

LIVESTOCK+

QMS Sharing best practice from Scottish livestock businesses

SPRING 2017

+ Updates

MONITOR FARM FOCUS –
MEET THE FARMERS INVOLVED

OPPORTUNITIES AHEAD FOR
SCOTTISH PIG PRODUCERS

IMPROVING MARGINS
AND REDUCING EMISSIONS

FEATURES

**Small Steps Delivering Big Benefits
for Galashiels Sheep Farmer**

**Simplicity and Efficiency
Behind Drumdow Success**

**Optimising Grass to Produce
Thriving Worm-Free Lambs**

Inside

Latest news, innovations,
case studies...
+ more online at
www.qmscotland.co.uk

AWARD-WINNING FARMS • MONITOR FARMS • CLEAN GRAZING POLICY • PIG OPPORTUNITIES

2017 CAMPAIGN
LAUNCHES IN MARCH



THERE'S BEEF.
THERE'S SCOTTISH BEEF.
THEN THERE'S **SCOTCH BEEF.**

Find out why it's better at scotchbeefkitchen.com





LIVESTOCK+

How to contact QMS:
visit www.qmscotland.co.uk
email info@qmscotland.co.uk
or call us on 0131 472 4040



For the latest, up-to-the-minute information, follow us on Twitter or like our Facebook page – Quality Meat Scotland.



Sign up for our free weekly e-newsletter at www.qmscotland.co.uk



Issue 11, Spring 2017
Published by Quality Meat Scotland, 2017
All rights reserved.
© 2017 Quality Meat Scotland
ISSN 2057-0368

This publication is printed on an FSC certified paper, supporting responsible use of forest resources.

WELCOME



You might recognise some of the faces on the cover of this issue of Livestock+. They are the farmers who have been selected as the hosts of the nine new monitor farms which have been set up by QMS and AHDB Cereals & Oilseeds, in a project funded by the Scottish Government and European Union's Knowledge Transfer and Innovation Fund.

I'm not sure what the collective noun is for a gathering of monitor farmers, but what I am sure of is their collective determination to seek out the full potential of the farm businesses they run. They also have a shared desire to see other farmers across Scotland benefit from what is learned during their three-year tenure as monitor farmers.

You'll find a special feature on the nine farms inside this issue of Livestock+ (pages 12–17). The first meetings of the new programme are now underway, and it is fantastic to see so many farmers getting involved and putting themselves forward to be part of the community, business and management groups which will be so important for the success of the project.

This initiative is very much farmer-led and farmer-driven, and its success depends on the willingness of farmers to open their gates to others and their minds to new ideas. Our thanks go to all the farmers involved, and to the facilitator teams who will support the project.

In this issue, you'll also find a feature on the new pig monitor farm. This equally exciting project is separately funded, with support from QMS and Opportunity North East, and we look forward to seeing the results in the coming months and years.

You'll also find features on the winners of the Scotch Beef Farm of the Year (Drumdown, Stranraer), run by QMS and AgriScot, and the Scottish Sheep Farm of the Year (Bankhouse, Stow) supported by AgriScot and Thorntons. Our congratulations go to both winners!+



Jim McLaren, Chairman, Quality Meat Scotland

CONTENTS

4 News

Latest news from QMS.

8 Small Steps Delivering Big Benefits

How Bankhouse maximises kilos of lamb per hectare of grass.

10 Simplicity and Efficiency Behind Drumdown Success

Return to native genetics and focus on heifer production drives profits.

12 Monitor Farms - Six-Page Focus

Meet the farmers who are opening their gates.

18 Optimising Grass to Produce Thriving, Worm-Free Lambs

Clean grazing policy on an Angus farm delivers benefits.

20 Opportunities Ahead for Pig Farming in Scotland

Scotland's new pig monitor farmer is upbeat about the future.

22 Opportunity for Producers to Improve Margins and Reduce Emissions

Implications of climate change targets.

Chief Executive Report



Over the past 11 years in my role as Chief Executive of QMS, I have constantly looked for opportunities to further improve the effectiveness of how we deliver our activities for the Scottish red meat industry.

We have a year-round focus on driving value for money for our levypayers but there is always room for improvement in every business and during our planning process at this time of year we also look for opportunities to improve our efficiency.

One of the benefits of being such a small team is that we

can be quick to respond to opportunities for our industry although that also means the small number of staff carry hefty workloads and the assistance and support we get from farmers and others in the industry is hugely appreciated.

During our planning process we ensure that fresh ideas from a range of sources - including board members, the farmer members of our working groups and from staff - are considered.

Something which is very clear is that small changes can have a big impact on the overall performance of all types of businesses and this is something which shines through in the farmer features in this edition of Livestock+.

Another of my priorities is a very strong communication flow to ensure our levypayers are kept up to date with the activities we undertake. This publication is one example but we use numerous other routes to keep farmers informed - from press releases and columns in publications to events, our weekly e.newsletter, the QMS website, social media and video content.

It is important, however, that our determination to keep levypayers fully informed does not compromise the delivery of our workload for the industry in terms of the resources we have available.

At this time of year we have previously issued a paper questionnaire to farmers requesting information about their business plans for the year ahead. This year, however, we will take a new "bite-size" approach which we hope will be well-received and less time-consuming.

We'll be asking your views with just two or three questions at one time. We'll flag these questions in each edition of Livestock+ and they will be simple and quick to answer on-line.

We very much appreciate your assistance with this feedback which is of great value to us and helps us ensure we are delivering strongly for our levypayers.+

Uel Morton

Uel Morton,
Chief Executive,
Quality Meat Scotland

QMS CHIEF EXECUTIVE

QMS is looking for a successor to take over the reins from Uel when he steps down from his position this summer after 11 years as chief executive of QMS, and 20 years in chief executive roles in the Scottish food and drink industry.

To find out more about this role please visit the QMS website:
www.qmscotland.co.uk.

The closing date for applications is
March 3 2017.+

Grab yourself a FREE Scotch Beef T-shirt



We're keen to hear your views and have moved away from our annual paper farmer survey to a new quicker, simpler online format.

We'd be grateful if you would answer a few quick questions which you'll find at www.qmscotland.co.uk.

There will also be an opportunity to receive a **FREE** Scotch Beef PGI T-shirt for those who respond.

Our spring survey questions look at how useful you find social media and also your views about your free edition of Livestock+.+

NEW ADDITION TO THE QMS TEAM



A warm welcome to Dr Heather McCalman, who recently joined QMS as a Knowledge Transfer Specialist in the Industry Development team.

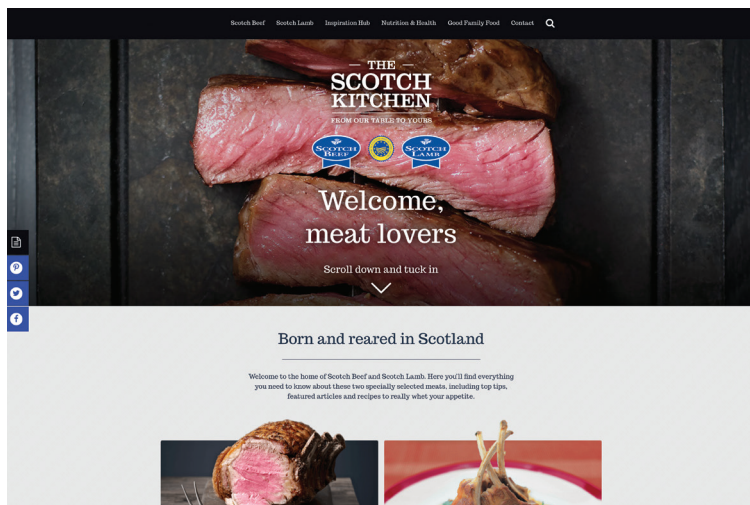
Heather has extensive experience of sheep and cattle production and putting research into practice.

