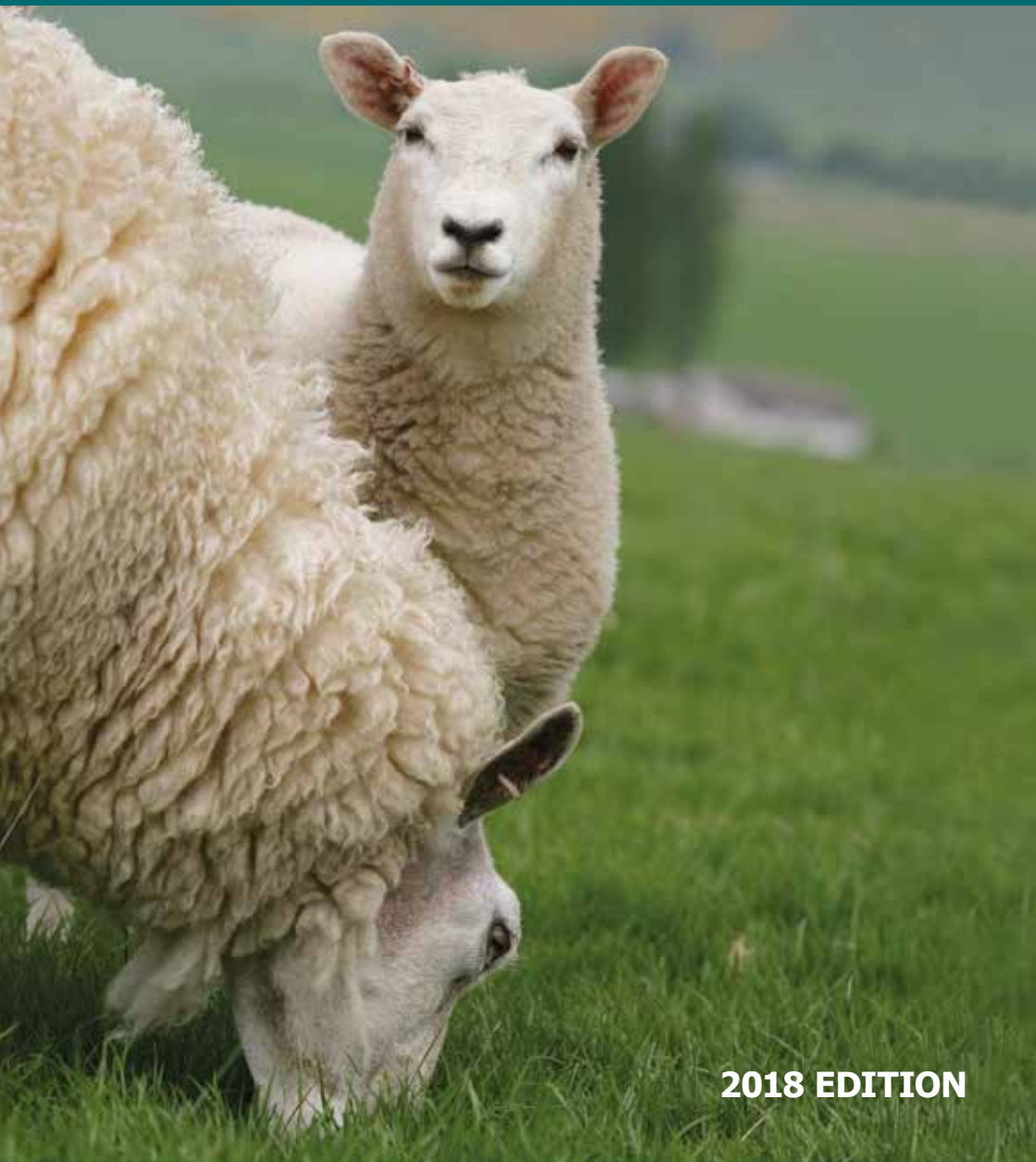
Cattle and Sheep Enterprise Profitability in Scotland



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Cattle and Sheep Enterprise Profitability in Scotland

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CONTENTS

EXECUTIVE SUMMARY

This report on enterprise profitability covers the 2017 calf and lamb crop year, a period where prime stock prices were generally higher than the year before. Store cattle values at the early autumn 2017 sales were firm but softened through the final quarter in the year and into 2018; store lamb prices also failed to match year-earlier levels for most of the period. Input costs rose at a faster rate than last year, squeezing the gains seen from higher prime stock prices.

- Although the results show some improvement in margins among suckler herds, they continue to illustrate the scale of the challenge of achieving a positive margin without CAP support. Forty-four per cent of suckler herds in the survey achieved a positive net margin; this is an increase from the 36% last year but is much higher than the 2014 and 2015 calf crop years.
- Margins among store finishers improved considerably on the year, with 43% of the businesses surveyed achieving a positive net margin – up from 30% of businesses last year.
- The proportion of hill ewe flocks making a positive net margin increased from 10% in 2016 to 14% in 2017, returning to the levels seen in the 2015 lamb crop year. Meanwhile, net profitability among upland flocks slipped to 56% of enterprises surveyed achieving a positive net margin for their 2017 lamb crop compared with 68% per cent of recording a positive net margin the year before. Similarly, lowground flocks also saw a slight deterioration in margins, with 80% achieving a positive net margin for the 2017 lamb crop compared with 85% of lowground flocks surveyed achieving a positive net for the 2016 lamb crop. Store lamb finishers reported a considerable improvement in margins, with all those surveyed achieving a positive net margin compared with only 38% of the sample in 2016. Nevertheless, businesses reporting positive net margins still struggled to deliver a fair return for labour and capital.
- The survey results continue to show significant variation in levels of financial and technical performance within the industry.
- Top producers continue to be characterised by:
    - High physical, or technical, performance;
    - Strong control over costs; and
    - Maximising returns from the market place.
- Across suckler herds, those in the top third of financial performance are characterised by high productivity and resource efficiency. All delivered more physical output per cow in the herd than the average for the group; this was driven largely through higher calf weaning rates. While not all achieved the highest per kg market prices, the higher physical output delivered highest revenue per cow in the herd.

- Suckler herds in the top third of financial performance were also characterised by strong cost control. Management of the breeding herd typically manifested itself through lower cow mortality and lower herd replacement rates, leading to lower herd maintenance cost. Equally, those in the top third generally had lower total variable costs than the average while achieving higher output. In all cases, variable costs per kg of calf reared were lower among the top third. Fixed costs were also firmly controlled; in all cases, top-third producers had lower fixed costs per kg of output, even if on occasion fixed cost per cow was higher than the average.
- Those in the top third of sheep producers similarly achieved higher outputs through higher stock performance. By rearing more lambs per 100 ewes than the average, the top-third flocks typically sold some 5–10 kg lwt more lamb per ewe. They also typically realised higher selling prices for all classes of lambs sold, resulting in income per ewe from lamb sales of £10–£20 per ewe more than the average.
- The LFA hill suckler herds surveyed had an average gross margin of £340 per cow – a slight improvement on the year before. However, higher fixed costs pushed the net margin to (-)£139; this was £40 lower than 2016 figures. The top third averaged £473 per cow gross margin, an improvement over the average of £133 per cow, and a net margin of £90 per cow. Nevertheless, of the fifteen producers surveyed four achieved a positive net margin.
- The LFA upland suckler herds were split into two categories: one group selling at weaning; and a second group selling yearling stores. Those selling at weaning made an average gross margin of £399 per cow, but were outperformed by their counterparts selling yearlings, who achieved an average gross margin of £482 per cow. However, after taking account of fixed costs, both groups achieved a positive net margin – a significant improvement on 2016. Forty-eight per cent of businesses selling calves at weaning in 2017 achieved a positive net margin, up 36% on the previous year. In contrast, among those selling yearlings, 56% of the businesses achieved a positive net margin, which was once again an improvement on the 40% of businesses who achieved this target in 2016.
- Non-LFA suckler herds reported an average gross margin of £338 per cow, a poorer performance than last year; higher fixed costs pushed net margins down to an average of (-)£113 after having been £3 per cow last year. Only 23% of the businesses surveyed achieved a positive net margin. However, those in the top-third of financial performance achieved a net margin of £95 per cow.
- Rearer finisher businesses who were surveyed recorded an average gross margin of £536 per cow, a decline of £19 on the year, with the top third averaging £683. The average net margin improved to £10. The number of enterprises in the group that achieved a positive net margin fell slightly to 41% compared to 45% in 2016.
- Cereal-based cattle finishers who were surveyed reported an average gross margin of £227 per beast and a net margin of £122 – an increase of £82 on the year. Although cattle were generally sold at higher prices than 2016, margins were squeezed by higher feed and bedding costs. Those in the top-third achieved a £76 improvement in net margin over the average; this was characterised by adding more weight per animal finished but achieving this with lower concentrate use. Eighty-eight per cent of businesses in the survey reported a positive net margin – up from two-thirds in 2016.

- Forage-based finishers have been split into two groups: those selling cattle under 22 months of age; and those selling cattle over 22 months of age. Those selling younger cattle achieved an average gross margin of £120 per beast and reported a net margin of (-)£133 – a deterioration of £59 on the year. Those selling older cattle achieved a gross margin of £194 per head and net margin of (-)£52 – an improvement of £53 per head on the year. Twenty-two per cent of those selling younger cattle achieved a positive net margin, down slightly on the year; similarly, 22% of those selling the older cattle achieved a positive net margin, which was a considerable improvement on 2016 figures.
- LFA hill sheep enterprises in the survey achieved, on average, a gross margin of £24 per ewe, an improvement of £1 on last year. The top third benefited from higher prolificacy and lamb weights, resulting in a net output £20 per ewe higher than the average. Moreover, with variable costs unchanged on the average, this improved productivity transferred into a gross margin £20 per ewe better than the average. Nevertheless, on average the group achieved a net margin of (-)£19 per ewe – a deterioration of £2 per ewe on last year. Net margins among the top third recovered to £1 per ewe, having been negative last year. Although only 14% of the sample achieved a positive net margin, this was an improvement from 10% who achieved this in 2016.
- Fifty-six per cent of upland ewe enterprises surveyed reported a positive net margin, down from 66% last year. However, the average net margin of almost £8 per ewe was 70% higher than last year's level, and those in the top third achieved a net margin of £33 per ewe, £16 per ewe higher than last year. On average, variable costs per ewe were little different from last year and fixed costs decreased, with the top-third achieving a significant decline in fixed costs.
- Lowground breeding ewe businesses in the survey saw considerable improvement in margins, benefiting from higher prime lamb prices through summer and early autumn 2017. Also contributing to increased margins was strong control of both variable and fixed costs. Eighty percent of those surveyed achieved a positive margin – a slight dip from 85% in the year before.
- Most store lamb finishers sold into a rising market in early 2018, which contributed significantly to an increase in output of £12 per lamb sold. With only a marginal increase in variable costs, this resulted in gross margins improving by almost £12 per head. Even although fixed costs increased by 15%, net margins stood almost £11 per head higher than in 2016. Indeed all the store lamb finishers surveyed achieved a positive net margin on their endeavours, compared with 38% in the previous year.
- For a third year, estimates have been made of the greenhouse gas emissions associated with the enterprises surveyed, and these have been reported on the basis of net liveweight produced or added during the surveyed year. The calculations were made using SAC Consulting's Agricultural Resource Efficiency Calculator: AgRE Calc. The results show a clear correlation between the best financial returns, the best technical efficiency and the lowest greenhouse gas emissions per unit of output. In the same way that this report summarises the opportunity that exists for the industry to improve financial margins, it also shows the scope to reduce emissions at the same time.

INTRODUCTION

This report summarises the results of a survey of Scottish beef and sheep enterprise profitability during the 2017 calf and lamb crop year. The survey was commissioned by Quality Meat Scotland and carried out by SAC Consulting.

The survey covers 69 breeding ewe enterprises farming a total of 35,000 ewes and 106 suckler cattle enterprises farming 10,500 suckler cows, 15 enterprises finishing just over 6,600 store lambs and 53 cattle finishing enterprises selling 3,900 prime cattle. One cattle enterprise in the survey was organic. The survey provides a snapshot of the industry during 2017. This report compares, for each sector, the costs, revenues and margins achieved by the top third of producers, the bottom third and the sample average.

The concluding sector of the report provides some comparative analysis with the results from 2015 and 2016. However, it must be stressed that the comparisons are not identical samples of businesses.

Within the analysis of the survey, an enterprise's estimated fixed and variable costs can be found – as well as their estimated gross and net margins. The gross margin is left after variable costs have been deducted from an enterprise's revenues. Then, once fixed costs have been subtracted from the gross margin, one is left with the enterprise's net margin, which rewards the farmer for their labour and capital investment. Fixed costs have been allocated to the livestock enterprises on a farm in direct proportion to their share of the total sales revenue of that business. Within mixed livestock farms, fixed costs have been allocated between cattle and sheep enterprises in relation to their proportion of Grazing Livestock Units. The reporting of bottom third, average and top third is based on ranking enterprises by gross margin per head of livestock.

The analysis has been extended to include estimates of the time committed to the enterprises by family labour for which no charge has been recorded in the estimate of net margins. The level of income required to provide a 5% return on an enterprise's working capital has also been estimated, in addition to the opportunity cost of the land used.

All area-based support payments have been excluded from this year's analysis of the returns derived from livestock enterprises, since there is no obligation for livestock production to take place in order to receive area payments. However, the Scottish beef calf premium has been included, since it is coupled to the level of production.

Estimates of carbon efficiency have been made using SAC Consulting's AgRE Calc methodology.

The considerable range of land types and production systems found in Scotland inevitably mean that any survey of businesses cannot cover all options. However, results are presented for a comprehensive range of enterprise types, namely:

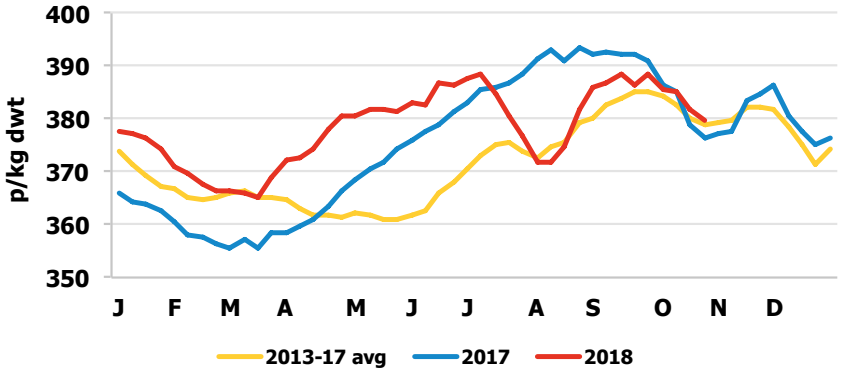
- LFA hill herds selling calves at weaning;
- LFA upland herds selling calves at weaning;
- LFA upland herds selling forward stores;
- Non-LFA herds;
- Rearer-finisher herds;
- Cereal-based finishing enterprises finishing cattle under 20 months of age;
- Forage-based enterprises finishing cattle at under 22 months of age;
- Forage-based enterprises finishing cattle at over 22 months of age;
- Non-LFA breeding flocks;
- LFA upland ewe flocks;
- LFA hill flocks using Blackface or Cheviot stock; and
- Store lamb finishers.

Both the range of performance and the key contributing factors to these differences in performance between businesses are demonstrated by the results of the survey. The results also provide individual businesses with a benchmark against which to gauge their own performance, thereby allowing them to investigate the strengths and weaknesses of their enterprise compared with those of similar businesses.

