Net zero. Baselines.



The lexicon of measuring and managing greenhouse gas emissions might not come naturally to most of us. But these issues matter; they really, really matter.

VICTORIA MCDOWELL, HEAD OF AGRICULTURAL ADVISORY

They matter to companies and increasingly to consumers too. Land managers are also coming to realise that they don't just affect how individuals and society talk about farming. They are also going to influence how society invests in farming and land management. They will soon have a significant bearing on the finances of farming families and business.

Whilst management consultants may no longer hold sacred the maxim that "if you can't measure it you can't manage it", this remains a cornerstone of climate policy. That is why understanding as accurately as possible what starting (baseline) emissions are, and measuring again later to quantify progress, is fundamental to the effort to tackle climate change. The farmer, processor or retailer understands the footprint of their own activities and produce and is then incentivised, encouraged or required to improve.

The climate scientists understand the sectoral, regional, national or global picture better and can improve their projections. And governments and global institutions can be more confident in making political and financial investments.

Of course, if the rules and means of measurement aren't robust, then this entire process loses credibility and value. That is why there are globally agreed rules on how emissions are apportioned, and a raft of standards (some old, many emerging) on how calculations should be made. The point at which all this abstract complexity meets reality is often in a carbon calculator. These tools need to capture data about the real world – perhaps the operations of a farm – and find a means to translate this into kilograms of carbon dioxide equivalent and other such measures. It is no easy task, with the crux often being the tension between creating a tool that is easy to use, and one which generates credible results and useful recommendations.

In the early days of farm carbon calculators, the focus was on simple 'tick box' tools to fulfil marketing requirements. They were certainly easy to use: their value however was deeply questionable. In 2007, SAC Consulting and SRUC were prompted to start developing an independent and evidence-based carbon calculator after questioning the climate friendly credentials of imported lamb.

It was decided that a priority for this new tool, eventually named Agrecalc, be that it provide data that was robust enough it could be used for research and government purposes, but at the same time be user-friendly enough that consultants and farmers – with a bit of practice – could get to grips with it and get value from it.

In the years since, it has gone through various iterations and facelifts, but 2021 will see perhaps the biggest changes of all, with an entirely new and intuitive user interface, the capability to capture soil carbon and hedgerow data, and the ability to create and compare scenarios and test the effect of proposals. Able to identify and measure the main sources of carbon emissions, monitor improvements, and benchmark key performance indicators for agricultural production systems, it has been built from the ground up to capture whole farm, enterprise, product performance, and carbon emissions for all main UK farm enterprises. No other tool does this, which is one of the reasons why some 8,000 businesses now use Agrecalc.

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*Agrecalc has the potential to be the global leader for agricultural carbon emission calculations and mitigation, enhancing SRUC's reputation as a world-leading research institution providing independent, evidence-based environmental solutions for agricultural production systems.*

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The potential doesn't stop there, with other sectors calling out for similar tools and the demands of users driving constant improvements. With the eyes of the world on Glasgow and COP26 in November 2021, this will present SRUC and SAC Consulting with an opportunity to showcase the great research and consultancy that has gone into the creation of Agrecalc, not to mention the insights and gains made by those who use it – first and foremost Scottish farmers.



## Get in touch

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# In memoriam

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## Trevor Polley

Passed away in April 2020

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Trevor worked for SAC Consulting for ten years, initially in the Portree office, then for the bulk of his SAC career in Oban, delivering agricultural and business advice to West Coast farmers and crofters.

From technical advice for beef, sheep, grassland and barley producers to advice on agri-environmental management, clients benefitted tremendously from Trevor's extensive experience in agriculture and forestry. In fact it was a running joke with Trevor that if we discussed any activity, Trevor had been there and done that – from farming to rock climbing to military to the Olympics, and there was always a good story behind them all. These experiences meant Trevor was able to put many problems into perspective and made him a great consultant and colleague.

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## Gavin Elrick

Passed away in November 2020

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Gavin worked for SAC for 36 years, responsible for wide ranging soil and water consultancy, not only in Scotland, but around Europe. He touched many lives at SAC Consulting over the decades, through his work on many varying projects, but also simply through his abiding passion for farming issues.

Gavin enjoyed sharing his knowledge with colleagues and farmers. He spoke with much conviction, humour and credibility, whether at farmers' meetings, demonstrating on farm walks or sharing his knowledge at training days. People always listened and went away better informed. Gavin had time for everyone, really listening with full attention, generous with his time and advice, and respected and depended on by all who knew him.

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## John Forster

Passed away in March 2021

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John was a consultant and manager in our Campbeltown office for over ten years. During that time he put his all into our organisation and into his clients and the Kintyre farming industry. He was always thinking of new ideas and collaborative ways for SAC Consulting to work and service clients and was inclusive of all teams across SRUC.

For many of us, our overwhelming memory of John is that he loved a chat, whether it be farming, politics or rugby, and would happily put the world to rights with anybody. John made time for everyone, no matter how busy he was, and the office was always busy (pre-Covid) with clients popping in to have a chat, and always greeted with John's big smile.

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# Why we're here for you

SAC Consulting supports the sustainable growth and prosperity of agriculture and land-based businesses – we work across sectors, and the food supply chain as it rises to the challenges of climate change

- Helping customers improve productivity, reduce emissions and implement sustainable practices

- Taking a long-term view and being committed to our customers by adding value
- Providing best-in-class agriculture and land management services that support our rural communities and all participants in the food supply chain
- Helping customers market their products and improve produce integrity within a circular economy

We hope you enjoyed the first edition of Perspectives. Do tell us what you'd like to see more of, or covered in more detail next time around by contacting us at [sacconsulting@sac.co.uk](mailto:sacconsulting@sac.co.uk).

## Your words to describe us

Service Familiar Partner Engaging Independent  
Friendly Support Approachable Support Efficient  
Trusted Knowledgeable Value  
Informed Innovative Helpful Organised Local  
Professional Reliable Interested Diversity Rural  
Modern Invaluable Current Unbiased Honest Engaging

Source: SAC Consulting Subscriber Survey, January 2021

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Niall Campbell



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