With a degree in agriculture from University of Wales and a PhD from Wye College, Heather has been employed in many different roles in UK livestock sector, most recently as manager of the IBERS Grassland Development Centre at Aberystwyth University.

Her role with QMS will involve the effective delivery of a range of activities aimed at assisting farmers in Scotland to further improve the productivity and profitability of beef and lamb production.

"Heather has a wide knowledge of farming as well as a great enthusiasm for livestock production and I am delighted to welcome her to the team," said Doug Bell, QMS Head of Industry Development.+

Meaty New Websites Inspire Consumers



QMS has launched two meaty new websites, packed with recipe inspiration and ideas.

The Scotch Kitchen website, www.scotchkitchen.com, has been completely redesigned and is now a one-stop shop for Scotch Beef PGI and Scotch Lamb PGI recipes, culinary articles and top cooking tips.

With over 400 recipes and articles available, visitors to the website can also search for "Meal Type", "Dish Type" and "Preparation Time". There are also

meals suitable for special occasions such as "Family Get Togethers", "Tasty Family Meals", "Impressive Dinners" and "Weeknight Winners".

The Specially Selected Pork website, www.speciallyselectedpork.co.uk, has also been refreshed to make the website easier to navigate, with a focus towards recipe inspiration and encouraging consumers to try pork.

Fans of the Scotch Kitchen and Specially Selected Pork can also share their latest culinary delights with others via Facebook and Twitter @ScotchKitchen @EnjoyQualPork.+



Specially Selected Pork Supports Social Bite's CEO Sleep-out

First Minister Nicola Sturgeon served up Specially Selected Pork rolls to participants, including Uel Morton from QMS, in the Social Bite CEO Sleep-out.

Mr Morton joined more than 300 industry leaders, sports people and politicians to spend the night in Charlotte Square, Edinburgh, in December. The group bedded down from 7pm to 7am with only a sleeping bag and umbrella to see them through the cold winter night.

All participants were raising money to build the Social Bite Village project, the country's first village for the homeless, in Edinburgh's Granton area.

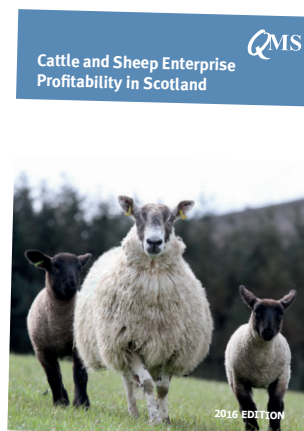
At the end of the sleep-out event, which raised over £500,000, participants were treated to a hot Specially Selected Pork roll, served by Nicola Sturgeon, Scotland's First Minister. QMS was delighted to support the event and supplied the bacon from Robertson's Fine Foods.+

Enterprise Costings Highlight Challenges and Opportunities

The new edition of "Cattle and Sheep Enterprise Profitability in Scotland" publication is now available from QMS.

Stuart Ashworth, Head of Economics Services at QMS, commented that this edition, which covers the 2015 calf and lamb crop year, shows the profitability challenge faced by sheep and cattle producers but also highlights the opportunity there is for producers to make changes which could improve their profitability.

To request a free copy, phone QMS on **0131 472 4040** or email info@qmscotland.co.uk. You can also download a copy at www.qmscotland.co.uk/publications.+



Wham Bam Lamb Campaign Delivers Results for the Industry

The Scotch Lamb PGI advertising campaign undertaken for the Scottish industry by QMS delivered strong results again last year.

Figures from Kantar Worldpanel covering the 12 weeks up to 9th October, 2016, show that during the campaign, identified Scottish origin sales of lamb in Scotland increased by 10.5% in value. Scottish origin lamb was also commanding a retail price premium of 11%.

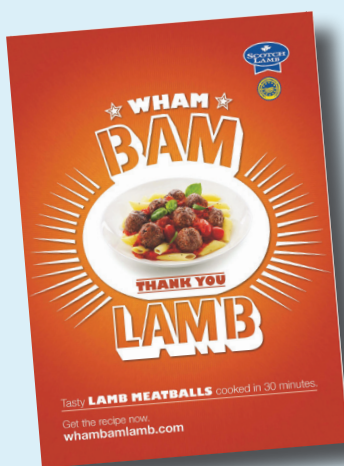
This strong Scottish-origin performance was set against a declining GB market in general, with overall sales of lamb decreasing by 10.7% in GB.

Research from IGD has also found that 70% of the target shoppers agreed that Scotch Lamb PGI is "produced to a higher standard" and 60% agreed it is "the best available".

The Scotland-wide 12-week campaign, included billboard, press and radio advertising as well as online and in-store activity such as sampling activity by Scotch "Lambassadors" in selected stores across the country.

Suzie Carlaw, Marketing Controller with QMS, said that the results confirmed that the campaign had delivered for the industry.

"It's also really encouraging that the figures from Kantar Worldpanel reveal that during the campaign, chops and steaks have driven growth in Scottish origin lamb by 28% in value, demonstrating that consumers are now viewing Scotch Lamb as a mid-week meal, not just for a Sunday roast."



SCOTCH BEEF AND SCOTCH LAMB HIGH PROFILE AT BRITISH PIE AWARDS

All eyes will be on the pies at the British Pie Awards later this year, where Scotch Beef PGI and Scotch Lamb PGI will play starring roles as the sponsors of two classes.

QMS is sponsoring the Beef and Ale Pie class and the Lamb Pie class at the world-renowned awards in Melton Mowbray on 8th March.

The annual event, which will see over 800 pies judged in 20 categories by pie experts, celebrity chefs and acclaimed food writers, attracts the nation's top pie makers, all of whom compete to win the coveted title of Supreme Champion 2017.

More information about the awards is available here: www.britishpieawards.co.uk



Scotch Lamb PGI Showcased at Top St Andrew's Day Dinner

Scotch Lamb PGI took centre stage at the annual St Andrew's Day Dinner on 30 November, held at the five-star Old Course Hotel, Golf Resort and Spa.

Around 140 discerning guests from across the country attended the Savour St Andrews dinner, which saw Scotch Lamb PGI, supplied by Campbells Prime Meats, take pride of place as the main course.

Six renowned Scottish chefs worked together to create the spectacular St Andrew's menu for the dinner, which celebrated the very best of Scotland's larder.

Martin Hollis, executive chef at the hotel – which is a member of QMS's Scotch Beef Club was joined by a host of top-ranking Scottish chefs to create the meal. These included Geoffrey Smeddle from the Michelin-starred Peat Inn, executive chef Frank Trepesch from five-star Fairmont St Andrews, St Andrews Links executive chef Ian MacDonald (who is also president of the Federation of Chefs Scotland), sous chef Nick Kock, representing head chef David Kinnes from Rufflets Country House Hotel (AA Scottish Hotel of the Year), and Stewart MacAulay from the multi-award-winning Adamson Restaurant (2015 Scottish Restaurant of the Year). The chefs were very ably supported by students from the SRUC Elmwood Campus in Cupar and Fife College. The fantastic main course was loin of Scotch Lamb with wild mushroom and herb mousse and braised shoulder and green lentil croquettes, finished with a thyme and port jus.



As guests were served the Scotch Lamb dish, Sutherland farmer Joyce Campbell spoke about the dedication, care and stockmanship skills behind the production of top-quality Scotch Lamb PGI. She also highlighted the importance of quality assurance and her passion for showcasing Scottish farming and Scotch Lamb to consumers from across the world.