Cost price changes during 2017

The average steer price at Scottish abattoirs opened 2017 at 366p/kg dwt. Although this was 5% above year-earlier levels, it trailed the five-year average (2013–17) by 2%. Having fallen seasonally through January and February, the market steadied in early March at around 3% below its year-opening level. A five-month long upturn followed, with the market then stabilising at 391–393p/kg in August and September – around 10% above its March low point. A traditional lift in supply as housing decisions were made then placed some downwards pressure on the market through October, and the pre-Christmas lift in prices was more significant than in recent years. With numbers also picking up more strongly, this signalled firm festive demand in 2017. In the final week of the year, the average steer price stood at 376p/kg; this was up 10p on the first week of 2017 and 2p (0.6%) above the 5-year average.

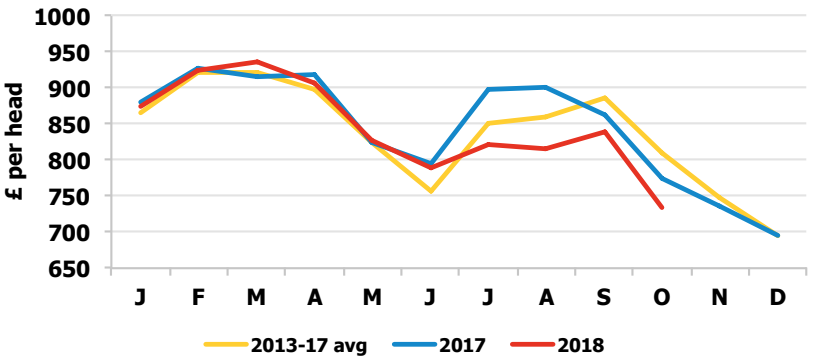
Steer price at Scottish abattoirs



Prime cattle prices spent all of 2017 above previous year's levels. For much of the first quarter (Q1), the price gap ran at 5–7%, before widening to peak at 13.5% in late April/ early May. The year-on-year premium then eased slightly before holding at 9–11% into August. It then narrowed quickly, bottoming out at 2% in late October, and then held at 3–4% in November and December.

At 375p/kg in 2017, the annual average steer price rose 7% above its 2016 level. However, once a 1.5% decline in carcase weights has been accounted for, the annual average price paid by Scottish abattoirs for a steer carcase increased by 5.5% to £1,433.

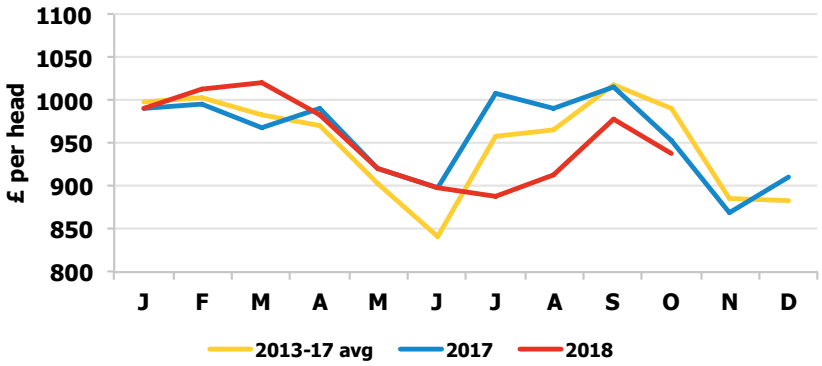
Store steers 6-12 months old



Store cattle prices followed their traditional seasonal pattern in 2017, with their spring and autumn peaks being at a similar level. The one slight difference was that prices were higher during the summer than they had been in the previous year.

Compared with 2016, 3% fewer 6–12-month and 5% fewer 12–18-month steers were traded. This tightening, coupled with a lift in confidence amongst buyers, may have underpinned prices in both categories – the former rose by 3% to £865 and the latter by 4.5% to £979.

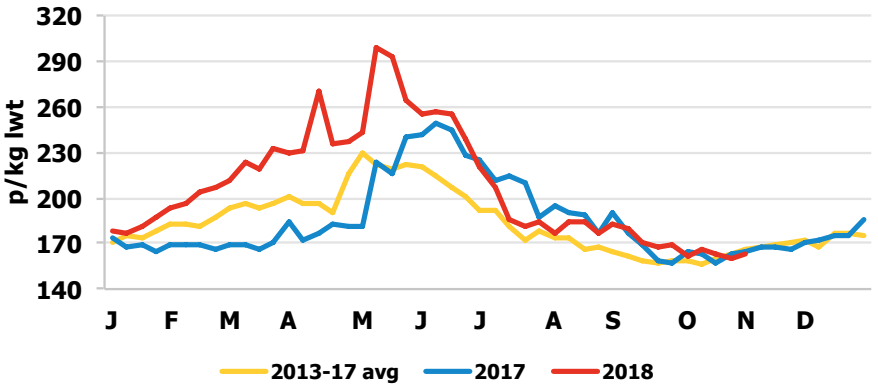
Store steers 12-18 months old



Prime sheep producer prices opened 2017 at around the 170p/kg lwt mark. However, in contrast to previous years, they were relatively stable throughout Q1, failing to climb seasonally. As a result, prices, which had begun the year in line with 2016 levels, quickly fell behind, trading 8–10% lower than in 2016 for much of February and March. Over the previous five years, prices had risen by an average of 13% between the final quarter of one year and opening quarter of the next, but there was a much more subdued uplift of only 3% in 2016/17. Moving into the new season, lamb prices reasserted their traditional trend, following two years with little new-season spike, and reached 250p/kg lwt for the first time in three years. They also spent much of June and July 15–20% above year-earlier levels. The market then fell back steadily, slipping to its annual low point of around 160p/kg in September, holding around this level for a month. During this period, prices fell back behind 2016, when the annual low point had been reached slightly later. As demand firmed in the run-up to the festive season, prices trended higher again, trading at around 180p/kg in December and closing the year at 185p/kg; this was 7% above where they had begun it.

Despite spending large parts of 2017 above 2016 levels, the annual average price for an SQQ lamb (weighing 25.5 to 45.5kg lwt) at Scottish auctions was little different from 2016, edging up by 0.4% to 178p/kg lwt.

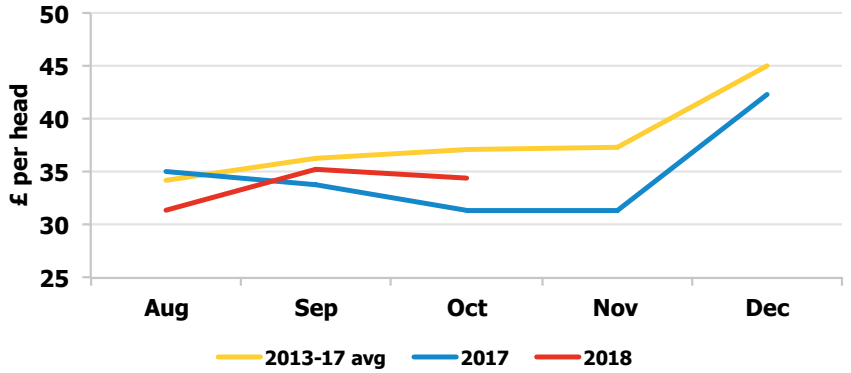
SQQ lamb price at Scottish auctions



Autumn 2017 was a weak period for store sales, with prices cooling through the main selling period and store lambs trading at significant year-on-year discounts. As well as an increased lamb crop, downwards pressure is likely to have been the consequence of the lack of a spring lift in hogg prices in early 2017, leading buyers to bid more cautiously.

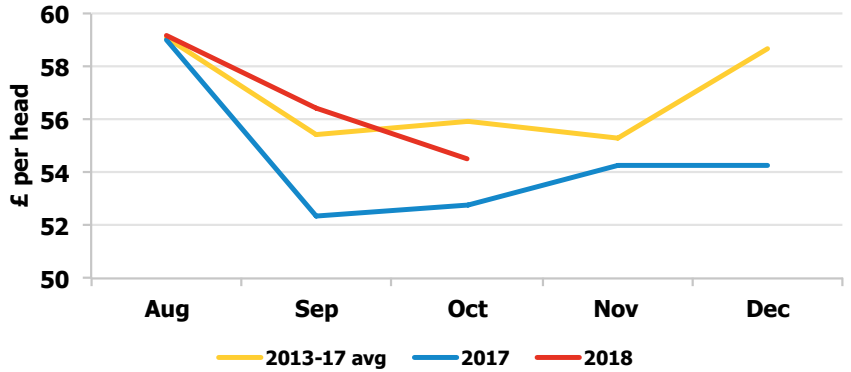
Prices paid for Blackface stores averaged 7% lower than in 2016, at £34, while Cheviots were 8.5% cheaper at £45, Suffolks 9% cheaper at £54.50 and Texels down 5.5% at £55. Thin trading in December resulted in a considerable lift in average prices. Across all sales, prices were 8% below 2016 levels on a 4% higher volume.

Blackface store lamb autumn sales average prices



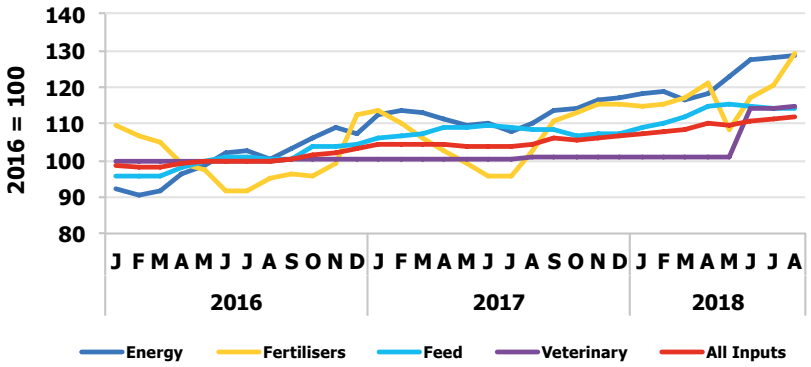
Source: Defra

Suffolk store lamb autumn sales average prices



Following three years of declining input costs, 2017 saw the UK Agricultural Price Index return to its highest level since 2014. On average, input prices followed a relatively stable trend through 2017, showing a small dip in the summer, but the rise in the second half of 2016 meant they had a lower base to compare against. Feed costs were relatively stable on average through 2017, with their monthly index showing only a 5% difference between its minimum and maximum level. However, they did average 7% above 2016 levels, as a rising trend in 2016 – in part down to the fall in sterling after the EU referendum – meant a lower base to compare with. At the global level, rising grain production was enough to cover demand growth for a fourth year, keeping the market in balance. Meanwhile, the cost of both fertilisers and energy exhibited U-shaped trends in 2017, reflecting seasonal changes in use as well as their overall balance between supply and demand. Oil price movements will also have played a part.

Selected agricultural input costs **Source: Defra**



2018 prospects

Since the survey data was collected in the spring of 2018, there have been a number of developments in the marketplace. The cold and wet spring followed by a warm and dry summer are likely to have impacted on the seasonal delivery profile of prime cattle to Scottish abattoirs. Numbers exceeded year-earlier levels significantly during July, before falling back in August and then lifting strongly through the autumn. In 2017, weekly slaughterings had been more stable and showed less of a seasonal lift in the autumn. In addition, the downturn in carcase weights seen in the previous couple of years appears to have come to an end, despite a dry summer, with steer weights edging back above 2017, thereby underpinning production volumes. The continuing weakness of sterling against the euro supported the competitiveness of UK beef in price-sensitive markets both at home and on the continent. However, as the summer progressed, a long-term surge in imports of frozen beef may have begun to pressure the market, with both prime and cull cow prices slipping behind year-earlier levels. By late October, prime prices had edged back above 2017 levels.

Store cattle prices have followed their traditional pattern again in 2018. However, having generally tracked ahead of 2017 levels during the main spring selling period, values trailed last year by around 5% at autumn sales. With fewer store cattle being traded than last year, this points to caution amongst buyers, but it could also reflect lighter weights following the dry summer.

On the sheep side, despite a higher carry-over of hoggs, there was a surge in producer prices in the run-up to Easter, supported by falling import volumes and a further lift in the cost of imported product. As a result, store lamb finishers are likely to have seen a recovery in margins. Moving into the 2018/19 lamb crop year, prices kicked off the new season at record levels of around £3 a kilo lwt as slow growth rates and an earlier Ramadan ensured that the balance between supply and demand favoured the producer. However, once Ramadan had passed and new season supplies began to lift, market prices cooled more strongly than in 2017. After Eid al-Adha and the Islamic New Year had underpinned prices in mid-August and early September, prices eased towards their seasonal low in October but, at 160–165p/kg, generally remained ahead of 2017 by 3–4%.

Having risen in late 2017, input costs have continued to trend higher in 2018. Due to the more stable first half of 2017, this saw the year-on-year increase in inputs lift from 3% at the beginning of 2018 to 7% by the summer. Energy costs have risen significantly, reflecting the pass-through of the rising global oil price to motor fuels, although the cost of electricity and heating fuel has risen more gradually. Fertiliser costs trended higher through the first half of the year before picking up strongly in August, reportedly driven by tight global supplies and a weaker sterling. On the feed side, following a remarkably stable 2017, the global grain market tightened in 2018 following dry weather in numerous producing regions. Meanwhile, the cost of soya meal has eased back from highs reached in late spring after US production forecasts were upgraded and China imposed tariffs on US soya.

As is always the case, profitability will have been linked to the timing of sales and input purchases. For cattle, finishers selling in the spring are likely to have seen higher market returns than in the previous year, but prices were more subdued in the autumn, at a time of elevated input costs. Meanwhile, producers selling store calves are likely to have done better in the spring than during the autumn period. For sheep producers, those selling prime lambs in the early weeks of the season are likely to have seen significantly higher returns than last year. However, since August, market returns are likely to have been closer to 2017 levels. Given the day-to-day volatility in prime lamb auction prices, the choice of sales day can be crucial. If lambs were sold on a day when the market price fell suddenly as processors had already secured adequate volumes, then returns may have suffered significantly compared with last year. However, in contrast to the prime market, there has been a broad weakness in store lamb values this autumn – despite a tightening of supply.

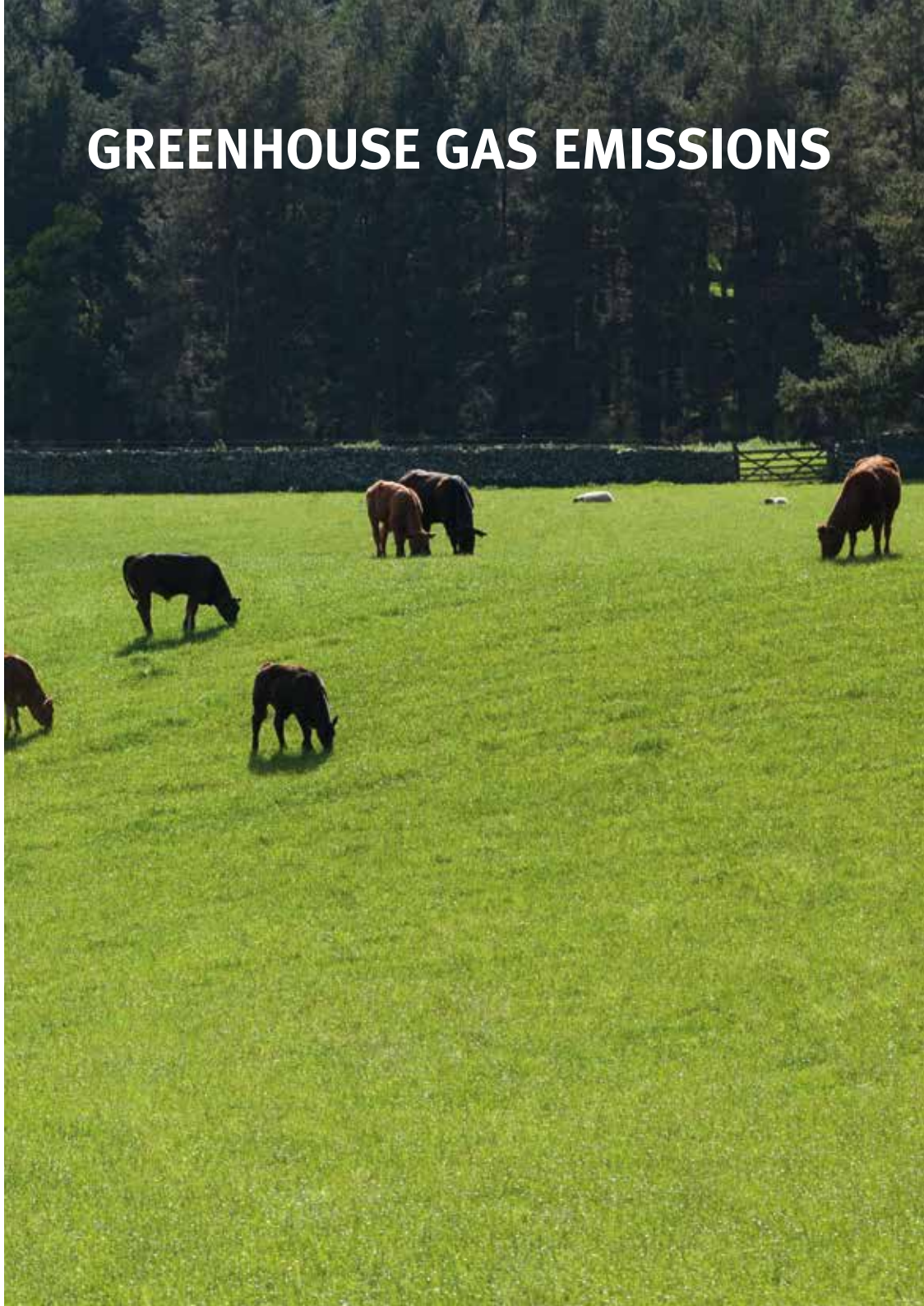
Lower prices may, in part, reflect lighter weights at store sales, particularly if it has been upland areas that have been hit hardest by challenging weather conditions this year. For both cattle and sheep producers, the lagged pass through of increased raw material prices by manufacturers and suppliers of inputs is likely to have pushed costs up further as 2018 has progressed.

