The Scottish Red Meat Industry

Profile

2022 Edition

Quality Meat Scotland

Purpose: To highlight the importance of the red meat sector to Scotland's rural economy while providing the full range of industry stakeholders with key statistics for use in their work. This document also aims to improve transparency in the supply chain, showing where activity takes place from farm to final market outlet, and where changes in cross-border trade policy would place current activity at risk.

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Data Disclaimer:
All deadweight price data used in this report is supplied to QMS by AHDB, which collects the data from reporting abattoirs each week and publishes a consolidated set of data, regionally within GB for cattle, and GB-wide for sheep and pigs.

Please note that figures and rates of change in tables may not sum due to rounding and estimates made for previous editions of this report may have been revised for this publication.

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Quality Meat Scotland

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The Scottish Red Meat Industry: *A Snapshot*

STANDARD OUTPUT BY MAIN FARM TYPE IN 2021

LFA CATTLE & SHEEP

£706 million

26.5%
of standard output from Scottish agriculture

NON-LFA CATTLE & SHEEP

£131.1 million

4.9%
of standard output from Scottish agriculture

SPECIALIST PIGS

£56.6 million

2.1%
of standard output from Scottish agriculture

FARM ASSURED PREMIUM AT SCOTTISH AUCTIONS

PRIME CATTLE

22.7%

(22.4% in 2020)

PRIME SHEEP

5.7%

(4.7% in 2020)

ABATTOIR OUTPUT

£885 million

(+8%)

BEEF

£630 million

(+9.5%)

SHEEPMEAT

£128 million

(+10%)

PIGMEAT

£38 million

(-25.5%)

OFFAL

£65 million

(+15%)

SKINS & HIDES

£22 million

(+19%)

RED MEAT PROCESSING SALES

SCOTLAND	REST OF UK	INTERNATIONAL EXPORTS
25%	68%	7%

ABATTOIR SECTOR EMPLOYMENT

> 3,100 employees

42% are non-UK nationals *(47% in 2020)*

£75.6 million of wages *(-1.3%)*

SELF-SUFFICIENCY

BEEF
157% *(abattoir) / 164% (farm)*

SHEEPMEAT
211% *(abattoir) / 563% (farm)*

PIGMEAT
28% *(abattoir) / 88% (farm)*

PER CAPITA CONSUMPTION (CARCASE WEIGHT EQUIVALENT)

BEEF	SHEEPMEAT	PIGMEAT
19.1kg	2.0kg	16.9kg
(UK 16.0kg)	(UK 3.8kg)	(UK 20.5kg)

Introduction

Following the unprecedented volatility of 2020, the red meat supply chain faced further disruption in 2021, with, amongst other things, continuing public health restrictions; various waves of coronavirus; labour shortages in processing; rising energy, feed and fertiliser costs; and Great Britain's exit from the EU single market requiring new routes to market for exports.

The year began with the UK back in lockdown, maintaining retail sales at elevated levels. However, once restrictions began to ease in the spring, there was a rebalancing of demand towards the foodservice sector. The start of the year also saw the introduction of customs controls at the EU border, leading to a considerable reduction in exports during the first quarter. However, supply chains adapted to the new rules and firm demand for meat in the EU in the second half of 2021 led to a return in export volumes to a more normal level relative to domestic meat production; albeit at a higher cost in money and time for exporting companies.

In the cattle sector, there was a rebalancing in farmgate prices for finished stock, taking market prices beyond the previous highs reached in 2013. However, store cattle prices failed to lift as strongly at spring sales and then struggled to match year earlier levels in the autumn, likely influenced by the squeeze on finishing margins from surging input costs.

Meanwhile, after a prolonged period of decline, 2021 saw Scotland's beef breeding herd prove more stable while calf registrations increased further, supported by greater use of beef genetics in the dairy herd. Nevertheless, abattoir throughput fell back as labour shortages prevented the traditional lift in slaughter ahead of the festive period.

In the sheep sector, market prices reached new records, initially due to the early marketing of the 2020 lamb crop which left fewer hoggs to be sold in the run up to Easter. A delayed marketing of the 2021 lamb crop then boosted market prices in the second half of the year, leading to tight supplies through the summer and autumn. Adding to the overall tightness of market supply was a low level of imports compared to recent history. A good lambing in Scotland, despite some localised problems, supported store lamb marketings and despite more being traded, confidence from a firm trade in finished lambs led to increased prices.