Olympic Champion Meets Pupils, Farmers and Butchers to Support Scotch Lamb PGI

Double Olympic gold medallist Rebecca Adlington visited East Fulton Primary School in Linwood in October on a trip arranged by QMS as part of the 2016 "Wham Bam Lamb" marketing campaign.

She was there to inspire pupils about the importance of a healthy diet and just how quick and easy it is to rustle up a tasty nutritious meal using Scotch Lamb PGI.

Gold medal winner, TV presenter and busy mum Rebecca is a huge fan of lamb and recognises the importance of beef, lamb and pork in a healthy diet.

She explained: "During my time as an elite athlete, lean red meat was a very important part of my diet. As an excellent source of protein, zinc and vitamins, it helped make sure my body had all the nutrients needed for training, competing and recovery.

"That's just as important to my family's balanced diet today, and the versatility



Olympian Rebecca Adlington inspires youngsters about Scotch Lamb.



Rebecca Adlington with farmers James and Wendy MacDougall

of Scotch Lamb makes it the perfect component for a quick and healthy mid-week meal."

Later that day, Rebecca visited Elderslie Butchers in Renfrewshire and then headed to Muirhouse Farm, Kilmacolm, run by James and Wendy MacDougall and family, to learn about the quality assurance, traceability and animal welfare standards which underpin the iconic Scotch Lamb brand.

Carol McLaren, Head of Communications at QMS, said: "Rebecca is a great ambassador for healthy eating and a huge fan of lamb, and she was a true inspiration to the school-children she met.

"It's been fantastic to be able to give her a better understanding of all the commitment involved in Scotch Lamb production. The MacDougall family were delighted with the level of interest she showed in all the attention to detail and hard work which goes into the Scotch Lamb brand."+

SPECC live in auction markets

The Scotch Potential Eligibility Cattle Checker (SPECC) is now being used to determine the assurance status of all cattle presented for sale at Scotch assured auction markets.

SPECC allows farmers, auction markets and abattoirs to check whether individual animals are potentially eligible for the Scotch Beef PGI brand.

The sale display boards at the market will now show one of the following new

assurance status identifiers, replacing the current SA, FA and NA, which will no longer be used for cattle but will continue to be used for sheep.

Farmers are encouraged to use SPECC to check their cattle before presenting them for sale.

SPE Scotch Potential Eligible
FA + number of days Farm Assured
NA Not Assured



For more information and to start using SPECC, please visit: www.scoteid.com/qms/specc.

Small Steps Delivering Big Benefits

Bankhouse Farm at Stow, near Galashiels, may not be the biggest of farms but punches well above its weight in terms of both grass production and kilos of meat produced per hectare of grass.

The 107-hectare farm lifted the title of AgriScot Scottish Sheep Farm of the Year (sponsored by Thorntons Solicitors) in November. It is run by Graham Lofthouse, in partnership with his parents Bert and Wilma, and was bought by Graham's grandfather in 1959.

The panel of judges was very impressed by Graham's knowledge and attention to detail, and what shone through were the impressive results delivered by continuous small improvements.

Hamish Dykes, one of the award judges, said: "We are in an era where we are often told that big is best and expansion is key. However, the success at Bankhouse turns this on its head and proves that a profitable sheep enterprise, and a viable income, can be generated from a smaller farm."

Graham is married to Kathleen and the couple have a five-year-old son, Cameron. The family have recently had to deal with losing about 14 hectares of their land due to compulsory purchase for the new Borders Railway.

"Worse than losing the acreage was losing much of our wintering area on the old railway track for about 300 sheep and 30 cows, and our vehicle access across the farm," observed Graham.

However, not one to dwell on negatives, he invested the compulsory purchase compensation in a new sheep shed to house some of his 560 Easycare ewes and hogs.

Graham has been operating a closed Easycare flock for eight years, using home-bred tups for the majority and buying in Suffolk tups for about 100 ewes in what he calls the "B" flock.

"Any ewe which has problems is ear notched and given a chance in the B flock, but her lambs are never retained," said Graham.

"If she has problems a second year, she will be culled. Using Suffolk rams lets me easily identify lambs which should not be retained, and the fast growth rates allow me to finish them early."

This autumn, Graham ran 106 out of 123 ewe lambs with the tup. His criterion for ewe lambs to go to the tup is that they must have reached 65% of their mature weight, or 40kg, at tupping time. The hogs scanned 110% in 2016, with the ewes at 184%.

Through careful management, lamb losses are kept to a minimum. Graham said: "For the last seven years we now have an average of 7% lamb mortality from scanning to sale."



He added: "Body condition and nutrition are the key focus points for us in keeping cost of production down, and the biggest opportunity for this is grass. It is the perfect high-quality feed, with the right balance of protein and energy, and we need to exploit its potential."

Sheep and cattle have been on a rotational paddock-grazing system at Bankhouse for six years, and grass production has improved from 7,600kg DM/ha to 10,800kg DM/ha. Graham is now making 500 tonnes more silage than previously, all at around 11ME, and he has reduced bought-in feed costs by 60%.

"Body condition and nutrition are the key focus points for us in keeping cost of production down, and the biggest opportunity for this is grass."

He said: "Paddock grazing has allowed us to maintain stock numbers without taking rented grazing, and in 2015 we produced 830kg/ha of beef and lamb."



Making a net profit without Single Farm Payment is a business objective for Graham, and he has achieved this consistently in the last four years. He is an advocate for benchmarking his costs of production and monitoring his financial performance, which in turn helps him make informed management decisions.

"Farmers are always told that it is difficult to make money from smaller units, but if I can do it, imagine the potential on a larger farm. I think also that there is potential for new entrants to take on smaller farms and, by managing the grass and stock well, make a good living," said Graham. "For us, the sheep enterprise is all about marginal gains, getting the body condition right, getting the nutrition right, and they all add up to a bigger overall benefit."

The lambs not retained for replacements are all finished and sold to Scotbeef at an average 18.7kg deadweight, 2 or 3L and R grade or above. With only 130 lambs left to sell at the end of November, only two "O" grades had been recorded.

Graham works closely with his vet practice, the Royal Dick in Edinburgh, to maintain a comprehensive flock health plan which includes faecal egg counts, a fluke plan and regular body condition scoring.

Graham is delighted that, for the last four years, his ewes have consistently managed to produce more than their own body weight in lambs at weaning. He has recently installed an electronic weigh crate, which allows him to weigh and assess ewes individually rather than on a flock basis. He can now select his ideal breeding females - smaller sheep with high growth rates and excellent maternal traits.

The cattle enterprise of 72, mainly Simmental, cross suckler cows complements the sheep side of the business, and Graham's focus is now on using Aberdeen Angus and Hereford bulls to bring down cow size and manage the cattle as efficiently as the sheep on the farm.

As someone who likes to keep his head down and get on with the work, Graham was surprised but pleased to be nominated for Agriscot Scottish Sheep Farm of the Year, and of course delighted to receive the award. +

Look out for your chance to enter or nominate in the summer for the **AgriScot Scottish Sheep Farm of the Year 2017**.

Bankhouse - Farm Facts

107
hectare
farm

560
Easycare ewes
and hogs

72
Simmental
cross suckler
cows

7%
lamb mortality
from scanning
to selling

ewes
scan at
184%

hogs
scan at
110%

SIMPLICITY AND EFFICIENCY BEHIND DRUMDOW SUCCESS

A return to native genetics and a focus on heifer production has improved profits at Drumdow, the 2016 Scotch Beef Farm of the Year.