Other factors to consider will be mortality rates and productivity of breeding herds and flocks. Given the challenging winter weather, many producers are likely to have seen these factors have a negative impact on financial performance. Cattle mortality rates have risen significantly this year, although not to the same extent as in 2013. For sheep producers, the June census results point to a considerable decline in lambing performance following two strong years in 2016 and 2017, although, like cattle mortality, it held up better than in 2013. Ewe mortality also looks to have risen in 2018, given that the December census reported a small increase in the female breeding herd but then numbers were down by 4% in the June census.

Structural changes in 2017

Among the suckler herds surveyed, 36% increased cow numbers by more than 5% while a further 21% reduced cow numbers by more than 5%. Overall the number of cows farmed by those in the survey increased by 0.3% in contrast to a national decline of 1.3% reported in the Scottish agricultural census of December 2017.

With regard to breeding sheep enterprises, the total number of ewes farmed by those in the survey increased by 3.5%, in contrast to a 0.6% increase reported in the national flock in the December 2017 Scottish agricultural census. Forty six percent of flocks increased in size by more than 5% while 22% of surveyed businesses reduced flocks by more than 5%.

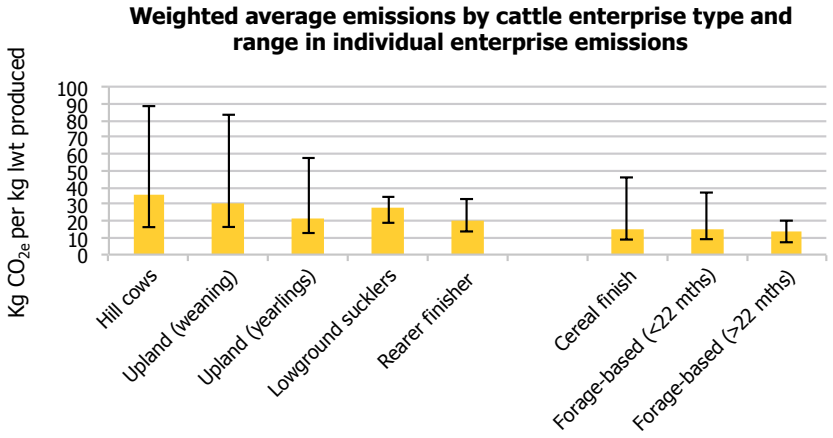


The Scottish Government has detailed its position on climate change through the Climate Change Act (2009) and subsequent secondary legislation. All sectors of industry and the wider community are expected to strive to reduce their emissions. However, agriculture and livestock production is recognised as a key contributor to GHG emissions in Scotland. In its third report on the progress of its plan, published in February 2018, the Scottish Government sets a target of a further 9% reduction in emissions from agriculture by 2032.

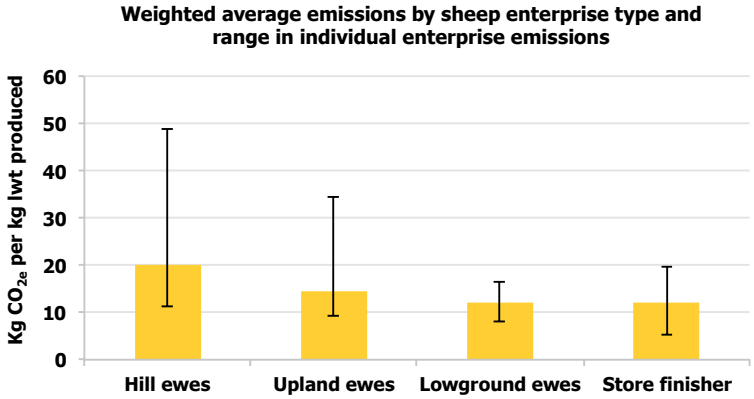
To help scope the scale of variation in emissions from Scottish livestock enterprises and identify drivers to improve emissions efficiency, the scope of the enterprise profitability survey has been extended to include estimations of GHG emissions associated with the output, or production, of these enterprises. SAC Consulting's Agricultural Resource Efficiency Calculator (AgRE Calc) has been used to estimate the type, source and extent of the GHG emissions produced from the cattle and sheep production systems surveyed.

The three main GHGs produced from a farm are Carbon Dioxide (CO_2), Methane (CH_4) and Nitrous Oxide (N_2O), and their sources include:

- Carbon Dioxide (CO_2) results from burning fossil fuels such as coal, oil and diesel, and from the disposal of waste; it is also embedded in inputs like feed, bedding, fertiliser and lime.
- Methane (CH_4) is produced as a natural by-product during ruminant digestion and from the management of organic manures.
- Nitrous Oxide (N_2O) is released during the application of inorganic and organic fertilisers, from urine deposition by grazing animals and from crop residues.



The emissions are expressed as carbon dioxide equivalents (CO_{2e}) based on their relative global warming potential over a 100-year period, with nitrous oxide being the most significant at 298 times the impact of CO_2 and methane having 25 times the impact of CO_2. The emissions have been reported as an intensity, i.e. emissions per unit of output. The results highlight the wide diversity of emissions within and between enterprise types and the correlation between emissions and financial performance. They also illustrate the opportunities that exist to control GHG while maintaining or improving financial sustainability.



Comparison of greenhouse gas emissions

Comparing and contrasting carbon emissions allows some general observations to be made, such as that lower emissions tend to be associated with higher margins. This should not be a surprise, as the drivers for improved margin are also the drivers for improved emissions – namely the productivity of the system and the technical efficiency of that system.

Equally, carbon emissions and enterprise profitability are also influenced by the physical environment of where the enterprise is located. The levels of rainfall, sunshine hours and temperature can not only influence animal productivity and performance but also result in considerable seasonal change in input use, for example fertilisers and animal feeds, and the need for fuel and electricity for extended field work and/or housing periods and feed preparation and delivery.

The tables below summarise the results for the 2015 to 2017 calf and lamb crop years. They show the considerable variation within enterprise types, between enterprise types and between years that would be expected from a biological production system. However, they also show the reduction in emissions intensity that are achieved by those business who also achieve the highest margins. Across all the enterprises surveyed, the average reduction in emissions intensity between the top third of economic returns and the average was over 10%, although some enterprise types were lower than this. This reflects that the capacities for economic sustainability and for environmental sustainability go hand in hand and a long way toward the targets set for agriculture by the Scottish Government.

Suckler herds ranked by gross margin per cow

	Bottom Third		Average		Top Third	
	Kg output per cow	CO_{2e} / kg output	Kg output per cow	CO_{2e} / kg output	Kg output per cow	CO_{2e} / kg output
Hill suckler herds						
2015	222	35.4	270	29.2	324	26.8
2016	263	29.7	278	25.6	293	23.0
2017	198	40.3	258	26.4	330	21.0
Upland herds selling at weaning						
2015	258	24.2	266	26.1	282	25.6
2016	258	24.6	279	23.6	312	21.5
2017	249	29.7	269	27.1	313	28.3
Upland herds selling yearlings						
2015	334	21.8	347	21.7	374	20.7
2016	310	21.1	343	19.4	362	19.6
2017	344	20.9	345	20.2	345	18.9
Non-LFA lowground suckler herds						
2015	266	26.8	286	23.8	305	19.1
2016	268	30.8	288	30.1	326	33.6
2017	243	28.7	278	27.6	286	26.3
Rearer finisher herds						
2015	475	17.3	489	17.8	515	17.6
2016	402	19.3	473	18.1	570	16.7
2017	358	22.0	439	20.6	537	16.3

Cattle finishing ranked by gross margin per animal sold

	Bottom Third		Average		Top Third	
	Kg output per cow	CO_{2e} / kg output	Kg output per cow	CO_{2e} / kg output	Kg output per cow	CO_{2e} / kg output
Cereal-based finishing						
2015	290	12.6	313	11.4	333	10.8
2016	283	14.3	315	12.7	345	10.1
2017	292	20.3	334	15.8	367	10.4
Forage-based finishing under 22 months						
2015	276	14.1	295	12.9	309	12.3
2016	290	15.5	304	13.6	365	11.1
2017	285	14.3	272	14.3	304	14.0
Forage-based finishing over 22 months						
2015	255	14.6	289	13.0	309	11.4
2016	230	14.3	264	13.8	316	11.9
2017	252	13.9	270	13.2	363	10.1

Breeding ewe flocks ranked by gross margin per ewe

	Bottom Third		Average		Top Third	
	Kg output per cow	CO_{2e} / kg output	Kg output per cow	CO_{2e} / kg output	Kg output per cow	CO_{2e} / kg output
Hill flocks						
2015	24.4	23.3	33.3	17.4	40.5	15.2
2016	25.6	20.1	31.9	16.6	36.9	15.7
2017	27.9	22.2	33.5	17.3	44.6	14.0
Upland flocks						
2015	57.3	13.7	60.4	12.7	65.1	11.5
2016	54.9	13.7	59.6	12.9	64.7	12.8
2017	45.7	14.4	57.6	12.9	62.7	12.8
Non-LFA lowground flocks						
2015			67.9	12.9		
2016			71.0	9.9		
2017			69.6	11.4		

CATTLE ENTERPRISES

Results from LFA hill suckler herds

The 15 herds in this category are those enterprises where open, unimproved hill land makes up more than three-quarters of the farm area, resulting in low stocking densities, and where more than half the calves are sold at weaning. Herd size ranged from 22 to 160 cows, with an average size of 59 head.

- Hill suckler herds achieved an average gross margin of £341 per cow. The top third achieved an average gross margin of £473, 39% better than the average and two and a half times the level among the bottom third. Herd size among the top third was higher than the average and significantly higher than the bottom third.

- Fixed costs averaged £480 per cow, but with a considerable variation from £330 to over £700 per cow. This resulted in an average net margin of (-)£139 per cow, while the top third achieved a net margin of £90. Four enterprises in the survey achieved a positive net margin.

- Although the top third reared one more calf per 100 cows than the average, they sold them at higher weights. The value of the calf output among the top third was 25% higher than the average, purely a reflection of higher productivity as the selling price per kg was lower than the average. This gap widened to 63% with the bottom third, as bottom-third producers reared nine fewer calves than the top third and sold them at the lowest weights, although they did have the lowest variable costs.

- Top-third producers had lower cow replacement rates than the average and lower cow mortality, and consequently lower herd maintenance costs. Although the bottom-third producers had lower replacement rates, they had higher mortality, so the herd maintenance costs were higher as there was lower revenue from cull cows to offset the costs of replacements brought in.

- Although top-third producers had the highest variable costs per cow, the efficiency of use resulted in the lowest variable cost per kg of calf produced. However, a significant contributor to higher net margins was the top third's control of fixed costs, particularly in the area of power and machinery, and the level of depreciation.

LFA hill suckler herds – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	5	15	5
Average herd size (head)	42	59	70
		£ per cow	
Calf output after valuation changes	476.87	627.86	777.86
Subsidies	86.14	95.22	97.47
Gross Output	**563.01**	**723.08**	**875.33**
Less replacements	80.97	69.35	62.59
Net Output	**482.04**	**653.73**	**812.74**
Variable Costs			
Purchased concentrates	82.85	92.93	104.26
Home-grown concentrates	0	0	0
Roughages purchased	68.34	63.27	47.62
Forage	48.68	53.07	64.75
Total feed and forage	*199.87*	*209.27*	*216.63*
Veterinary	34.00	36.97	36.50
Bedding	7.29	22.07	45.40
Other costs	46.27	44.50	40.85
Total Variable Costs	**287.43**	**312.81**	**339.38**
Gross Margin	**194.61**	**340.92**	**473.36**
Fixed Costs			
Labour	121.99	88.94	72.57
Contractors	61.43	38.28	28.58
Power and machinery	99.52	92.80	71.91
Property maintenance and rent	117.21	92.66	89.20
Depreciation	66.74	99.02	71.79
Finance	11.38	20.01	15.26
Administration	59.22	48.60	33.77
Total Fixed Costs	**537.49**	**480.31**	**383.08**
Net Margin	**(-) 342.88**	**(-)139.39**	**90.28**
Annual herd maintenance cost – pence per kg calf produced	34	24	18
Variable cost – pence per kg calf produced	119	108	95
Fixed cost – pence per kg calf produced	223	166	107
Unpaid family labour hours	14hrs 30min	16hr 10min	11hrs 15min

Totals may not add up due to rounding

LFA hill suckler herds – technical performance measures

	Bottom Third	Average	Top Third
Cows per bull	27	28	29
Calves born dead or alive per 100 cows	86	95	97
Calves born dead per 100 cows	2	2	3.5
Calves died before weaning per 100 cows	1	2	1.5
Calves reared per 100 cows	83	91	92
Daily liveweight gain (kg)	0.87	0.90	0.89
Weight – kg per calf sold	241	290	357
Weight produced kg per cow	198	258	330
Cow replacement rate per 100 cows	11.7	13.7	13.6
Cow mortality %	3.3	3.0	2.8
Purchased concentrates – kg per cow	348	407	450
Home-grown concentrates – kg per cow	0	0	0
Stocking rate GLU/ha	0.09	0.24	0.22
CO_{2e} Kg/net lwt kg produced	40.3	26.4	21.0

Figures may not tally due to rounding

Results from LFA suckler herds

The upland suckler herd sample has been split into two sub-groups in order to give a better reflection of the production systems in use in Scotland. One group includes farms of a more extensive nature that sell the majority of calves at weaning, while the other group has farms that sell calves as forward stores at around one year old. Although the main calving period was noted, the sample size of autumn calving herds was insufficient to allow separate analysis of the different cost structures between spring and autumn calving.

Extensive upland herds selling calves at weaning

The 31 herds in this category farmed 3,214 cows, an average herd size of 104 cows within a range from 17 to 320 cows, and reported an average gross margin of £399 per cow and a net margin of £26 per cow. The top third of enterprises returned a gross margin of £533 per cow, £134 (33%) better than the average and £236 per cow better than the bottom third. Top-third producers reported a net margin of £144, £118 per head better than the average. Forty-eight per cent of businesses reported a positive net margin, up from 36% last year.