Drumdown - Farm Facts



230
hectares

210
Hereford and
Aberdeen Angus
cross cows (Black
Baldies)


Yearling Steers
average
410kg

95%
of cows and heifers
calve in six-week
period

The simplicity and efficiency at the heart of the beef enterprise run by Robert Parker led to it being nominated for the prestigious annual award organised by Quality Meat Scotland (QMS) and Agriscot.

Robert farms the 230 hectares in partnership with his wife Eileen, and runs 210 Hereford and Aberdeen Angus cross cows with Hereford and Angus bulls in a criss-crossing system, along with 200 Easycare ewes.

He bought his first Angus cross Hereford (Black Baldie) heifers in 2001 and was originally using a Charolais as a terminal sire. However, a trip to Argentina, Uruguay and Australia during his Nuffield Scholarship in 2006 convinced Robert that taking care of the maternal lines and breeding native heifers were the way forward for his business.

"Some people say that I have turned the clock back by using traditional native breeds in a two-way cross, but I could never understand why the industry seemed fixated on continental breeds more suited to cereal-based diets when South West Scotland is famous for growing lots of grass," said Robert.

The advantages of selecting bulls on maternal EBVs are not only to be seen on the female side. Robert said, "The side effect of improved maternal genetics is better steers. Fifteen years ago, I was selling Charolais cross steers which averaged 380kg as yearlings. Now my Hereford and Angus cross yearling steers average 410kg thanks to maternal, easy-calving cows in a tight calving pattern. Even though my calving date is still the same, the calves are now, on average, 30 days older at sale than the previous system."

Since this system was introduced the weaning percentage at Drumdown has improved from 82% to 94%. Robert has calculated that this improvement, along with the tighter calving period, means he sells more than seven tonnes more weight of steers per 100 cows put to the bull.

Although this is impressive, Robert insists that the real bonus has been shifting to a system which focuses on selling breeding females, which are fed a store diet but sold at finished prices.

This year, all the surplus heifers were sold to average £1,150 at 15 months. The steers averaged £910 per head at the April sale in Stirling, helping the net margin per cow to £245.

Robert runs the farm with the help of one stockman. In addition to the livestock enterprises, 14 hectares of spring barley and 46 hectares of twice-cut silage are grown, so the livestock has to be 'easy-care'. The cows are wintered outside on 53 hectares of moorland where they are fed silage on hard standings. They come into fields before calving at the beginning of April and after calving are turned onto paddocks in their bulling groups.

A tight calving period is crucial to the success of the system, so the four Hereford and three Angus bulls are out for just nine weeks. This results in 95% of the cows and heifers calving in a six-week period, with less than five per cent requiring assistance.

Robert said: "Any cow or heifer that causes me too much work will be culled. A breech calving will be tolerated, but anything with bad feet, big teats at calving, social issues, or just being a pain, will not get the chance of the bull. Similarly, anything not in calf will be culled – this is normally less than five per cent."

The tight calving allows him to sell the steers in groups of eight to ten, batched according to colour and breed. The steers have a good following at Stirling, with many repeat buyers liking them for their grazing ability and temperament. Most will finish off grass with a small amount of concentrate and are easily fleshed.

Robert said: "They are mostly bought by farmers, not dealers, which I find very satisfying and means it's easy to get feedback. The carcass weights are more in line with what processors are looking for in recent years for portion size, and I am sure that a cross of two of the most renowned eating-quality breeds in the world, finished on a grass-based system, will taste pretty good too."

"For me, it is not about pushing the boundaries in beef production performance and topping the market every year. It is about balance - maintaining good average figures and making a profit."

Despite this, the steers are still a by-product of the system at Drumdown, with the focus on selling breeding heifers. This year Robert had fewer to sell, as he is expanding his own herd as a result of buying some more land, but he takes pride in the fact that he is basically selling a system. Buyers will come back for two or three years, but once they are up and running with their Black Baldies they are self-sufficient, so Robert is always looking for new customers. He finds Facebook a useful tool for selling heifers, and they are all sold with health and fertility guarantees, as the herd is both BVD and Johnes accredited.

Robert believes he has got his herd more or less where he wants it now, meeting production targets on an annual basis, so the way forward for him is to continue to weed out the bottom five to ten per cent to increase efficiency and profits over the whole herd.

"For me, it is not about pushing the boundaries in beef production performance and topping the market every year. It is about balance - maintaining good average figures and making a profit."+

Look out for your chance to enter or nominate in the summer for the **QMS / AgriScot Scotch Beef Farm of the Year 2017**.

MONITOR FARM FOCUS

Scotland's nine new monitor farms have been opening their gates to their local farming communities in the first of a series of meetings that will take place over the next three years.



At each of these launch meetings, the host farmers gave an overview of their businesses and shared their aspirations for the next three years as they focus on improving their production efficiency and business margins.

The Monitor Farm programme is being run jointly by Quality Meat Scotland (QMS) and AHDB Cereals & Oilseeds, with funding from the Scottish Government and European Union's Knowledge Transfer and Innovation Fund.

The objective of the programme is to help improve the productivity, profitability and

sustainability of farm businesses through practical demonstrations, the sharing of best practice and the group approach to addressing industry issues.

There will be an opportunity for farmers to get involved with their local monitor farm and join the business group and management group which will be established for each farm.

Douglas Bell, Head of Industry Development at QMS, is delighted with the diversity of farm types that are involved in the programme. He said: "The nine monitor farms that have been selected represent a wide range of farm types, and business types and range from traditional family farms to larger integrated agribusinesses."

He added: "The hosts themselves are a mix of farmers and farm managers, managing land held under a range of land tenure options. Some monitor farms are managed by younger farmers, some are in the process of succession and some are comparatively new entrants to farming."

Although spread across Scotland, the nine monitor farms will work closely together throughout the programme. The nine farms involved will be examining all aspects of their farm business and will establish a network of information that farmers across Scotland can access.

The objective of the programme is to help improve the productivity, profitability and sustainability of farm businesses.

This whole farm approach, while still maintaining sector specialisms, will help Scottish farmers to make real developments in changing farm business management practices, resulting in improved agricultural efficiency, and environmental management, and helping to mitigate climate change.+

Nithsdale

Andrew and Aileen Marchant run Clonhie Farm, a 300-hectare upland farm in the south of Scotland.

Before the couple took over the tenancy of Clonhie in March 2012, Andrew was the manager of a dairy and beef unit in Castle Douglas. The aim, however, was always to run their own farm business.

The Marchants originally leased the 93-hectare Clonhie farm from Buccleuch Estates in 2012. Over the past four years they have taken on more land from Buccleuch, including a neighbouring 134-hectare farm.

The stock numbers on Clonhie have increased significantly since the Marchants took over. The farm now has 900 breeding ewes and 230 ewe lambs, and the couple hope to reach their target of 1,200 ewes by 2020.

They have also established a small herd of eight Luing cows and plan to build the herd up to about 40 in order to sell females and store cattle in the future.

The Marchants are ready to embrace any change that the community group may suggest in order to improve the farm's bottom line.

"So far we have focused on building the business and the number of sheep in



particular. **Now we need to focus on improving the technical efficiency of the whole farm business**, so becoming monitor farmers is perfect timing for us. We also hope many more farmers will share the benefits of what we learn along the way," said Andrew.+

Contact

Judith Hutchison
on 07718 919055 or email
Judith.agridigm@icloud.com

 Clonhie Farm



Scotland's Monitor Farmers (2017 - 2020)



Project Partners:



Project Funders:



Ayrshire

Girtridge Farm, near Dundonald in Ayrshire, is run by 27-year-old John Howie in partnership with his mother Margaret and his sister Mary.

The family moved to Girtridge in 2000, and in 2010 John took over the day-to-day management of the farm.



The 140-hectare farm sits in an elevated position just outside Dundonald in south-west Scotland, and the family also own a further 35 hectares of grazing land nearby.

The main farm enterprise is buying in store cattle and finishing them for sale direct to local abattoirs, but the family also have a herd of 10 suckler cows. In addition the farm runs 140 cross ewes producing Suffolk and Texel prime lambs that are mainly sold through nearby Ayr market. Everything grown on the farm is used on-farm including 56 hectares of silage and hay, and 28 hectares of spring barley.

John feels fortunate that Girtridge is very versatile. This means the farm is not restricted to one type of farming policy, and he is happy to consider a future change in direction as a result of the monitor farm process.

He said: "Ultimately I would like to grow the business and expand the farm as efficiently as possible, maximising profit and reducing costs."



"I am really looking forward to learning from other farmers and looking at what we could do at Girtridge to strengthen our business. I think it will be a huge learning curve, but one that I will benefit from, as well as the local farmers who get involved."

Contact

Raymond Crerar or Carol-Anne Warnock
on **01292 525148** or email
FBSAyr@sac.co.uk

 **Girtridge Farm**



Shetland

Sisters Kirsty and Aimee Budge took over the running of Bigton Farm in Shetland in 2014, with family support.



The Budge family have farmed at Bigton since 1860, initially as tenants before Kirsty's and Aimee's great grandfather bought the farm in 1950. The family also own nearby Toab Farm, with the two farms being run side by side.

In total, the farm comprises 300 hectares, most of which is permanent pasture and intensive grassland. They have 240 Shetland cross Cheviot ewes that are kept on the stunning 80-hectare St Ninian's Isle most of the year, which can be accessed from the farm by a sandy causeway. The sisters also have 70 spring-calving Saler cross Shorthorn sucklers.

Bigton farm is one of just a handful of farms on Shetland which is suited to growing barley. The family harvested approximately 60 tonnes of barley this year, and they are keen to increase their barley output in the future, as they feel that there is a strong market opportunity to sell it on the islands.

The Budes hope that being monitor farmers will not only help them develop their business and learn more about how they can make it more profitable, but that other farmers and crofters on Shetland will benefit from the programme, too.

Aimee Budge said: "Shetland is a beautiful place to live and work and has a wonderful farming community. **People here are incredibly friendly and supportive, and we really hope that the local farmers will get involved and make the project successful.**"

Contact

Graham Fraser
on **01595 693520** or email
FBSLerwick.sac.co.uk

 **Bigton Farm**

Lochaber



Strone Farm, a 1,200-hectare hill farm located in the Great Glen, one of Scotland's most scenic but also wettest areas, is run by Chris Cameron in partnership with his father Malcolm and mother Eileen.

The family, who are tenants of Lochiel and Achnacarry Estate, were inspired to become monitor farmers after attending meetings held on two previous monitor farms on Mull and in North Connel, Argyll.

They have already successfully introduced various changes in response to some of the main challenges the farm faces - including an annual rainfall of 120 inches and a major fox problem at lambing time.

However, they feel there is plenty of scope for the farm business to benefit from further changes and fresh ideas which could improve the efficiency of the business, which runs 550 North Country Cheviot ewes and 40 pure Limousin cows.

Chris said: **"We are far from perfect, and we know that there is plenty of scope to make improvements to our business through being part of the monitor farm project.**

"We're also really looking forward to sharing the benefits of having a monitor farm in Lochaber with other farmers in the area."+



Contact

Niall Campbell or Morven MacArthur on **01631 563093** or email **FBSOban@sac.co.uk**

 **Strone Farm**

Sutherland



Clynelish Farm, near Brora in east Sutherland, a 125-hectare farm is run by Jason Ballantyne and his wife Vic, in partnership with Jason's dad Murdo.

The Ballantyne family took on the tenancy of Clynelish in 1982, with Jason taking over the majority of the day-to-day management of the business in 2012. They also contract farm 48 hectares nearby and rent a further 50 hectares of rough grazing.

The family runs 900 breeding ewes, of which about half are Lairg-type Cheviots and the other half Lleyn cross. The Ballantynes also have 80 suckler cows, mostly a mixture of Simmental cross native cows, which are all outwintered.

The farm produces all its own hay and silage, and all stock are nearly completely forage fed. The Ballantynes are keen to find ways to supplement their winter keep and grew 12 hectares of brassicas for the sheep and cattle this year.

Vic and Jason are excited about being involved in the new monitor farm programme and are looking forward to seeing how their farm, and other farms in Sutherland and the far North, will benefit from the initiative.

"It's going to be great to have specialists coming to the area and sharing their knowledge and expertise on how to step up efficiency with us and other local farmers," said Vic.

Jason added: **"I think it is really important to us as farmers to challenge ourselves and look at our businesses and the way we do things.** Hopefully, by doing this, we can go on to make improvements and improve our bottom line."+

Contact

Willie Budge or Cat MacGregor on **01847 892602** or email **FBSThurso@sac.co.uk**

 **Clynelish Farm**

Morayshire



Corskie Farm, on the north-east coast of Scotland, is run by Iain Green in partnership with his mother and father, and the family have been farming in the area for over 60 years.

In total, Iain and his team farm 1,416 hectares (809 of which are owned) with cereals, sheep, cattle and pigs. While the majority of their arable lands produces spring barley for distilling (over 526 hectares), they also grow winter barley, winter wheat and spring oats, much of which are used to feed the livestock.

Precision farming is likely to be a key component of the project in Morayshire, with Iain keen to use it to help cut costs and increase yields. With over 688 hectares devoted to cereals, Iain currently records and reviews as much data as he can on his crops, to help improve their performance. Iain also plans to increase the monitoring of their 380 Simmental suckler cows, again with an eye on efficiency. He said: "We've been building the size of the herd over the last few years, but now **I think we need to look at how we ensure the herd is as productive and**



profitable as possible. I'd like to increase monitoring of liveweight gains, and also look at how much meat we are producing per cow."

Iain is hugely appreciative of his dedicated team of 12 full-time employees, without whom Corskie Farm would not be able to operate. He is also assisted by his two daughters, Laura (20) and Jemma (16), who both plan to work on the farm full-time in the future.+

Contact

Sam Stewart
on **01343 548789** or email
samantha.stewart@sac.co.uk

Derek Hanton
on **01463 233266** or email
derek.hanton@sac.co.uk

 **Corskie Farm**

Borders

Whitriggs Farm, near Denholm in the Scottish Borders, is run by Robert and Lesley Mitchell and their son Stuart - with support during busy periods from Stuart's brother, Alistair.



The Mitchells, who are keen both to develop their farm business and to safeguard it for future generations, currently farm 442 hectares of mainly semi-permanent and permanent grassland. They also grow approximately 40 hectares of winter wheat and oats for feeding their stock.

Robert Mitchell's father originally bought Whitriggs farm in 1957, and the family bought the neighbouring Denholmhill Farm in 1999; they now run both farms as a single business.

The Mitchells have 140 suckler cows, which are a combination of Beef Shorthorn cross and Aberdeen Angus cross. Whitriggs also runs 1,000 Lleyw ewes. Ewes are brought inside in mid-February, ready to lamb from 20 March onwards. Lambs generally reach their target 42kg liveweight from August, and the family aims to have all the lambs marketed by Christmas.

"Succession is something that we have had to think about for the farm," said Lesley. "We are pleased with what we have managed to achieve so far, but feel that we now need to look for opportunities to develop the business further so that, when the time comes, we can pass down a farm business with a viable future."