- Top-third producers produced 44 kg more calf weight per cow than the average and 64 kg more than the bottom third. This was achieved through a combination of factors:
  - Higher calving percentages – 92 calves reared per 100 cows (1 more than the average); and
  - 45 kg per calf higher sale weights
- Higher physical production resulted in gross output 11% higher among the top third than the average. Top-third producers also had lower cow mortality rates and lower herd maintenance costs, leading to net output 15% higher than the average.
- Variable costs were 13% lower among the top third than the average.
- Fixed costs per cow among the top third were higher than the average, but because of the higher physical output, the fixed costs per kg of output were 12p/kg lower than the average.

Upland herds selling calves at around one year old

Twenty-seven herds farming an average of 110 cows each were categorised as herds selling calves at an older age of about twelve months. This older age at sale resulted in the average weight of calves sold being 390 kg, some 30% higher than those sold at weaning. As a consequence, not surprisingly, variable costs per cow were higher among this group than those of their counterparts selling calves at weaning, by 36%. However, when considered against the weight of animal sold rather than per cow, the variable costs among this group were 5% higher per kg of calf reared.

Higher production per cow among those selling yearlings, not surprisingly, resulted in a gross output 24% higher than those selling weaned calves, and the extra variable costs associated with keeping the calves longer were recouped from the marketplace. The average gross margin among this group was consequently some 21% better than for those selling weaned calves.

Fixed costs, however, were 20% higher among this group compared with those selling younger cattle, due particularly to higher power and machinery, administration and depreciation costs. As a result, the £83 per cow improvement in gross margin was eroded to a point where the net margin among those selling yearling stores was £9 per cow better than those selling weaned calves. Fifty-six per cent of this group achieved a positive net margin.

- Top-third businesses selling yearlings returned a gross margin of £607 per cow, £124 (26%) better than the average and almost double that of the bottom-third producers. They achieved this better financial return through improved herd productivity, rearing three more calves per 100 cows than the average. Although they sold these calves at a slightly lower weight than the average, the production per cow was unchanged from the average.

- Top-third producers had lower cow mortality rates and lower replacement rates, which led to lower herd maintenance costs than the average. They also delivered higher output while keeping variable costs per cow below the average.
- Top-third producers had a higher fixed cost burden than the average, largely as a result of higher property and depreciation charges as well as higher finance costs. Although the top-third producers had lower paid labour costs they did make greater use of contractors.
- Upland herds selling yearling cattle achieved a positive net margin of £36 per cow, which increased to £73 per cow among the top third.

Over the year, 13% of those businesses selling yearling calves increased their herd size by more than 5% while 29% of those selling weaned calves achieved this target.

Extensive upland suckler herds selling weaned calves
Financial performance measures

	Bottom Third	Average	Top Third
Number in sample	10	31	10
Average herd size (head)	91	104	78
		£ per cow	
Calf output after valuation changes	612.28	651.32	731.00
Subsidies	85.09	92.00	95.57
Gross Output	**697.37**	**743.32**	**826.57**
Less net replacement cost	106.89	79.47	63.59
Net Output	**590.48**	**663.85**	**762.98**
Variable Costs			
Purchased concentrates	20.97	30.18	43.42
Home-grown concentrates	13.24	12.92	14.29
Roughages purchased	26.98	30.45	24.74
Forage	72.42	76.72	66.43
Total feed and forage	*133.61*	*150.27*	*148.88*
Veterinary	57.48	42.78	35.21
Bedding	58.18	34.28	22.70
Other costs	44.25	36.76	23.49
Total Variable Costs	**293.52**	**264.09**	**230.28**
Gross Margin	**296.96**	**399.76**	**532.70**
Fixed Costs			
Labour	53.99	64.37	63.35
Contractors	56.45	37.58	33.53
Power and machinery	92.07	82.97	92.64
Property maintenance and rent	82.47	78.73	71.64
Depreciation	65.07	66.16	96.34
Finance	17.21	20.81	18.60
Administration	27.46	22.87	12.21
Total Fixed Costs	**394.72**	**373.49**	**388.31**
Net Margin	**(-)97.76**	**26.27**	**144.39**
Annual herd maintenance cost pence per kg calf produced	37	27	18
Variable cost – pence per kg calf produced	103	88	67
Fixed cost – pence per kg calf produced	138	125	113
Unpaid family labour hours	8hr 5min	7hr 10min	7hr 30min

Totals may not add up due to rounding

Extensive upland suckler herds selling weaned calves
Technical performance measures

	Bottom Third	Average	Top Third
Cows per bull	26	25	24
Calves born dead or alive per 100 cows	93	96	96
Calves born dead per 100 cows	3	3	3
Calves died per 100 cows	3	2	1
Calves reared per 100 cows	87	91	92
Daily liveweight gain (kg)	1.10	1.15	1.22
Weight – kg per calf sold	286	299	344
Weight produced – kg per cow	249	269	313
Cow replacement rate per 100 cows	12.25	14.0	11.25
Cow mortality %	1.7	1.8	2
Purchased concentrates – kg per cow	98	188	283
Home-grown concentrates – kg per cow	106	107	126
Stocking rate GLU/ha	1.21	1.06	0.97
CO_{2e} Kg/net lwt kg produced	29.7	27.0	28.3

Totals may not add up due to rounding

Upland suckler herds selling yearling calves
Financial performance measures

	Bottom Third	Average	Top Third
Number in sample	9	27	9
Average herd size (head)	68	110	100
		£ per cow	
Calf output after valuation changes	792.42	831.83	864.06
Subsidies	93.89	88.06	95.80
Gross Output	**886.31**	**919.89**	**959.86**
Less net replacement cost	79.90	78.26	67.56
Net Output	**806.41**	**841.63**	**892.30**
Variable Costs			
Purchased concentrates	100.58	74.86	52.95
Home-grown concentrates	39.27	26.50	33.03
Roughages purchased	45.92	29.33	16.37
Forage	121.90	93.00	72.63
Total feed and forage	*307.67*	*223.69*	*174.98*
Veterinary	63.21	51.04	41.70
Bedding	64.59	47.35	32.82
Other costs	57.33	36.73	36.16
Total Variable Costs	**492.80**	**358.81**	**285.66**
Gross Margin	**313.61**	**482.82**	**606.64**
Fixed Costs			
Labour	64.49	51.43	46.61
Contractors	42.16	42.75	55.45
Power and machinery	101.27	100.28	99.01
Property maintenance and rent	71.51	82.15	103.03
Depreciation	78.44	101.19	117.10
Finance	36.00	38.25	72.98
Administration	24.11	31.03	39.69
Total Fixed Costs	**417.98**	**447.08**	**533.87**
Net Margin	**(-)104.37**	**35.74**	**72.77**
Annual herd maintenance cost – pence per kg calf sold	21	20	18
Variable cost – pence per kg calf produced	128	92	75
Fixed cost – pence per kg calf produced	108	115	140
Unpaid family labour hours	16hrs 5min	13hrs 35min	12hrs 50min

Totals may not add due to rounding

Upland suckler herds selling yearling calves
Technical performance measures

	Bottom Third	Average	Top Third
Cows per bull	30	29	29
Calves born dead or alive per 100 cows	95	94	96
Calves born dead per 100 cows	2	2	3
Calves died per 100 cows	4	3	2
Calves reared per 100 cows	89	89	91
Daily liveweight gain (kg)	0.96	0.98	0.94
Weight – kg per calf sold	386	390	380
Weight produced – kg per cow	344	345	345
Cow replacement rate per 100 cows	14.4	13.5	12.8
Cow mortality %	3.1	2.1	1.6
Purchased concentrates – kg per cow	472	406	270
Home-grown concentrates – kg per cow	343	222	273
Stocking rate GLU/ha	1.38	1.28	1.10
CO_{2e} Kg/net lwt kg produced	20.8	20.2	18.8

Results from non-LFA lowground suckler herds

Sixteen non-LFA suckler enterprises were surveyed, farming a total of 1,192 cows. They achieved an average gross margin of £338 per cow and an average net margin of (-)£113 in a range from (-)£250 to +£150. Six businesses reported a positive net margin per cow.

- Top-third producers achieved an average gross margin of £454 per cow, £116 (25%) better than the overall average. Fixed costs per cow among the top third were £93 per cow lower than the average, and thus the improvement in financial performance widened to £209 at net margin level.
- Physical performance of the herds in the top third was very similar to the average; the number of calves reared per 100 cows was unchanged from the average, as was cow mortality, and herd replacement rates were little different. Consequently, higher margins were the consequence of:
  - Better sale prices
  - Strict control of purchased feed costs; and
  - Strong control over fixed costs
- Fixed costs per cow among the top third showed little difference in paid labour costs, but much lower contractor costs. Spending on machinery and property maintenance was also much lower, as was depreciation. Another key element of cost control was low finance costs.
- Fixed costs per cow were £3 per cow lower among the top third, although they did carry the highest finance costs and power and machinery costs.
- In contrast, those businesses in the bottom third were constrained by lower herd performance, two fewer calves reared per 100 cows, lower sale weights, highest herd mortality and heaviest use of purchased feeds – offset slightly by lower forage costs. This group also faced the highest contractors and finance charges.

Non-LFA lowground suckler herds – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	5	16	5
Average herd size (head)	93	75	68
		£ per cow	
Calf output after valuation changes	561.45	638.29	688.39
Subsidies	87.55	89.20	91.16
Gross Output	**649.00**	**727.49**	**779.55**
Less net replacement cost	75.64	72.71	69.15
Net Output	**573.36**	**654.78**	**710.40**
Variable Costs			
Purchased concentrates	61.14	44.24	9.54
Home-grown concentrates	14.56	18.88	10.03
Roughages purchased	40.49	32.50	26.80
Forage	81.48	94.30	97.00
Total feed and forage	*197.67*	*189.92*	*143.37*
Veterinary	66.92	53.88	56.62
Bedding	45.63	44.18	22.70
Other costs	24.34	28.43	33.50
Total Variable Costs	**334.54**	**316.41**	**256.19**
Gross Margin	**238.80**	**338.37**	**454.21**
Fixed Costs			
Labour	69.92	69.42	70.49
Contractors	90.60	41.71	11.79
Power and machinery	97.78	101.59	93.88
Property maintenance and rent	87.85	89.56	66.03
Depreciation	64.70	74.50	60.09
Finance	60.22	35.84	17.61
Administration	36.28	38.95	38.71
Total Fixed Costs	**507.35**	**451.57**	**358.60**
Net Margin	**(-)268.56**	**(-)113.20**	**95.61**
Annual herd maintenance cost – pence per kg calf produced	27	24	22
Variable cost – pence per kg calf produced	121	103	81
Fixed cost – pence per kg calf produced	184	147	114
Unpaid family labour hours	11hr 25min	12hrs 50min	8hr 5min

Totals may not add up due to rounding

Non-LFA lowground suckler herds – technical performance measures

	Bottom Third	Average	Top Third
Cows per bull	22	21	28
Calves born dead or alive per 100 cows	97	96	96
Calves born dead per 100 cows	3	2	2
Calves died per 100 cows	4	2	2
Calves reared per 100 cows	90	92	92
Daily liveweight gain (kg)	0.99	1.13	1.13
Weight – kg per calf sold	276	308	315
Weight produced – kg per cow	243	278	286
Cow replacement rate per 100 cows	10.7	11	12
Cow mortality %	2.6	2.0	2.0
Purchased concentrates – kg per cow	504	416	45
Home-grown concentrates – kg per cow	128	157	79
Stocking rate GLU/ha	1.54	1.49	1.46
CO_{2e} Kg/net lwt kg produced	28.7	27.6	26.3

Figures may not tally due to rounding

Results from rearer finisher enterprises

In the case of these 22 enterprises farming 2,236 cows, the reported margins relate to the costs and income for a twelve-month period to the end of April 2018.

The businesses surveyed produced an average gross margin per cow of £536, within a range from £330 to £773 per cow, and an average net margin of £10 per cow. Nine (41%) enterprises reported a positive net margin.

- The top-third producers ranked by gross margin per cow achieved a net output £162 higher than the average, largely through the production of 22% more saleable output per cow and higher sale prices per kg lwt than the average. Net output was also impacted by the lower cow replacement rates and lower mortality rates, which contributed to lower herd maintenance charges among the top third.

- Some of the improvement in gross output was offset by 3% higher variable costs among the top third, mainly driven by higher feed and forage costs

- Fixed costs among the top third were £26 (5%) per cow lower than the average, mainly due to higher labour as well as property costs and machinery maintenance charges. Higher paid labour costs were offset by significantly lower property costs and slightly lower power and machinery costs.

- Those businesses in the bottom third had the highest cost base, with both fixed and variable costs higher than the average. Paid labour costs were lower but were offset by higher power and machinery costs, including higher depreciation. This higher cost base did not deliver higher herd performance, though, as those in the bottom third reared one less calf than the average, and sold at a lower price, contributing to a net output £93 lower than the average.

Rearer finisher herds – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	7	22	7
Average herd size (head)	77	102	87
		£ per cow	
Calf output after valuation changes	970.55	1058.18	1207.72
Subsidies	88.26	88.17	88.49
Gross Output	**1058.81**	**1146.35**	**1296.21**
Less net replacement cost	92.84	87.89	75.95
Net Output	**965.97**	**1058.46**	**1220.26**
Variable Costs			
Purchased concentrates	99.45	111.55	121.50
Home-grown concentrates	74.28	75.90	108.80
Roughages purchased	54.99	43.85	44.95
Forage	121.67	99.63	85.69
Total feed and forage	*350.39*	*330.93*	*360.94*
Veterinary	53.43	46.91	44.62
Bedding	112.50	79.69	62.24
Other costs	48.67	64.70	68.79
Total Variable Costs	**564.99**	**522.23**	**536.59**
Gross Margin	**400.98**	**536.23**	**683.67**
Fixed Costs			
Labour	86.27	102.70	128.63
Contractors	39.98	39.85	39.13
Power and machinery	141.70	112.57	106.88
Property maintenance and rent	84.44	111.01	55.94
Depreciation	115.62	84.59	88.45
Finance	36.09	34.98	37.28
Administration	53.51	40.34	43.35
Total Fixed Costs	**557.61**	**526.04**	**499.66**
Net Margin	**(-)156.63**	**10.19**	**184.01**
Annual herd maintenance cost – pence per kg calf produced	15	14	12
Variable cost – pence per kg calf sold	94	84	88
Fixed cost – pence per kg calf sold	93	85	82
Unpaid family labour hours	16hrs 30mins	10hrs 30min	5hrs 5mins

Totals may not add up due to rounding

Rearer finisher herds – technical performance measures

	Bottom Third	Average	Top Third
Cows per bull	27	28	26
Calves born dead or alive per 100 cows	93	94	98
Calves born dead per 100 cows	3	3	3
Calves died per 100 cows	3	3	2
Calves reared per 100 cows	87	88	93
Daily liveweight gain (kg)	1.04	0.97	0.89
Weight – kg per calf sold finished	663	622	612
Weight reared kg per cow per year	358	439	537
Cow replacement rate per 100 cows	12.0	13.7	13.0
Cow mortality %	2.8	2.1	1.5
Purchased concentrates – kg per cow	865	681	514
Home-grown concentrates – kg per cow	597	606	924
Stocking rate GLU/ha	1.41	1.31	1.37
Selling price p/kg dwt finished	353	360	363
Selling price p/kg lwt store	0	226	245
CO_{2e} Kg/net lwt kg produced	22.0	20.6	16.3

Totals may not add up due to rounding

Cattle finishing

Results from cereal-based cattle finishing enterprises

Seventeen cereal-based cattle finishing enterprises were surveyed. They sold a total of 974 cattle and achieved an average gross margin of £227 per animal. The average net margin among those surveyed was positive, at £112 per head, and ranged from (-)£171 to £474 per head. Fifteen businesses (88%) reported a positive net margin.