Robert Mitchell added: **"I believe that if you are not going forwards you are going backwards. Standing still isn't an option for us."**+

Contact

Stephen Young
on **07502 339613** or email
stephen.young@saos.coop

 **Whitriggs Farm**

Lothians

Prestonhall Farms and Saughland Farm are working together as a joint monitor farm in the Lothians.

These two neighbouring farms were once part of the same large estate and, although they are now separate businesses, the two farms have maintained close links since the estate was divided into three 20 years ago.

Saughland Farm is a total of 320 hectares, 70 hectares of which are arable. Peter Eccles joined Saughland Farm as farm manager three years ago; since then,



he has more than doubled the sheep numbers (from 950 to over 1,900) and is slowly moving the flock from inside to outside lambing. The farm also has 55 suckler cows, mainly Angus, Hereford, and Limousin crosses, which complement the sheep enterprise and are integral to the grazing system.


Prestonhall Farms, managed by Bill Gray, is an arable enterprise of 660 hectares, growing cereals and oilseeds on a five-year rotation. Currently the farm devotes approximately 120 hectares to spring barley, with 160 hectares of winter wheat, 70 hectares of winter barley, 70 hectares of oilseed rape and 60 hectares of oats, along with over 100 hectares of permanent pasture and 78 hectares of woodland.



Bill commented: **“I feel very comfortable going into this as a joint project, as Peter and I have similar philosophies in terms of what we are trying to do, and I think the farms will benefit from both closer working and the wider monitor farm project.”+**

Contact

Colin MacPhail
on **07747 046461** or email
colin@macphailconsulting.co.uk

 Prestonhall and Saughland Farms



Angus

Mill of Inverarity in Angus is run by husband and wife team Rob and Alison Stodart, with their two sons Rory and Tom.



The Stodarts farm 358 hectares (152 owned, 206 rented) on two separate units, and their enterprises include cereals, suckler cows and sheep.

Mill of Inverarity has been in Alison's family since 1884 (rented from the Fotheringham Estate), and Rob also comes from a farming background, although he was originally based in Dumfriesshire.

The Stodarts are considering some changes to their livestock enterprises. They have just doubled the size of the main flock to 440 breeding ewes (Texel and Texel Beltex crosses) and also buy in approximately 300 store lambs to finish. There are also 200 suckler cows (Simmental Limousin crosses), with 150 stores and 150 finishers. However, the family are reviewing whether the current enterprise mix represents the best policy going forward and are keen to explore how they can make the livestock more efficient.

Currently the farm devotes 130 hectares to spring barley, 30 hectares to winter barley, 25 hectares to oilseed rape and 40 hectares to winter wheat. However, that is also under review.

Alison says: **“We love farming; at present it really is a way of life for us, but it needs to be a sustainable business as well.**

That's a big part of the reason we wanted to be part of the monitor farm project: to help us become more productive and efficient long-term.”+

Contact

David Ross
on **01569 762305** or email
David.Ross@sac.co.uk

 Mill of Inverarity Farm

OPTIMISING ROTATIONAL GRASS TO PRODUCE THRIVING, WORM-FREE LAMBS

A clean grazing policy on a mixed unit in Angus has removed the need to worm lambs, without affecting production.

Balkemback at Tealing is farmed in partnership by Sandy and Julie Duncan and Sandy's father, Ian. The 300-hectare farm has been in the family since 1882 and has been organic since 2006. It particularly suits an organic system with its mixture of 100 hectares of LFA rough grazing and 200 hectares of rotational grass and cereals.

"We found we were applying more and more chemicals on the cereals and not seeing much yield benefit so when a whole farm review threw up the option of organic, we decided to try it," said Julie. "The system has worked well because we are almost self-sufficient in feed, and we have not had to reduce our stock numbers at all."

Stocking consists of 160 Simmental cross Aberdeen Angus suckler cows and 300 North Country mule ewes put to a Suffolk tup. Production costs in both enterprises are kept to a minimum by making the most of the temporary grass leys, which are a standard grazing mix including white and red clover. Ewes are wintered on the unimproved hill ground and cattle summered on it, easing the pressure on the lowground grass.

The farm is run by Sandy and Julie with help from Ian, a couple of part time workers, and children Heather (19) and Stuart (17) who give a hand at busy times such as lambing.



The farm recently hosted a sheep worm and fluke control workshop which attracted over 40 local farmers. The event, funded by QMS, showcased the clean grazing policy of the farm, which has reduced medicine bills, time and labour on the Duncans' part - as well as lowering stress on the lambs.

The eight-year rotation has had a huge part to play in maintaining efficient production while reducing costs.

Lamb sales begin from mid-June onwards. Those not sold off their mothers are weaned onto the red clover silage aftermath in mid-August, with all sold by the end of September. The lambs are all marketed through McIntosh Donald and average 38kg deadweight, mostly R3L. Julie said they consistently received a small organic premium this year.

The lambs are never wormed and Julie has seen no difference in their performance. She said: "The red clover silage aftermath is the best possible feed for them, and they finish very quickly from August onwards."

During the second year, clean grass leys are used from lambing until after tupping, when ewes head back to the hill for the winter. Julie said: "The key to keeping the worm burden down is to ensure sheep are always grazing clean grass."

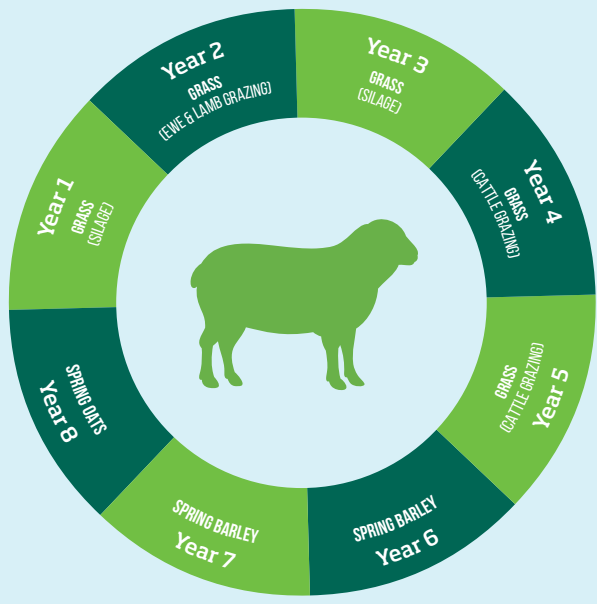
There is a lungworm burden on the hill area, so when the ewes come onto the lowground before lambing they receive a Cydectin LA injection. This is primarily done to clear out any lungworm and to cover the ewes' periparturient rise - the period around lambing when the ewes' immunity is low, and they do shed some worm eggs. It also protects against scab at the highest risk time of year.

Faecal egg counts are taken from the ewes in January to test for fluke but have always proven negative. Julie said, "We work very closely with Thrums, our farm vets, and review our organic flock and herd health plan annually."

For more information about the Grazing Group project visit www.qmscotland.co.uk/grazing



Balkemback Farm: Eight Year Rotation



Julie said that they have learned a lot since going organic, but the biggest difference has been the inclusion of red clover in the leys for all the livestock. She said: "It is a fantastic feed for young cattle, and they are finishing one month earlier now than they used to thanks to the quality of our silage - which has been as high as 17ME and averages around 14 or 15ME."

The ewes receive home-grown oats and organic soya (which is the only bought-in feed) from six weeks before lambing, and if the winter has been particularly harsh, a little silage. After lambing in April, they are turned onto clean, second-year grass. Lambing percentage averages around 180%.

They buy gimmers from the same reliable source every year, which have been treated for worms and fluke before they arrive. Following delivery to Balkemback, the gimmers are quarantined and faecal egg counts taken to ensure they are not carrying a worm burden before becoming part of the flock.

The eight year rotation has had a huge part to play in maintaining efficient production whilst reducing costs.

All the above methods combine to produce healthy, fast-finishing lambs which make the required specification at the abattoir, without having had any type of medicine or treatment, which, as Julie says, is ideal for organic production, but more importantly, better for the animal.

This system is a perfect fit for the Duncans' mixed farming unit; however, there are other measures which can be taken in an all-grassland system to help provide clean grazing. +

Using Pasture Management to Reduce the Challenge from Parasitic Worms

Trevor Cook, a vet and ruminant nutrition expert from New Zealand who frequently contributes to QMS's grazing groups and monitor farms, has compiled a list of management tools which can be used to reduce the risk of worm contamination.

SHUTTING OFF A FIELD FOR FORAGE OVER SUMMER	Some of the worm larvae are removed by cutting, and the aftermath will therefore be cleaner than a grazed field. There will be additional benefit if the field has not been grazed by lambs since the previous autumn.
MIXED SPECIES GRAZING I.E CATTLE AND SHEEP	Alternating cattle and sheep, or mixing them effectively dilutes the number of worm larvae as cattle are not hosts for sheep worms, and vice versa.
RESEEDING, OR GROWING A BREAK FORAGE CROP	The break in grazing and cultivation to establish a new crop helps reduce the worm larvae.
GROWING ALTERNATIVE BIO-ACTIVE FORAGE CROPS	Some plants such as Birdsfoot trefoil and Plantain show evidence of having anthelmintic properties.
KEEPING ANIMALS WELL FED ON QUALITY PASTURES, BODY CONDITION SCORE 3+	Animals that are well fed will have significantly less worm egg output.
GENETICS – SELECTING FOR RESISTANCE AND RESILIENCE	Genetically resistant sheep have low FEC under similar challenge; Resilient sheep have high FEC, but growth rates are not affected.

Opportunities Ahead for Pig Farming in Scotland

The host of Scotland's new pig monitor farm is confident there are opportunities ahead for pig farming in Scotland.



Project funders:



Patrick Stephen, whose farming business is based at Conglass near Inverurie, said Scotland has got a lot going for it in terms of pig production.

"We have a decent enough climate which allows us to grow plenty of grain for use as feed, and we now have a pig-processing facility with increased capacity close at hand," said Patrick.

"Farmers can have a tendency towards doom and gloom, but pigs have been good for us and when prices are right they can make money quicker than any other enterprise."

Patrick is a director of Quality Pork Ltd (QPL), owners of the recently expanded pig abattoir at Brechin, and is also chairman of Huntly-based pig supply co-operative Scottish Pig Producers (SPP).

Patrick's priority for the project, however, is to better understand growing performance.

"I have always been keen to play my part in the Scottish pig industry, and that is one of the reasons why I was happy to support the monitor farm initiative," he added.

The plan is to have five meetings each year over the four-year life of the project. For biosecurity reasons the meetings are held off-farm, but Patrick expects to use video as a means of demonstrating on-farm practice to the group.

The monitor farm facilitators are specialist pig vet Grace Webster and George Chalmers of SAC Consulting, part of SRUC, Scotland's Rural College.

The project is jointly funded by Quality Meat Scotland (QMS) and Opportunity North East (ONE), a private sector economic development company that aims to broaden and strengthen the regional economy through sector initiatives in food, drink and agriculture; life sciences, oil and gas; and tourism. ONE is backed by an investment of £25 million over five years from the Wood Foundation.

Mr Stephen's pig unit is based at Mill of Carden, Pitcaple, around four miles from Conglass, and is run by unit manager Wayne Ducker and a staff of three. They look after 530 sows all progeny are finished on the site - with the exception of around 600 weaners which go out to straw yards on a bed and breakfast basis, weighing around 40 kilograms.

Finished pigs, at between 110 and 115 kilograms liveweight, go through SPP either to QPL at Brechin or Woodhead Bros at Colne in Lancashire.

The enterprise was originally run as a multiplier unit producing high-grade gilts, but the Foot and Mouth outbreak of 2001 presented an opportunity for change, and since then it has been focused on producing carcass pigs. The female line is JSR Genepacker 90, with JSR 900 or Danbred Duroc used as terminal sires using AI.

"We are averaging 14.2 piglets born per litter, with about 12.4 weaned. This gives us 29.5 pigs weaned per sow per year, which is satisfactory even though pre-weaning mortality is a bit too high. It may be that although we have the numbers there are too many small pigs in the litter," said Patrick. Patrick's priority for the project, however, is to better understand growing performance.



"The farm is a great example of a pig business which is performing well, but there is also recognition that there is scope for further improvement and that small changes can deliver significant gains."

"I think we could get better at monitoring growth. Apart from anything else, we have two feed systems - ad-lib and restricted feeding - and I would like to know which performs better. It will also be interesting to find out whether daily growth rate is more important than feed conversion ratio," he added.

All feed used on the unit is home-mixed. Patrick grows 365 hectares of cereals plus another 160 hectares on a contract, and this provides him with around two thirds of his requirements for the pig rations. Protein and minerals are bought in and batches of feed are prepared as required using a mobile mill and mixer. Some by-products - mainly brewers' yeasts - are fed to the finishing pigs.

The sows are housed on straw and fed using Electronic Sow Feeders (ESFs). Piglets are weaned into nursery units and are provided with wet feed.

Patrick is looking forward to trying out some new technology as part of the monitor farm project. He has just returned from the giant Eurotier exhibition in Hanover, where he saw a device the size of a mobile phone which could calculate the weight of a pig simply by scanning it remotely. Apart from speed, using such a device would completely remove the stress associated with weighing in a conventional crate.

Pigs have been kept at Mill of Carden since the 1960s, with the original herd of 40 sows growing gradually to present numbers.

"We have invested steadily in buildings and equipment as the sow numbers have increased, and that has helped keep us up-to-date," he said. The most recent new building is a French-designed weaner shed, which was put up 18 months ago and features an innovative ventilation system.

Allan Ward, Pig Specialist with Quality Meat Scotland, said: "The farm is a great example of a pig business which is performing well, but there is also recognition that there is scope for further improvement and that small changes can deliver significant gains."

Peter Cook, Director of Food Drink & Agriculture at ONE, said: "The North East of Scotland is where the majority of Scottish pig farming takes place. To sustain and grow the sector we need to see a significant improvement in performance, which can be gained through the monitor farm programme.

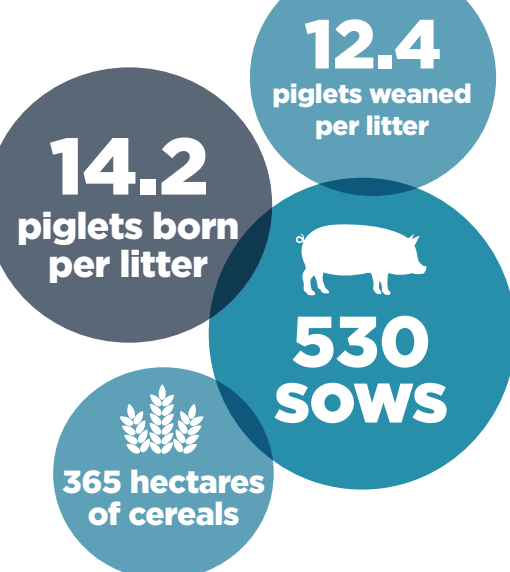
"I've known Patrick for many years and I've been impressed by his willingness to innovate. As well as technical improvement, we are keen to help producers to look at the marketplace for Scottish pig meat and to strengthen the Brechin facility to underpin the future of the North East pig sector."