- Enterprises in the top third of those surveyed had a net output of £88 per animal better than the average and £157 better than the bottom third. They sold the heaviest cattle, although within the market optimum of around 380–400 kg. They achieved the best growth rates but started with the lightest weight cattle and fed them for the longest period. Despite this, they used the least amount of home-grown and purchased concentrates. Output was also helped by having the lowest mortality during the finishing period and – with the exception of steers, which were the heaviest animals sold among the businesses surveyed – the best sale prices.
- Those in the top third achieved higher output while keeping variable costs £4 per head lower than the average, largely through lower feed and forage costs. However, they did carry the highest fixed cost through greater expenditure on paid labour and higher finance charges. Nevertheless, they achieved a net margin of £75 per head better than the average.

(cont. on p39)

Cereal-based cattle finishing enterprises – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	6	17	6
Average herd size (head)	54	57	60
		£ per head	
Stock Sales	**1272.01**	**1336.87**	**1410.53**
Less stock purchases	722.83	718.03	704.35
Net Output	**549.18**	**618.84**	**706.18**
Variable Costs			
Purchased concentrates	184.29	151.31	144.58
Home-grown concentrates	97.81	101.29	92.41
Other feeds	17.65	19.16	13.79
Forage	16.85	14.22	16.75
Total feed and forage	*316.60*	*285.98*	*267.53*
Veterinary	12.49	18.80	26.64
Bedding	52.01	47.87	43.49
Other costs	27.81	38.95	50.07
Total Variable Costs	**408.91**	**391.60**	**387.73**
Gross Margin	**140.27**	**227.24**	**318.45**
Fixed Costs			
Labour	19.72	26.01	33.10
Contractors	11.58	10.66	11.80
Power and machinery	16.70	17.11	17.21
Property maintenance and rent	33.45	22.24	18.70
Depreciation	12.83	14.06	17.40
Finance	4.42	7.30	13.40
Administration	6.32	7.02	8.31
Total Fixed Costs	**105.02**	**104.40**	**119.92**
Net Margin	**35.25**	**122.84**	**198.53**
Stores purchased – pence per kg lwt sold	121	113	105
Variable cost – pence per lwt sold	68	61	58
Fixed cost – pence per kg lwt sold	17	16	18
Unpaid family labour hours	2hrs 15mins	1hr 40min	1hr 20min

Totals may not add due to rounding

Cereal-based cattle finishing enterprises – technical performance measures

	Bottom Third	Average	Top Third
Feeding period (days)	249	250	272
Start weight (kg lwt)	306	303	301
Finish weight (kg lwt)	598	637	668
Daily liveweight gain (kg)	1.17	1.34	1.35
Mortality (%)	2.7	1.5	1.3
Purchased concentrates – kg/head	1226	824	706
Home-grown concentrates – kg/head	787	838	786
Purchase price (£ per kg lwt)	230	234	234
Sale price sold dwt (£ /kg dwt)	345	349	367
Sales			
Steers % of sales	8	17	39
Liveweight at sale	605	666	678
Steer selling price – p/kg dwt	358	354	353
Heifers % of sales	26	22	9
Liveweight at sale	539	553	656
Heifer selling price – p/kg dwt	362	358	371
Young bulls % of sales	66	61	52
Liveweight at sale	645	660	646
Young bull selling price – p/kg dwt	338	346	356
CO_{2e} Kg/net lwt kg produced	20.3	15.8	10.4

Results from cereal-based cattle finishing enterprises (cont. from p37)

- Those in the bottom third turned their cattle over the quickest but carried the highest concentrate use and highest mortality rates. Despite benefiting from strong prime steer sale prices, for the lightest weight steers in the survey, they did see the lowest per kg prices for their young bulls; this accounted for two-thirds of all the prime cattle they sold, which contributed significantly to the £70 per head lower gross output than the average. These herds also carried a higher cost base, particularly through higher use of purchased concentrates and bedding.

Results from forage-based cattle finishing enterprises

The forage-based finishers surveyed have been split into two groups, based on the age at which the majority of the cattle have been sold. The average age at which Scottish prime cattle are slaughtered remains around twenty-two months. This has been taken as the age for splitting the businesses surveyed. Thus, the two groups are those selling finished cattle under 22 months of age and those selling finished cattle at over 22 months of age.

The first group, selling younger cattle, comprises 18 businesses finishing an average of 84 cattle and the second group, selling older cattle, comprises 18 businesses but with an average size of 80 cattle.

- Those selling younger cattle reported a gross margin of £120 per animal sold, falling to a net margin of (-)£133 per animal sold; four (22%) of the businesses in this group achieved a positive net margin. Their counterparts selling older cattle reported a gross margin of £194 per head and a net margin of (-)£52; four businesses in this group achieved a positive net margin.
- Those selling younger cattle finished them around 19 weeks quicker than those selling older cattle, but sold slightly heavier cattle on average.
- Those in the top third of performers showed an improvement in net margin of £118 per animal among those selling younger cattle, although the net margin remained negative, and £56 per animal among those selling older cattle, where the top third produced a positive net margin.
- Among those selling younger cattle, those in the top third achieved the best selling price per kg but sold the lightest cattle, which resulted in lower stock sale revenue. However, this was more than offset by buying lighter cattle into the system. The top third also had lower variable costs – most noticeably feed and forage costs, where slightly higher forage costs were offset by reduced use of concentrate feeds. This group did, however, suffer the highest calf mortality rate.
- Among those selling older cattle, those in the top third were characterised by low mortality over the finishing period. They started with the smallest cattle and sold the heaviest, keeping them on farm for the longest period. They did, however, carry the highest variable and fixed costs, so their better margins were driven by careful buying of store cattle to put into the system.

Forage-based cattle finishing under 22 months – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	6	18	6
Average herd size (head)	94	84	67
		£ per head	
Stock Sales	**1436.01**	**1280.78**	**1239.62**
Less stock purchases	939.81	822.73	703.34
Net Output	**496.20**	**458.05**	**536.28**
Variable Costs			
Purchased concentrates	79.89	66.82	76.94
Home-grown concentrates	222.31	133.36	71.54
Other feeds	13.33	15.35	12.94
Forage	8.59	32.18	39.40
Total feed and forage	*324.12*	*247.71*	*200.82*
Veterinary	10.02	15.13	18.92
Bedding	28.10	31.84	27.72
Other costs	44.95	43.76	50.33
Total Variable Costs	**407.19**	**338.44**	**297.79**
Gross Margin	**89.01**	**119.61**	**238.49**
Fixed Costs			
Labour	74.52	53.90	33.82
Contractors	13.51	18.73	34.87
Power and machinery	58.32	51.80	41.18
Property maintenance and rent	17.65	41.91	64.87
Depreciation	46.92	47.99	52.60
Finance	23.51	19.82	9.94
Administration	21.55	18.90	16.67
Total Fixed Costs	**255.98**	**253.05**	**253.95**
Net Margin	**(-)166.97**	**(-)133.44**	**(-)15.46**
Stores purchased – pence per kg lwt sold	136	131	114
Variable cost – pence per lwt sold	59	54	48
Fixed cost – pence per kg lwt sold	37	40	41
Unpaid family labour hours	5hrs 35min	4hrs 30min	3hrs 30min

Totals may not add up due to rounding

Forage-based cattle finishing under 22 months – technical performance measures

	Bottom Third	Average	Top Third
Feeding period (days)	244	287	320
Start weight (kg lwt)	404	357	311
Finish weight (kg lwt)	689	629	615
Daily liveweight gain (kg)	1.17	0.95	0.95
Mortality (%)	0.5	0.7	1.5
Purchased concentrates – kg/head	664	460	341
Home-grown concentrates – kg/head	1620	997	593
Purchase price (£ per kg lwt)	231	229	223
Sale price sold dwt (p per kg dwt)	359	354	362
Sales			
Steers % of sales	22	33	52
Liveweight at sale	708	670	633
Steer selling price – p/kg dwt	354	357	371
Heifers % of sales	78	66	48
Liveweight at sale	683	605	597
Heifer selling price – p/kg dwt	361	353	352
Young bulls % of sales	0	0	0
Liveweight at sale	0	0	0
Young bull selling price – p/kg dwt	0	0	0
CO_{2e} Kg/net lwt kg produced	14.3	14.3	14.0

Forage-based cattle finishing over 22 months – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	6	18	6
Average herd size (head)	60	80	44
		£ per head	
Stock Sales	**1222.27**	**1312.08**	**1386.81**
Less stock purchases	784.69	827.37	716.84
Net Output	**437.58**	**484.71**	**669.97**
Variable Costs			
Purchased concentrates	116.66	83.78	85.04
Home-grown concentrates	29.44	57.55	75.57
Other feeds	19.79	16.51	27.45
Forage	41.58	44.23	47.93
Total feed and forage	*207.47*	*202.07*	*235.99*
Veterinary	16.10	17.19	23.37
Bedding	40.84	30.71	57.06
Other costs	36.35	40.44	45.26
Total Variable Costs	**300.76**	**290.41**	**361.68**
Gross Margin	**136.82**	**194.30**	**308.29**
Fixed Costs			
Labour	31.60	36.77	45.17
Contractors	21.08	17.52	23.87
Power and machinery	44.44	53.00	69.80
Property maintenance and rent	73.79	51.84	66.87
Depreciation	39.86	49.61	50.21
Finance	14.63	16.19	23.70
Administration	22.81	21.81	24.11
Total Fixed Costs	**248.21**	**246.74**	**303.73**
Net Margin	**(-)111.39**	**(-)52.44**	**4.56**
Stores purchased – pence per kg lwt sold	136	133	108
Variable cost – pence per lwt sold	52	47	54
Fixed cost – pence per kg lwt sold	43	39	46
Unpaid family labour hours	4hrs 30min	5hrs 10min	6hrs 15min

Totals may not add up due to rounding

Forage-based cattle finishing over 22 months – technical performance measures

	Bottom Third	Average	Top Third
Feeding period (days)	394	423	486
Start weight (kg lwt)	327	354	300
Finish weight (kg lwt)	579	624	663
Daily liveweight gain (kg)	0.64	0.64	0.75
Mortality (%)	1.1	0.9	0.4
Purchased concentrates – kg/head	749	451	474
Home-grown concentrates – kg/head	250	469	592
Purchase price (£ per kg lwt)	237	231	238
Sale price sold dwt (p per kg dwt)	368	362	361
Sales			
Steers % of sales	30	33	62
Liveweight at sale	609	661	691
Steer selling price – p/kg dwt	389	367	351
Heifers % of sales	69	66	38
Liveweight at sale	566	606	616
Heifer selling price – p/kg dwt	358	359	378
Young bulls % of sales	0	0	0
Liveweight at sale	0	0	0
Young bull selling price – p/kg dwt	0	0	0
CO_{2e} Kg/net lwt kg produced	13.9	13.2	10.1

SHEEP ENTERPRISES

Results from LFA hill ewe flocks

This group of enterprises comprises purebred Blackface and Cheviot flocks farmed on some of the most disadvantaged land in Scotland. The sample covered 22 such flocks farming over 12,900 ewes in total. These flocks are characterised by low lambing percentages, averaging 102% lambs reared within a range of 75% to 143%. The average gross margin achieved across this group was £24 per ewe, while the average net margin was (-)£19 per ewe within a range of (-)£56 to £19 per ewe. Three producers (14%) within this group made a small positive net margin.

- Producers in the top third benefit from better technical performance. The improvement in gross margin per ewe of £20 over the average is largely due to:
  - A higher number of lambs reared – 21 more lambs per ewe than average;
  - Lambs were sold at a slightly heavier weight, resulting in 33% more lamb produced per ewe.
  - With little difference in retentions for flock maintenance, the higher lambing percentage left those in the top third with a greater number of lambs for sale, a useful proportion of which (18%) were sold as prime lambs, which sold at higher unit prices to deliver £21 per ewe more income.
- Top-third producers had slightly lower variable costs, saving on purchased feed by spending slightly more than the average on forage production. They did, however, have slightly higher fixed costs per ewe associated with higher finance charges and machinery costs. Although paid labour costs were lower among the top third, they were partially offset by greater use of contractors.
- Bottom-third producers achieved a gross margin of £4 per ewe, £19 lower than the average, and a net margin of (-)£33 per ewe, £14 worse than the average. However, it must be recognised that 70% of the flocks in the bottom third were flocks in the North West Highlands and Islands region, where climate and topography have a severe impact on ewe performance and the ability of producers to sell prime lambs. This is reflected in a lamb reared percentage of 93%. On average, lambs were sold at lighter weights and production per ewe was 17% lower than the average.
- Bottom-third producers carried the highest variable costs, all due to higher expenditure on feed and forage. However, they did have a lower fixed cost base, spending £5 less per ewe than the average on these items. Sales revenue was constrained not only by having fewer lambs to sell but also by selling only store lambs and at lower prices than the slightly more favoured hill farms.

LFA hill ewe flocks – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	7	22	7
Flock size	632	587	470
		£ per ewe	
Lamb sales	43.11	56.04	76.96
Wool	1.45	1.50	1.59
Gross Output	**44.56**	**57.54**	**78.55**
Less replacement costs	11.43	11.22	12.41
Net Output	**33.13**	**46.32**	**66.14**
Variable Costs			
Purchased concentrates	8.97	7.14	6.20
Home-grown concentrates	0	0.03	0.10
Other feeds	5.09	2.83	2.02
Forage	2.03	1.80	3.04
Total feed and forage	*16.09*	*11.80*	*11.36*
Veterinary	7.58	5.71	5.20
Bedding	0.42	0.20	0.12
Other costs	4.94	4.96	5.58
Total Variable Costs	**29.03**	**22.67**	**22.26**
Gross Margin	**4.10**	**23.65**	**43.88**
Fixed Costs			
Labour	10.56	11.13	9.29
Contractors	2.58	3.80	5.28
Power and machinery	5.66	6.30	7.74
Property maintenance and rent	6.54	10.34	8.47
Depreciation	9.65	6.69	6.60
Finance	0.51	0.99	2.26
Administration	2.56	3.47	3.42
Total Fixed Costs	**38.06**	**42.72**	**43.06**
Net Margin	**(-)33.96**	**(-)19.07**	**0.82**
Flock replacements – pence per kg lamb produced	41	33	28
Variable cost – pence per kg lamb produced	104	68	50
Fixed cost – pence per kg lamb produced	136	127	97
Unpaid family labour hours	30min	1hr 5min	1hr 35min

Totals may not add up due to rounding

LFA hill ewe flocks – technical performance

	Bottom Third	Average	Top Third
Ewes per ram	34	33	29
Ewe mortality %	3.7	3.9	4.4
Ewe replacement rate %	22.4	20.4	22.5
Lambs born dead or alive per 100 ewes	110	118	144
Lamb mortality (inc. born dead) %	17	16	21
Lambs reared per 100 ewes	93	102	123
Average weight of lambs kg	30.1	32.9	36.3
Weight of lamb produced per ewe kg	27.9	33.5	44.6
Purchased concentrates kg/ewe	40	29	23
Home-grown concentrates kg/ewe	0	0	1
Lambs sold finished per 100 ewes	0	11	23
Value per lamb £/head	0	67.35	76.27
Lambs sold/transferred store per 100 ewes	55	53	54
Value per lamb £/head	44.15	44.45	46.40
Lambs sold/transferred for breeding per 100 ewes	38	38	46
Value per lamb £/head	49.51	66.71	75.35
CO_{2e} Kg/net lwt kg produced	22.3	17.3	14.0

Results from LFA upland ewe flocks

LFA upland breeding flocks are identified as LFA farms running crossbred flocks. Thirty-two such flocks were recorded in this survey, which collectively farmed some 16,000 ewes. These enterprises achieved an average gross margin of £55 per ewe and an average net margin of £8 per ewe. Eighteen of the businesses surveyed (56%) returned a positive net margin within a range of (-)£37 to £48 per ewe.