Around 75% of Scotland's pig herd is concentrated in the north-east, with the contribution to the region's economy put at around £40-£50 million annually.

The monitor farm project will, however, also involve three separately funded satellite groups in Dumfries, Perth and Nairn. +

To find more information about the Pig Monitor Farm, visit www.qmscotland.co.uk

CONGLASS FARM : AT A GLANCE



OPPORTUNITY FOR PRODUCERS TO IMPROVE MARGINS AND REDUCE EMISSIONS

It seems highly likely that discussions on the process of Brexit will continue to dominate strategic thinking during 2017, building on the momentum gathering since June 2016.

By **Stuart Ashworth**,
QMS Head of Economics Services



While the ongoing Brexit discussions are a crucial element of the livestock sector's business environment, the practical implications are unlikely to start feeding through for 18 months to two years. In the meantime, other strategic issues are likely to have more immediate consequences.

Among these will be increasing pressures on our industry flowing from Climate Change targets set by the Scottish Government, and others. The Scottish Government published its latest Draft Climate Change Plan in January 2017. In the coming months, this will lead on to a Bill in the Scottish Parliament, which will set challenging greenhouse gas emissions reductions targets for all sectors of the Scottish economy, including agriculture. Meeting these targets in agriculture may involve actions such as an annual carbon audit.

Falling livestock numbers (for example, both cattle and sheep numbers have fallen 10% in the past decade) and the reduced use of fertilisers have helped agriculture to make significant savings of 25% in estimated greenhouse gas emissions between 1990 and 2014.

The Scottish Government's target of across-the-board cuts of 47% by 2020 has almost been met already, but with more onerous targets likely to be introduced for 2030 and beyond, the pressure for further reductions from the agricultural sector will grow.

Three gases contribute to greenhouse gas (GHG) emissions: carbon dioxide, methane, and nitrous oxide. The most damaging of these gases are nitrous oxide, which is 298 times as damaging as carbon dioxide, and methane – which is considered to be 25 times as damaging as carbon dioxide.

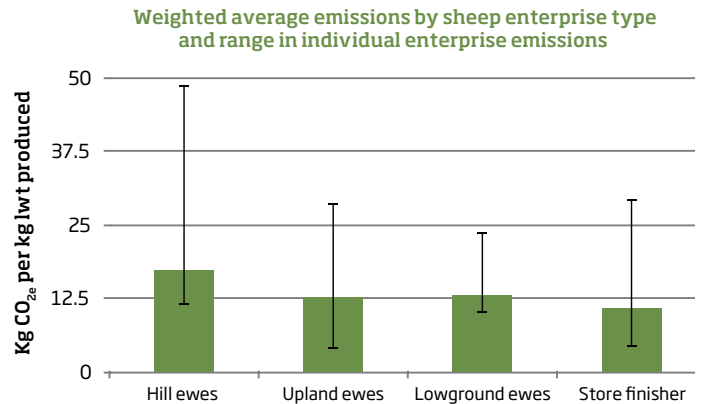
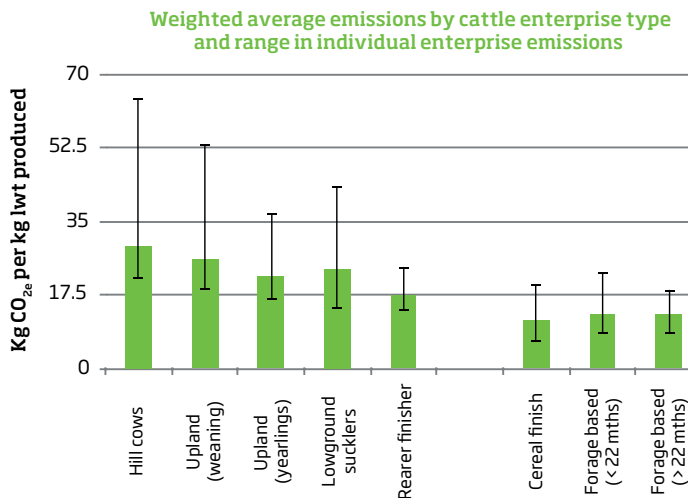
Methane is the by-product of ruminant digestion and the management of organic manures.

Nitrous oxide is released during the application of inorganic and organic fertilisers. It also results from urine deposition by grazing animals and from crop residues. Carbon dioxide is the result of burning fossil fuels such as coal, oil and diesel, and is embedded in many agricultural inputs.

There is, therefore, scope to continue producing as much livestock output, if not more, while trimming GHG emissions.

Unsurprisingly, methane from animals' digestion is the major greenhouse gas contributor from ruminant livestock production, accounting for over 50%. Carbon dioxide and nitrous oxide each contribute around 25% to the total emissions from ruminant livestock intended for meat production.





As pressure builds for livestock farming to control its greenhouse gas emissions, one starting point to consider will be the reduction of methane (directly associated with the efficiency of the animal) while another will be crop and grass nutrition.

Alongside our enterprise profitability survey of the 2015 calf and lamb crop, QMS commissioned SRUC to make estimates of the carbon footprint of the enterprises surveyed.

It is no surprise that in the QMS survey the businesses with the lowest GHG emissions per kilogram of animal output were also those with the best financial margins. However, just in the same way as the enterprise profitability survey shows considerable variation in financial margins, there was also considerable variation in GHG emissions. There is, therefore, scope to continue producing as much livestock output, if not more, while trimming GHG emissions in the same way that there are opportunities for businesses to improve financial margins.



The key factors in managing GHG emissions are the same as those influencing financial margins: individual animal productivity, driven by animal selection and minimising animal health challenges; efficient feeding of animals including maximising grassland quality and the efficiency of its production and use; and making the best use of animal manures and purchased fertilisers. Along with understanding the drivers of animal efficiency, building knowledge on improving soil capability and maximising grass quality and production will be key contributors to maximising the use of the animal and land resources used in livestock production.

Striving for these marginal gains helps not only the financial sustainability of livestock production but also its environmental sustainability. QMS has for some time, through its industry development work, been supporting farmers by sharing knowledge to address these challenging objectives.

Additionally, demonstrating how the ruminant livestock sector is rising to the challenge will become a key communication message about Scottish livestock farming for the wider public, thereby protecting the industry from competing claims and demands from global food processors and retailers.

Maximising the efficiency of grassland use emphasises the role of ruminant livestock in converting a non-food resource, grass, into a food resource.

Maximising the efficiency of grassland use emphasises the role of ruminant livestock in converting a non-food resource, grass, into a food resource. Maximising grassland use also minimises the need to use a food resource, cereals, as an animal feed, thus allowing Scottish livestock production to combat a criticism often levelled at livestock production.

Striving for carbon efficiency that reduces emissions per kg of output also allows scope to increase the quantity of meat coming from Scottish farms while reducing overall emissions and improving financial margins. This has been described by some as “sustainable intensification”.

In conclusion, the Scottish Government is likely to be looking ever more closely at ways to encourage the agricultural sector to reduce its greenhouse gas emissions.

Irrespective of an individual’s view on climate change, opportunities clearly exist to improve financial margins and at the same time reduce emissions per kg of product.✚



Good family

FOOD



Follow **Good Family Food** on Facebook for recipe inspiration, competitions, specifically tailored for families. Run by QMS's nutritionist and dietitian, this page will give busy parents top tips and advice for feeding the family.

Visit us at:  **/Good Family Food**



QMS