- Producers in the top third produced a gross margin of £77 per ewe, 41% better than the average and more than double the bottom third.
- The improvement in gross margin between the average and the top third was due to both higher net output (+£10 per ewe) and reduced variable costs (£12 per ewe less). Higher output was achieved through improved flock performance including:
  - lamb sale weights that were 0.5 kg heavier than the average,
  - 11 more lambs were reared per 100 ewes than the average;
  - leading to 9% more liveweight produced per ewe than the average; and
  - higher sale prices for prime and store lamb than the average.

Lower variable costs were primarily the result of lower use of purchase feeds and lower forage costs, but the group also paid lower veterinary charges and the other livestock expenses were also kept well below the average.

- In contrast, bottom-third producers delivered:
  - 27 fewer lambs reared per 100 ewes than the average;
  - 20% less liveweight of lamb produced per ewe than the average.
- Fixed costs among the top third were the lowest among the surveyed enterprises, due largely to lower paid labour costs and lower property costs. However, they did spend the most on contractors and also faced higher finance changes than the average. Nevertheless, because of the higher output, fixed costs per kg of output were 11p/kg lower than the average among the top third.
- Those in the bottom third carried lower variable costs per ewe than the average, although they did spend more than the top third on feed and forage. Similarly, although the bottom-third had lower fixed costs than the average – particularly in the area of paid labour and contractors – they did have higher fixed costs than the top third.

LFA upland ewe flocks – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	11	32	11
Flock size	360	500	392
	£ per ewe		
Lamb sales	79.09	105.55	115.28
Wool	2.37	2.51	2.85
Gross Output	**81.46**	**108.06**	**118.13**
Less replacement costs	14.90	14.26	13.31
Net Output	**66.56**	**93.80**	**104.82**
Variable Costs			
Purchased concentrates	9.58	12.46	8.15
Home-grown concentrates	0.53	0.27	0.08
Other feeds	2.89	2.76	1.62
Forage	5.81	6.32	5.56
Total feed and forage	*18.81*	*21.81*	*15.41*
Veterinary	6.64	7.77	6.32
Bedding	1.69	1.75	0.88
Other costs	6.67	7.53	4.69
Total Variable Costs	**33.81**	**38.86**	**27.30**
Gross Margin	**32.75**	**54.94**	**77.52**
Fixed Costs			
Labour	2.19	7.85	4.46
Contractors	3.53	5.47	6.26
Power and machinery	8.28	8.07	8.18
Property maintenance and rent	16.16	12.06	9.55
Depreciation	7.96	8.29	10.25
Finance	3.10	1.98	3.00
Administration	4.60	3.54	2.81
Total Fixed Costs	**45.82**	**47.26**	**44.51**
Net Margin	**(-) 13.07**	**7.68**	**33.01**
Flock replacements – pence per kg lamb produced	33	25	21
Variable cost – pence per kg lamb produced	74	67	44
Fixed cost – pence per kg lamb produced	100	82	71
Unpaid family labour hours	2hr 5min	1hr 30min	1hr 50min

Totals may not add due to rounding

LFA upland ewe flocks – technical performance

	Bottom Third	Average	Top Third
Ewes per ram	38	35	29
Ewe mortality %	5.7	5.5	3.0
Ewe replacement rate %	19.6	24.4	28.9
Lambs born dead or alive per 100 ewes	139	161	172
Lamb mortality (inc. born dead) %	22	17	17
Lambs reared per 100 ewes	117	144	155
Average weight of lambs kg	38.9	40.1	40.6
Weight of lamb produced per ewes kg	45.7	57.6	62.7
Purchased concentrates kg/ewe	41	49	33
Home-grown concentrates kg/ewe	4	2	1
Lambs sold finished per 100 ewes	50	94	97
Value per lamb £/head	73.03	77.07	80.64
Lambs sold/transferred store per 100 ewes	48	31	42
Value per lamb £/head	53.24	56.49	59.05
Lambs sold/transferred for breeding per 100 ewes	19	19	16
Value per lamb £/head	87.45	84.49	78.52
CO_{2e} Kg/net lwt kg produced	14.4	12.9	12.9

Results from lowground breeding flocks

The fifteen businesses in the survey farmed some 6,360 ewes. Twelve of the flocks in this group achieved a positive net margin, with the average being £42 per ewe within a range from (-)£16 to £71 per ewe.

- Better financial returns tend to be associated with high physical performance, with those among the top-third financial returns weaning 21 more lambs per 100 ewes than the average and producing 10 kg per ewe more output. They also sold the highest proportion of their lambs finished and benefited from the best prices per lamb sold.
- £28 higher net output among the top third was, however, partially offset by higher variable and fixed costs so that their net margin was £17 per ewe better than the average. Spending on all components of the variable costs was higher among the top third, with notably higher general livestock costs and concentrate feed costs. The increase in fixed costs was almost entirely due to higher paid labour costs among the top third.
- Bottom third producers also achieved positive net margins although significantly lower than the average. Lower output was more than offset by a combination of lower variable and fixed costs than the average.

Lowground ewe flocks – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	5	15	5
Flock size	298	424	540
	£ per ewe		
Lamb sales	101.69	145.88	173.98
Wool	2.27	2.86	3.05
Gross Output	**103.96**	**148.74**	**177.03**
Less replacement costs	14.22	13.76	14.29
Net Output	**89.74**	**134.98**	**162.74**
Variable Costs			
Purchased concentrates	9.77	14.74	19.54
Home-grown concentrates	1.10	2.83	1.11
Other feeds	1.32	2.10	1.78
Forage	5.54	5.95	4.60
Total feed and forage	*17.73*	*25.62*	*27.03*
Veterinary	6.64	9.54	10.12
Bedding	0.31	0.81	1.29
Other costs	7.60	9.44	11.64
Total Variable Costs	**32.28**	**45.41**	**50.08**
Gross Margin	**57.46**	**89.57**	**112.66**
Fixed Costs			
Labour	7.33	10.47	15.14
Contractors	1.83	4.42	4.52
Power and machinery	10.85	9.56	10.89
Property maintenance and rent	6.14	10.80	12.35
Depreciation	7.36	7.36	7.34
Finance	2.59	2.08	1.21
Administration	4.50	3.25	2.62
Total Fixed Costs	**40.60**	**47.94**	**54.07**
Net Margin	**16.86**	**41.63**	**58.59**
Flock replacements – pence per kg lamb produced	27	20	18
Variable cost – pence per kg lamb produced	62	65	62
Fixed cost – pence per kg lamb produced	78	69	67
Unpaid family labour hours	50min	1hr 20min	1hr 15min

Totals may not add due to rounding

Lowground ewe flocks – technical performance

	Bottom Third	Average	Top Third
Ewes per ram	36	33	34
Ewe mortality %	4.5	3.8	4.2
Ewe replacement rate %	20.3	20.5	20.7
Lambs born dead or alive per 100 ewes	146	179	199
Lamb mortality (inc. born dead) %	16	18	17
Lambs reared per 100 ewes	130	161	182
Average weight of lambs kg	40.1	43.2	44.1
Weight of lamb produced per ewes kg	52.1	69.6	80.2
Purchased concentrates kg/ewe	43	64	88
Home-grown concentrates kg/ewe	9	24	9
Lambs sold finished per 100 ewes	93	136	165
Value per lamb £/head	82.25	92.55	96.69
Lambs sold/transferred store per 100 ewes	21	9	3
Value per lamb £/head	56.30	63.40	70.00
Lambs sold/transferred for breeding per 100 ewes	16	16	14
Value per lamb £/head	84.82	88.65	90.00
CO_{2e} Kg/net lwt kg produced	10.3	11.4	11.1

Results from store lamb finishing enterprises

Fifteen store lamb finishing businesses, selling just over 6,600 lambs, achieved an average gross margin of £19 per lamb. Net margins averaged £12 per lamb in a range from £1 to £32 per lamb. All of these enterprises achieved a positive net margin.

- Top-third producers achieved a gross margin £20 per lamb higher than the average, although this was trimmed to £18 at net margin level due to slightly higher fixed costs among the top third because of higher power and machinery expense.
- Top-third producers kept their lambs for the longest period and sold them at the heaviest weights. However, they did have the highest mortality rates. Equally, though, they received the highest per kg prices for their lambs when sold. Keeping lambs for a longer period did, however, result in higher than average spending on feed and veterinary inputs.
- In contrast, those in the bottom third of financial performance finished their store lambs over the shortest period and at the lowest carcase weights. Not surprisingly, this shorter finishing period resulted in lower variable costs. The enterprises also carried lower fixed costs than the average. However, despite the reduced cost base the lower output meant that the net margin among the bottom third, whilst still positive, was £4.50 lower than the average.

Store lamb finishing – financial performance measures

	Bottom Third	Average	Top Third
Number in sample	5	15	5
Flock size	707	444	282
	£ per ewe		
Lamb sales	71.05	79.98	100.69
Less purchases	47.47	48.69	47.25
Net Output	**23.58**	**31.29**	**53.44**
Variable Costs			
Purchased concentrates	2.35	3.86	6.96
Home-grown concentrates	0.04	0.08	0.27
Other feeds	0.08	0.43	0.20
Forage	2.90	1.77	0.84
Total feed and forage	*5.38*	*6.14*	*8.27*
Veterinary	1.17	1.61	2.26
Bedding	0.01	0.01	0
Other costs	4.32	4.07	3.32
Total Variable Costs	**10.87**	**11.83**	**13.85**
Gross Margin	**12.71**	**19.46**	**39.59**
Fixed Costs			
Labour	0.76	1.20	0.87
Contractors	0.90	1.03	0.91
Power and machinery	1.02	1.69	3.21
Property maintenance and rent	1.02	1.20	1.38
Depreciation	1.08	1.42	2.17
Finance	0.15	0.24	0.28
Administration	0.23	0.59	1.24
Total Fixed Costs	**5.16**	**7.37**	**10.06**
Net Margin	**7.55**	**12.09**	**29.53**
Lambs purchased - pence per kg lwt lamb sold	123	124	110
Variable cost – pence per kg lwt lamb sold	28	30	32
Fixed cost - pence per kg lwt lamb sold	13	19	23
Unpaid family labour hours	15mins	20mins	35mins

Totals may not add due to rounding

Store lamb finishing – technical performance

	Bottom Third	Average	Top Third
Weight of lamb purchased kg	28.3	28.7	28.1
Liveweight of lamb sold	38.7	39.2	43.1
Carcase weight of lamb sold	18.2	18.4	20.3
Sale price – p/kg dwt	390	434	496
Daily liveweight gain	0.08	0.07	0.09
Finishing period – days	137	144	165
Mortality %	1.4	2.3	3.3
Purchased concentrates – kg/lamb	10	17	32
Home-grown concentrates – kg/lamb	1	1	2
CO_{2e} Kg/net lwt kg produced	11.0	10.7	9.8

RETURNS TO QUALITY

Beef

The quality of the stock presented to the market and its value to processors through product size, improved meat yield, or less carcase trimming, will be reflected in market prices. For example, in 2017 the average price paid for–U3 and R4L steers was very similar on a pence per kilo basis, but for heifers, the -U3 maintained a premium of around 6p/kg dwt over the R4L. An improvement in carcase quality from O+4H to R4L was worth 15.1p/kg dwt to producers for steers and 14.8p/kg dwt for heifers during 2017.

Having almost disappeared in 2016, the premium for leaner better conformation steers (-U3) went into reverse in 2017, whereas the premium between the benchmark R4L grade and the poorer conformation and fatter O+4H edged higher. Taking the -U3 to R4L differential first, its reversal is the likely consequence of continued enforcement of pricing penalties for carcases exceeding target weight ranges, given that a -U grade carcase is more likely to exceed the target than an R4L carcase. However, heavy carcases are far less of an issue for heifers, so the difference in demand for the two carcase types may have closed slightly as a feature of tighter supply.

Moving into 2018, the -U3 steer has traded at a small discount to the R4L throughout most of the first ten months, averaging 2.4p lower, indicating that abattoirs have maintained a policy of penalising heavy carcases. Though the R4L premium over an O+4H steer has narrowed slightly from 2017, it remained significant at 13.4p. For heifers, the premia have continued to narrow slightly, despite an increase in volumes.

	Average -U3 premium over R4L (p/kg)			Average R4L premium over O+4H (p/kg)		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
Steer	2.9	0.2	-0.4	10.7	14.8	15.1
Heifer	6.9	7.4	5.8	11.9	15.9	14.8

Lamb

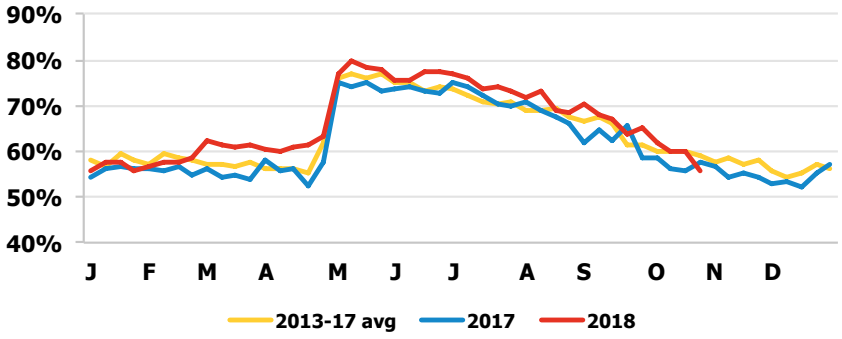
As is the case for beef, there is also a financial reward from the marketplace where a lamb carcase meets an improved conformation and fat level. Both the U2 to R3L and R3L to O3H premia reversed the previous year's changes, with the former narrowing slightly while the latter increased following three years of declines. The more significant premium between an R3L and an O3H grade than between U2 and R3L grade carcases is likely to reflect that an O3H grade is outwith the target range.

	Average U2 premium over R3L (p/kg)			Average R3L premium over O3H (p/kg)		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
Lambs	10.5	11.2	10.4	14.9	13.5	15.0

During the first ten months of 2018, there have been increases in price differentials to 11.2p/kg between a U2 and an R3L grade, and to 17.1p between an R3L lamb carcase and an O3H.

These figures are average variations across Great Britain, but individual processors will have different requirements, and hence different pricing structures, which may have led to deviation from these levels. Therefore, a good relationship between producer and buyer which involves regular dialogue and feedback is very important.

Proportion of prime sheep grading at R3L or better at price reporting GB abattoirs

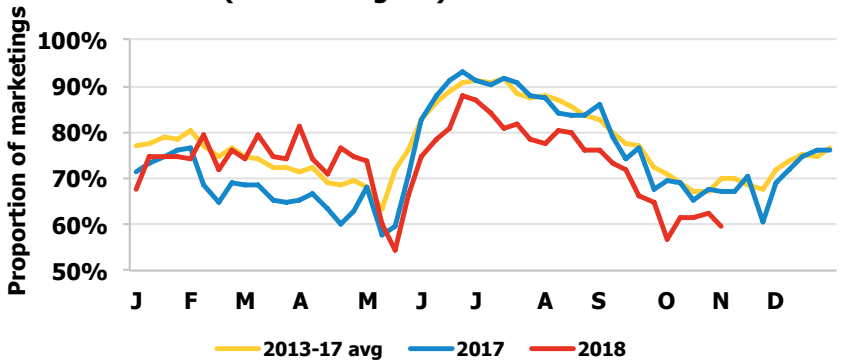


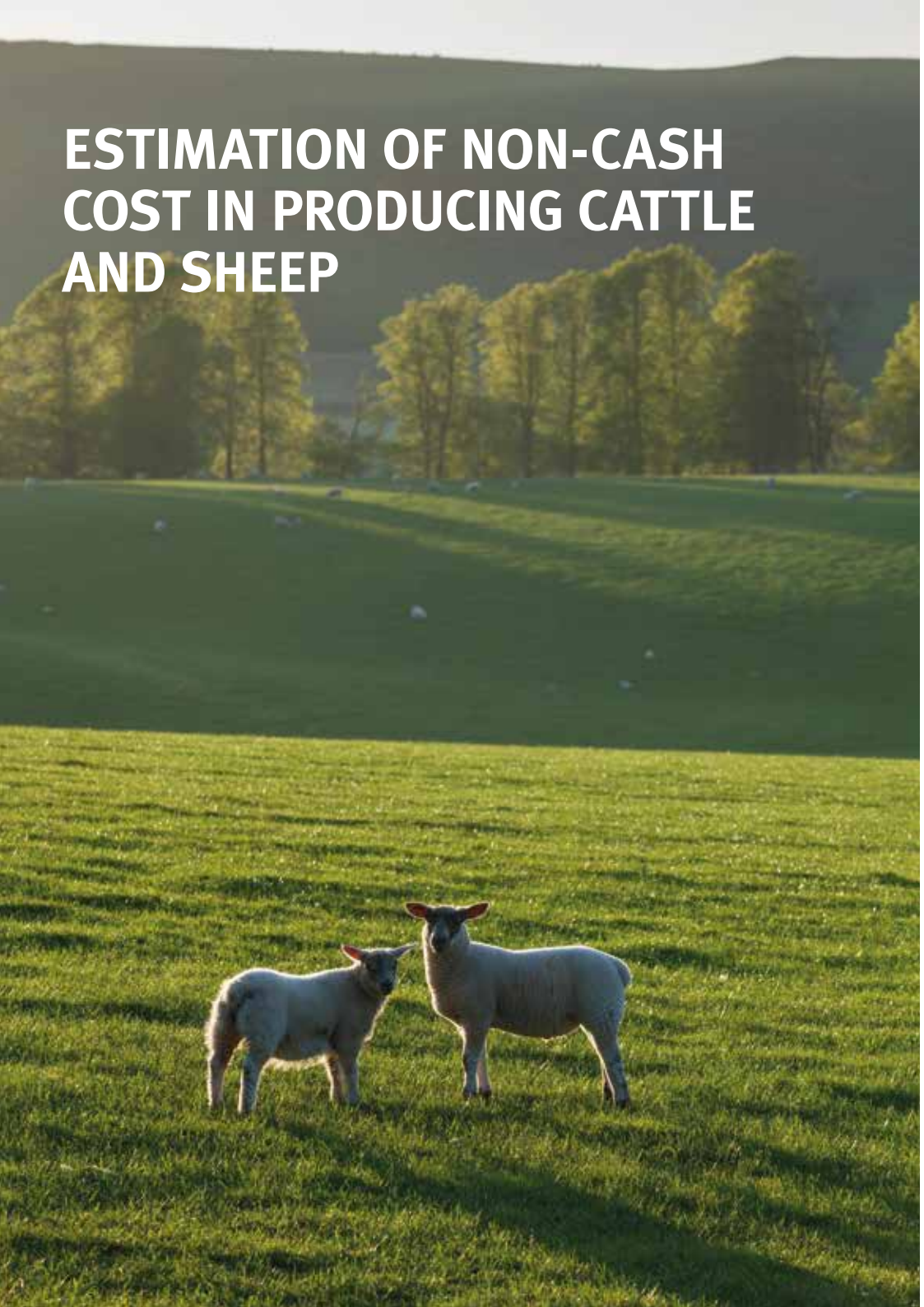
In addition to its seasonal supply profile, lamb has a seasonal variation in quality. As the new season began in 2017, 75% of lambs at GB price-reporting abattoirs achieved at least an R3L grading. This was down marginally from the previous year and on the five-year average. Carcase quality did, however, tend to average slightly above 2016 levels through June and July, before falling significantly behind year-earlier levels between August and October. However, this shortfall did ease from around 4–5 percentage points back to 1–3 points in November and December. Moving into the first third of 2018, hogg carcase quality showed an improvement on the previous year, running around 1–2 points higher in January and February, before widening to a 5-7 point gap in March and April.

This improvement in the latter part of 2017/18 has continued into the 2018/19 season. Carcase quality has generally exceeded last year's levels by 3–4 percentage points. Meanwhile, following on from 2016 and 2017, the peak slaughter week ahead of the Eid al-Adha festival saw a significant fall in carcase quality, as processors sought to meet their additional requirements. The proportion grading at R3L or better slipped by 4.4 percentage points, having eased by 4.2 points in 2017 and 6.3 points in 2016.

Whereas expectations might have been for the combination of a cold, wet spring and a dry summer to result in limited lamb growth rates, the proportion of lambs weighing within the SQQ range of 25.5–45.5 kg lwt has fallen significantly in the summer and autumn of 2018. On average, the proportion within the weight range was seven percentage points lower between May and October. By contrast, the first third of 2018 had seen a sharp rise in the proportion of hoggs within the weight range. Whereas this improvement in hogg weights had been correlated with a lift in carcase quality at GB abattoirs, the two measures have diverged in the opening half of 2018/19.

Proportion of prime sheep classed SQQ (25.5-45.5kg lwt) at Scottish auctions





ESTIMATION OF NON-CASH COST IN PRODUCING CATTLE AND SHEEP

The enterprise costings produced in this survey indicate the reward for the unpaid labour of those working with the herds and flocks and the reward for investing capital in an enterprise. A negative net margin indicates that there is no return for the labour and investment committed to an enterprise.

In this chapter, estimates are made of how much should be set against an enterprise if unpaid labour were to be charged for and if a return of 5% was required from the investment in livestock and running costs (but not buildings and land). The reward for investment in land and buildings can be considered to be the rental value of the land used by an enterprise. This analysis draws rental values from the Scottish Government RESAS 2016 report on tenanted land[1]. This rental value gives a measure of the opportunity cost of the land used by beef and sheep enterprises.

The value of unpaid labour is estimated using the proportion of a man-year committed to the enterprise and an average value for an hour of work. Time committed by the average farmer is drawn from the survey data, with one man-year defined as 2,200 hours of annual work[2]. One hour of labour has been valued at £15.03, which is an increase of 2% on the year.

Cattle enterprises

	Unpaid labour	Return on working capital[3]	Rent of land and buildings
	p/kg liveweight sold		
Hill suckler herds	96	38	24
Upland suckler herds selling calves at weaning	41	37	16
Upland suckler herds selling yearlings	60	26	13
Lowground suckler herds	71	33	29
Rearer-finisher herds	37	22	21
Cereal-based store finishing	4	9	4
Forage-based store finishing <22 months old	11	9	10
Forage-based store finishing >22 months old	13	10	2

[1] *"Tenanted Agricultural Land in Scotland 2016/17" Scottish Statistical Publication April 2017.*

[2] *47-hour average week, assuming five weeks of leave.*

[3] *Return required to give a 5% return on working capital.*

Sheep enterprises

	Unpaid labour	Return on working capital[4]	Rent of land and buildings
	p/kg liveweight sold		
Hill flocks	49	11	21
Upland flocks	40	11	9
Lowground non-LFA flocks	29	16	14
Store lamb finishers	13	7	1

[4] Return required to give a 5% return on working capital

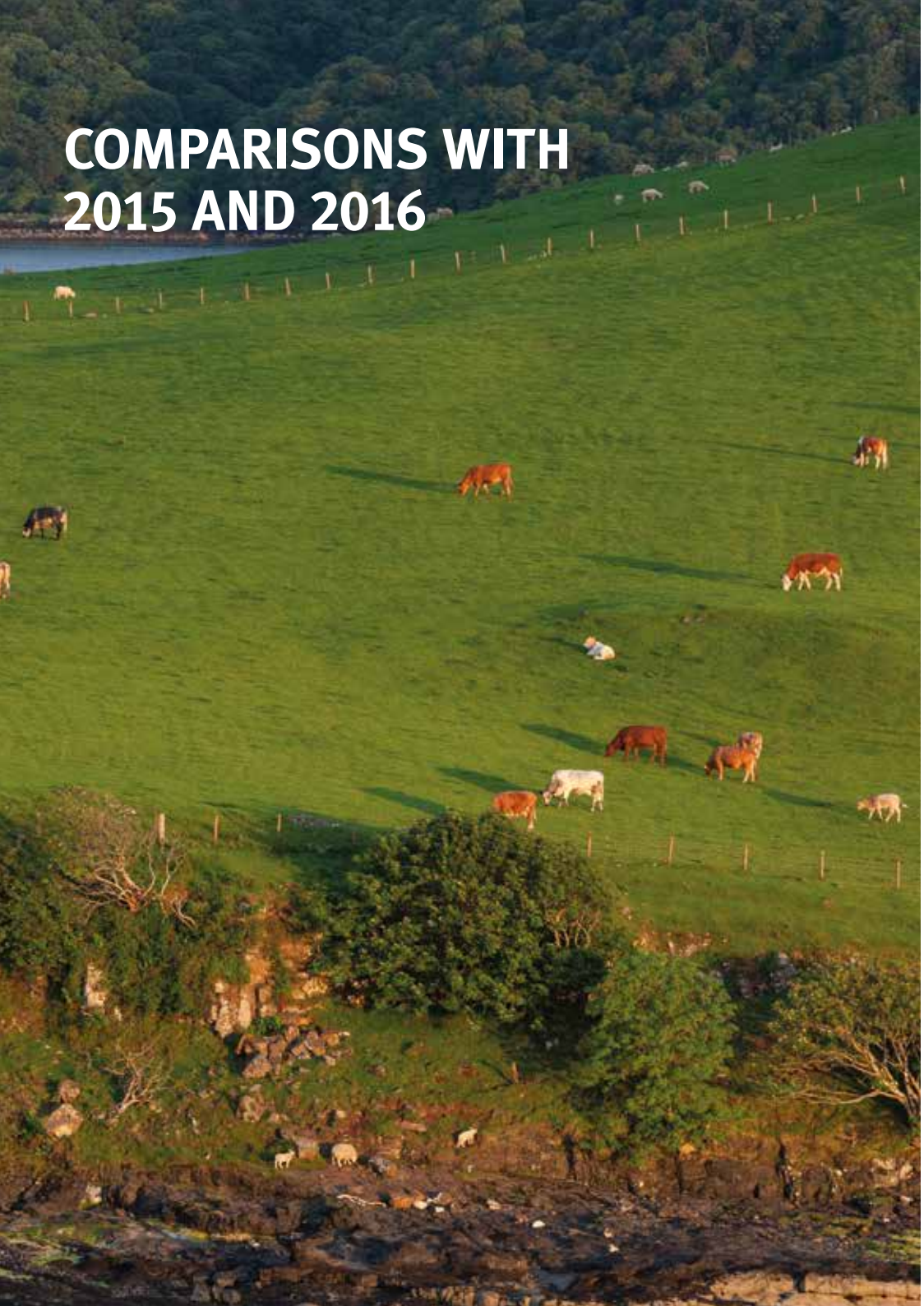
Total cost of producing a kilogramme of beef or sheep meat

Adding together the value of non-cash costs and the running costs of an enterprise provides an indication of the total cost of producing a kilogramme of beef or sheep meat. However, before doing this, all enterprises need to be brought to a common standard. Thus, finance charges and rents paid have been excluded from the fixed costs of the enterprises surveyed in making the following estimate. They have been replaced by the imputed value for return on working capital and rental value for the land used for the livestock enterprise.

The table on the following page summarises the cost of production for a kilogramme liveweight of beef or sheepmeat produced by the average performer among the enterprises covered by the survey.

	Non-cash estimates						Total costs	Selling price
	Repl. cost	Var. costs	Fixed costs	Labour	Working capital	Rental value		
	Pence per kg liveweight sold							
Sheep enterprises								
Store lambs	124	30	15	13	7	1	190	205
Hill ewe	33	68	93	49	16	21	280	167
Upland ewe	25	67	58	40	11	9	210	183
Lowland ewe	20	65	51	29	11	14	190	209
Cattle enterprises								
Hill suckler	24	108	122	96	38	24	412	242
Upland selling at weaning	27	88	90	41	37	16	299	242
Upland selling yearlings	20	92	80	60	26	13	291	241
Non-LFA suckler	24	103	102	71	33	29	362	231
Rearer-finisher	14	84	51	37	22	21	229	208
Forage finisher <22 months	133	47	31	11	9	4	235	205
Forage finisher >22 months	131	54	28	13	9	10	245	210
Cereal finisher	113	61	12	4	10	2	202	210

Labour based on £15.03 per hour and 2,200 hours per man year (£33,076 employment cost per year).
Rental values based on values published in Scottish Government's Tenanted Agricultural land in Scotland 2016/17.
Working capital charged at 5%.
Fixed costs adjusted for rent and finance paid.



COMPARISONS WITH 2015 AND 2016

The following tables summarise and compare the results from the 2017 calf and lamb crop with those of 2015 and 2016. Analysis is based on a comparison of the average from each of the three years surveyed and does not compare an identical sample.

Cattle enterprises

Suckler herds

- Lowground suckler herds saw a significant reduction in margins, despite improvement in herd productivity. Lower sale weights led to lower returns from the marketplace. Lower output was also compounded by a much higher cost base. Hill suckler herds also saw a deterioration in margins, again despite an increase in herd productivity. However, similar to the lowground producer, although more calves were reared they were sold at lower weights, and market returns fell because of this. However, in contrast to the lowground herds, hill herds reduced their variable costs, although like lowground flocks they saw significant increases in fixed costs.
- Upland herds, on the more favoured ground, did show improved margins – indeed both groups returned a positive net margin. Both groups saw improved herd productivity, although both groups sold animals slightly lighter than last year, which was partially offset by higher per-kg market prices. Nevertheless, those selling weaned calves did see reduced net output; however, by reducing their fixed costs in particular, they were able to offset this lower market return and grow margins. Those selling yearling cattle did see higher returns from the market place, although achieving this did require an increase in variable costs – particularly feed and bedding. Like their contemporaries selling weaned calves, those selling yearlings also drove down their fixed costs.

Cattle finishing

- Rearer-finisher enterprises surveyed in 2017–2018 saw further improvement in margins, returning a positive net margin for the first time in three years. However, they did have to contend with a higher variable cost base, driven largely by the result of increases in bedding and other variable costs. In contrast, fixed costs were managed lower. Slightly improved herd productivity and liveweight gains contributed to higher physical output per cow; this also benefited from higher market prices, which contributed to a useful increase in this net output. Indeed, this improved output more than offset the increase in costs, and margins improved on the year.
- Store cattle finishers saw mixed fortunes: all saw increased mortality rates, but equally all saw net output increase on the back of firm prime stock prices. However, forage-based finishers continued to deliver negative net margins. Nevertheless, longer-keep forage finishers saw the negative margin diminish, primarily as a result of higher market returns, although unchanged variable costs and reduced fixed costs also made a useful contribution. In contrast, forage-based finishers selling younger cattle saw the benefit of higher market returns quickly eroded through higher concentrate feed costs and fixed costs. Intensive cereal-based finishers faced significant increases in veterinary, bedding and miscellaneous livestock costs, although fixed costs and feed costs were little changed. However, the increase in the margin between buying and selling prices offset the increase in costs, and margins increased substantially.

Suckler herds

	Hill suckler herds			Lowland suckler herds		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
Number in sample	16	15	15	16	16	16
Avg. herd size (head)	50	48	59	97	79	75
	£ per cow					
Calf output including beef calf premium	**667.22**	**739.51**	**723.08**	**744.87**	**747.02**	**727.49**
Less replacements	63.48	66.69	69.35	70.41	73.69	72.71
Net Output	**612.73**	**672.83**	**653.73**	**674.47**	**673.33**	**654.78**
Variable Costs						
Total concentrates	91.38	104.78	92.93	53.04	23.09	63.12
Other feeds	37.37	66.71	63.27	35.88	49.65	32.50
Forage	100.92	68.55	53.07	65.70	74.26	94.30
Total feed and forage	*229.68*	*240.04*	*209.27*	*154.63*	*147.00*	*189.92*
Veterinary	36.91	43.02	36.97	39.43	44.21	53.88
Bedding	25.86	32.68	22.07	43.84	30.60	44.18
Other costs	34.50	38.69	44.50	23.35	38.23	28.43
Total Variable Costs	**326.96**	**354.42**	**312.81**	**261.26**	**260.04**	**316.41**
Gross Margin	**285.78**	**318.40**	**340.92**	**413.21**	**413.29**	**338.37**
Fixed Costs	**439.62**	**418.35**	**480.31**	**405.18**	**410.34**	**451.57**
Net Margin	**(-)153.84**	**(-)99.94**	**(-)139.39**	**8.03**	**2.95**	**(-)113.20**

	Hill herds			Lowland herds		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
Physical Performance						
Calves born dead or alive per 100	94	95	95	91	94	96
Calves reared per 100	89	90	91	86	88	92
Daily liveweight gain (kg)	0.94	0.88	0.90	1.16	1.11	1.13
Return per calf (£ per head)	608	714	704	790	755	705
Calf price (£ per kg lwt)	1.99	2.32	2.43	2.38	2.31	2.29
Weight per calf (kg)	305	307	290	332	326	308

	Upland suckler herds Selling weaned calves			Upland suckler herds Selling yearling calves		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
Number in sample	30	30	31	26	25	27
Avg. herd size (head)	107	115	104	110	104	110
	£ per cow					
Calf output incl. Beef calf premium	**675.10**	**747.92**	**743.32**	**839.89**	**872.26**	**919.89**
Less replacements	82.04	75.06	79.47	81.33	76.56	78.26
Net Output	**593.06**	**672.86**	**663.85**	**758.55**	**795.71**	**841.63**
Variable Costs						
Total concentrates	34.13	44.12	43.10	99.75	96.89	101.36
Other feeds	43.57	44.78	30.45	30.07	27.07	29.33
Forage	90.50	77.09	76.72	88.47	93.10	93.00
Total feed and forage	*168.20*	*166.00*	*150.27*	*218.29*	*217.06*	*223.69*
Veterinary	48.16	40.24	42.78	43.45	52.04	51.04
Bedding	33.54	29.66	34.28	42.55	40.20	47.35
Other costs	23.70	24.78	36.76	28.18	33.70	36.73
Total Variable Costs	**273.61**	**260.68**	**264.09**	**332.47**	**343.01**	**358.81**
Gross Margin	**319.45**	**412.18**	**399.76**	**426.08**	**452.70**	**482.82**
Fixed Costs	**406.32**	**409.27**	**373.49**	**464.19**	**480.35**	**447.08**
Net Margin	**(-)88.87**	**2.91**	**26.27**	**(-)38.11**	**(-)27.65**	**35.74**

	Upland herds – Early weaning			Upland herds – Late weaning		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
Physical Performance						
Calves born dead or alive per 100	93	96	96	95	94	94
Calves reared per 100	87	90	91	89	87	89
Daily liveweight gain (kg)	1.12	1.11	1.15	0.96	0.97	0.98
Return per calf (£ per head)	701	743	723	876	917	940
Calf price (£ per kg lwt)	2.29	2.38	2.42	2.24	2.32	2.41
Weight per calf (kg)	306	312	299	392	394	390

	Rearer/Finishers		
	2015	**2016**	**2017**
Number in sample	20	20	22
Average herd size (head)	97	109	102
	£ per cow		
Calf output incl. Beef calf premium	**1054.30**	**1106.18**	**1146.35**
Less replacements	68.50	74.92	87.89
Net Output	**985.80**	**1031.26**	**1058.46**
Variable Costs			
Total concentrates	185.04	175.85	187.45
Other feeds	50.67	52.76	43.85
Forage	106.70	99.34	99.63
Total feed and forage	*342.41*	*327.94*	*330.93*
Veterinary	55.01	50.33	46.91
Bedding	52.51	51.79	79.69
Other costs	45.82	46.69	64.70
Total Variable Costs	**495.75**	**476.76**	**522.23**
Gross Margin	**490.05**	**554.50**	**536.23**
Fixed Costs	**568.32**	**555.07**	**526.04**
Net Margin	**(-)78.27**	**(-)0.57**	**10.19**
Physical Performance			
Calves born dead or alive per 100	93	93	94
Calves reared per 100	86	87	88
Daily liveweight gain (kg)	0.90	0.89	0.97
Return per calf (£ per head)	1191	1237	1298
Sale price (pence per kg dwt)	341	343	360
Weight per calf (kg)	602	622	622

Businesses finishing cattle under cereal-based systems

	Cereal-based		
	2015	**2016**	**2017**
	£ per head		
Number in sample	15	15	17
Stock Sales	**1228.63**	**1280.75**	**1336.87**
Less stock purchases	741.69	766.79	718.03
Net Output	**486.94**	**513.97**	**618.84**
Variable Costs			
Concentrates	218.35	251.82	252.60
Other feeds	26.81	24.70	19.16
Forage	8.22	8.61	14.22
Total feed and forage	*253.37*	*285.13*	*285.98*
Veterinary	16.31	16.88	18.80
Bedding	30.43	36.41	47.87
Other costs	32.67	29.81	38.95
Total Variable Costs	**332.78**	**368.22**	**391.60**
Gross Margin	**154.16**	**145.74**	**227.24**
Fixed Costs	**91.71**	**105.57**	**104.40**
Net Margin	**62.45**	**40.17**	**122.84**
Physical Performance			
Feeding period (days)	214	232	250
Start wt (kg lwt)	315	324	303
Average carcase weight (kg dwt)	364	370	382
Daily LWT gain (kg)	1.4	1.4	1.3
Mortality (%)	0.7	0.8	1.5
Sale price (£ per kg dwt)	3.39	3.46	3.49
Purchase price (£ per kg lwt)	2.34	2.34	2.34
Gross Margin per day (£ per day of feeding period)	0.72	0.63	0.91

Businesses finishing cattle under forage-based systems

	Forage-based <22 months at slaughter			Forage-based >22 months at slaughter		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
	£ per head					
Number in sample	20	18	18	17	17	18
Stock Sales	**1260.78**	**1222.49**	**1280.78**	**1265.09**	**1285.47**	**1312.68**
Less stock purchases	776.12	777.25	822.73	845.97	838.51	827.37
Net Output	**484.65**	**445.24**	**458.05**	**419.11**	**446.96**	**484.71**
Variable Costs						
Concentrates	172.83	148.70	200.18	119.85	141.23	141.33
Other feeds	18.71	15.20	15.35	13.09	17.11	16.51
Forage	34.63	31.46	32.18	37.51	46.01	44.23
Total feed and forage	*226.17*	*195.37*	*247.71*	*170.45*	*203.94*	*202.07*
Veterinary	19.26	17.74	15.13	16.42	11.38	17.19
Bedding	39.91	31.93	31.84	22.30	33.87	30.71
Other costs	36.72	33.76	43.76	44.98	42.48	40.44
Total Variable Costs	**322.06**	**278.80**	**338.44**	**254.15**	**291.68**	**290.41**
Gross Margin	**162.59**	**166.44**	**119.61**	**109.98**	**155.28**	**194.30**
Fixed Costs	**255.26**	**240.64**	**253.05**	**244.55**	**260.02**	**246.74**
Net Margin	**(-)92.67**	**(-)74.20**	**(-)133.44**	**(-)79.59**	**(-)104.75**	**(-)52.44**
Physical Performance						
Feeding period (days)	315	307	287	380	408	423
Start wt (kg lwt)	330	338	357	357	365	354
Average carcase weight (kg dwt)	362	372	365	375	365	362
Daily LWT gain (kg)	0.94	0.99	0.95	0.76	0.65	0.64
Mortality (%)	0.8	0.5	0.7	0.4	0.4	0.9
Sale price (£ per kg dwt)	348	332	354	338	352	362
Purchase price (£ per kg lwt)	233	229	229	234	229	231
Gross margin per day (£ per day of feeding period)	0.52	0.54	0.42	0.29	0.38	0.44

Sheep enterprises

LFA sheep

- The 2017–2018 lamb crop year was characterised by firm prime lamb prices, from which this group of producers benefited. Hill flocks also benefited from modest increases in store lamb prices, and from a modest increase in ewe performance. However, that increase in financial output was achieved following significant increases in both feed and veterinary costs. There was also an increase in fixed costs; this increased cost base offset higher market returns, and hill flock net margins continued to be negative and deteriorated further.
- Upland flocks achieved a very similar level of ewe productivity to last year but sold a higher proportion of store lambs, which resulted in only a modest increase in market returns. However, variable costs were little changed and fixed costs were lower. As a consequence, net margins were higher than a year earlier for a second year.

Lowground sheep

- Earlier-lambing lowground flocks benefited from the better market returns for prime lambs through summer 2017 and early autumn 2017. However, ewe productivity slipped and slightly fewer lambs were sold as prime lambs, although those sold as prime lamb produced slightly heavier carcases than last year.
- The smaller lamb crop is likely to have contributed to a modest decrease in both variable and fixed costs, which made useful contributions to the improved margins.

Lamb finishing

- Store lamb producers saw a big improvement in margins driven by strong prime hogg prices in early 2018. Costs did increase – particularly veterinary costs, other livestock expenses and fixed costs. Consequently, with purchase prices that were little changed, the extra margin between buying and selling price accounted for all of the margin improvement. This was also helped by reduced mortality.

Results from LFA sheep flocks

	LFA upland sheep flocks			LFA hill sheep flocks		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
	£ per ewe					
Number in sample	33	34	32	29	22	22
Lamb Sales	**101.29**	**104.54**	**105.55**	**54.92**	**49.34**	**56.04**
Wool	2.90	2.86	2.51	2.25	1.92	1.50
Gross Output	**104.19**	**107.41**	**108.06**	**57.17**	**51.25**	**57.54**
Less replacement costs	13.10	13.59	14.26	10.96	10.08	11.22
Net Output	**91.09**	**93.82**	**93.80**	**46.21**	**41.17**	**46.32**
Variable Costs						
Concentrates	11.02	12.07	12.73	5.09	4.53	7.17
Forage cost	8.19	5.50	6.32	1.28	1.60	2.83
Roughages	2.11	3.31	2.76	2.11	2.43	1.80
Total feed and forage	*21.32*	*20.88*	*21.81*	*8.49*	*8.56*	*11.80*
Bedding	1.02	1.19	1.75	0.01	0.14	0.20
Veterinary	8.97	9.03	7.77	5.61	4.57	5.71
Other costs	8.62	7.77	7.53	6.63	4.96	4.96
Total Variable Costs	**39.94**	**38.87**	**38.86**	**20.74**	**18.23**	**22.67**
Gross Margin	**51.16**	**54.94**	**54.94**	**25.47**	**22.94**	**23.65**
Fixed Costs	**49.11**	**50.41**	**47.26**	**42.11**	**40.47**	**42.72**
Net Margin	**2.04**	**4.53**	**7.68**	**(-)16.64**	**(-)17.53**	**(-)19.07**
Physical Performance	**LFA upland sheep flocks**			**LFA hill sheep flocks**		
Average no. ewes	525	496	500	712	626	587
Lambs born/100 ewes	169	165	161	113	115	115
Lambs died/100 ewes	20	20	17	15	17	16
Lambs reared/100 ewes	149	145	144	98	98	102
Lambs sold/retained:						
Slaughter %	71	70	65	17	6	11
Stores %	14	16	21	47	58	52
Breeding %	15	14	13	36	36	37
Return per lamb sold finished (£)	67.59	73.24	77.07	61.08	61.45	67.35
Carcase weight lambs sold finished (kg)	19.7	20.0	19.7	17.5	16.8	17.3
Return per lamb sold store (£)	53.93	58.38	56.49	43.25	43.91	44.45

Results from lowground sheep flocks

	2015	2016	2017
		£ per ewe	
Number in sample	12	13	15
Lamb Sales	**118.09**	**136.18**	**145.88**
Wool	3.74	3.00	2.86
Gross Output	**121.83**	**139.18**	**148.74**
Less replacement costs	12.60	13.52	13.76
Net Output	**109.23**	**125.66**	**134.98**
Variable Costs			
Concentrates	14.43	19.47	17.57
Forage cost	7.96	5.76	5.95
Roughages	1.82	2.16	2.10
Total feed and forage	*24.22*	*27.39*	*25.62*
Bedding	1.43	0.47	0.81
Veterinary	8.87	9.57	9.54
Other costs	9.50	11.46	9.44
Total Variable Costs	**44.02**	**48.89**	**45.41**
Gross Margin	**65.20**	**76.77**	**89.57**
Fixed Costs	**43.82**	**50.36**	**47.94**
Net Margin	**21.38**	**26.40**	**41.63**
Physical Performance			
Average no. ewes	594	567	424
Lambs born per 100 ewes	176	185	179
Lambs died per 100 ewes	16	18	18
Lambs reared per 100 ewes	160	167	161
Lambs sold/retained:			
Slaughter %	81	91	84
Stores %	8	2	6
Breeding %	11	7	10
Return per lamb sold finished (£)	74.34	80.96	92.55
Carcase weight lambs sold finished (kg)	20.2	20.0	20.7
Return per lamb sold store (£)	60.19	66.07	63.40

Store lamb finishing

	2015	2016	2017
		£ per lamb	
Number in sample	14	13	15
Lamb Sales	**70.49**	**67.76**	**79.98**
Less store lamb purchase costs	50.34	48.66	48.69
Output	**20.15**	**19.10**	**31.29**
Concentrates	3.57	3.02	3.94
Other feed	0.37	0.50	0.43
Forage	1.28	2.59	1.77
Total feed and forage	*4.22*	*6.12*	*6.14*
Bedding	0.05	0.02	0.01
Veterinary	1.08	1.45	1.61
Other costs	4.51	3.71	4.07
Total Variable Costs	**9.86**	**11.30**	**11.83**
Gross Margin	**10.29**	**7.80**	**19.46**
Fixed Costs	**5.73**	**6.42**	**7.37**
Net Margin	**4.57**	**1.38**	**12.09**
Physical Performance			
Feeding period (days)	132	156	144
Liveweight at start (kg)	29.6	29.4	28.7
Liveweight at finish (kg)	40.7	39.4	39.2
Mortality (%)	2.0	3.4	2.3
Concentrates (kg)	12	17	18
Average carcase weight (kg dwt)	17.5	18.5	18.4

GLOSSARY

Output: Income to the enterprise after deducting the cost of maintaining the breeding flock or purchasing store livestock and after valuation changes.

Variable costs: Costs which vary directly with the size of production of the enterprise and which can be easily allocated to an enterprise.

Gross margin: The surplus income left over after deducting variable costs from output. It is the contribution of the enterprise towards covering the farmer's fixed costs and overheads, rewarding the owner of the business for their work and capital investment.

Fixed costs: Costs reflecting the overall running of the business, but cannot be easily allocated to an enterprise because in many cases they are shared costs. In this analysis, they have been broken down into the following categories:

- **Labour costs:** All paid labour including regular wages and casual wages.
- **Contract:** All contract labour and contractor services.
- **Power and machinery:** Machinery repairs; fuel; electricity; hire charges; tax and insurance.
- **Property maintenance and rent:** Farm and property repairs; council taxes and water charges; rent and grazing lets.
- **Depreciation:** Machinery and property depreciation charges.
- **Finance:** Bank and loan interest and charges.
- **Administration:** Insurance; professional fees; miscellaneous expenses.

Net margin: The surplus income left after deducting all costs from the output. It is the contribution the enterprise makes to cover the cost of unpaid family labour and to reward the owner for their investment in the enterprise.

Working capital: The sum of money tied up in productive livestock and the average capital needed to finance the annual costs of running the business; the latter is estimated to be half of the total variable and fixed costs for the year.

Quality Meat Scotland
The Rural Centre, West Mains,
Ingliston, Newbridge EH28 8NZ
Tel: +44(0)131 510 7920
Email: info@qmscotland.co.uk
www.qmscotland.co.uk

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