A disastrous year for the pig sector began with temporary processing site closures due to outbreaks of coronavirus in the workforce, leading to a backlog of slaughter-ready pigs waiting to be

“Following the unprecedented volatility of 2020, the red meat supply chain faced further disruption in 2021”

processed. However, this backlog was quickly worked through and the market at GB-level began to recover seasonally. Though, in Scotland, the temporary closure of the country’s largest pig abattoir had a lasting negative impact, as it led to the loss of approval for pork from pigs processed there to be shipped to China, in turn making carcases handled there of less value, resulting in an increase in cross-border movements to abattoirs in England.

In the second half of the year, a major backlog of pigs built up across GB, as a tight supply of labour prevented the processing sector from expanding output enough to handle a large increase in finished pig numbers, leading to considerable downwards pressure on farmgate prices. At the same time, longer finishing periods added to feed requirements at a time of significant feed price inflation, leaving the sector in crisis.

Although fewer cattle, sheep and pigs were handled by Scotland’s abattoirs in 2021, primary processing turnover is still estimated to have risen strongly, up 8% at £885m due to significant price rises for beef, sheepmeat and by-products more than offsetting the sharply reduced value and volume of pigmeat.

With processors facing considerable recruitment challenges in 2021, employment in the primary processing sector is estimated to have reduced by around 5%, with the overall wage bill reducing by a more marginal 1% due to increased wages and salaries.

Producer Prices

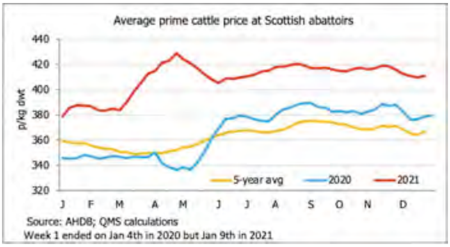
Prices for Finished Livestock

Cattle

Prices for finished prime cattle reached a record high at Scottish abattoirs in 2021, peaking at 428.8 pence per kilogram (p/kg) in late April and averaging 408.8p/kg during the year as a whole.

This was 11.6% higher than in 2020 and 12.6% above the 2016-20 average.

Meanwhile, cull cows averaged 12.1% higher than in 2020, at 292.1p/kg.



Annual average prime cattle prices across Great Britain			
	Scotland	**England & Wales**	**Scottish premium**
2016	350.1	329.2	6.4%
2017	374.6	353.8	5.9%
2018	376.5	356.4	5.6%
2019	347.8	329.9	5.4%
2020	366.2	347.7	5.3%
2021	408.8	394.4	3.7%
2016-20 avg	362.9	343.5	5.6%

Source: AHDB; QMS calculations.

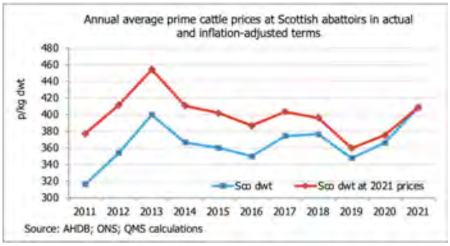
Increased revenue generated from prime cattle sales at Scottish abattoir prices compared with prices in England and Wales			
Year	**Revenue from sales of prime cattle to Scottish abattoirs**	**Revenue from sales of prime cattle to Scottish abattoirs, but at E&W per kilo prices**	**Difference in £m**
2019	£482.9m	£457.8m	+£25.1m
2020*	£503.3m	£477.8m	+£25.5m
2021	£551.2m	£531.7m	+£19.5m

Source: AHDB; Scottish Government; QMS calculations.
*Based on a 52-week year.

Annual average price comparison for most common grades in each category of cattle at Scottish abattoirs in 2021							
Grade	% of carcases in category	p/kg	£ per carcase	Change on year		Difference with E&W	
				p/kg	£ per carcase	p/kg	£ per carcase
R4L steer	29.4%	412.3	1,503	11.1%	11.1%	1.9%	1.3%
R4L heifers	33.3%	413.4	1,369	11.3%	11.4%	2.3%	1.6%
R3 young bull	21.5%	404.5	1,423	11.5%	12.9%	1.7%	-0.3%
R4L cow	10.6%	316.3	1,246	11.4%	13.0%	1.4%	2.0%

Source: AHDB; QMS analysis.

While reaching a record high, prime cattle prices remained below previous highs after adjusting for inflation[1].



1 Real prices: When inflation is greater than zero, the price the producer receives is lower in real terms than the market (nominal) price. This is because the sales proceeds have less purchasing power in the wider economy due to the rise in the general level of prices. For example, a sales price of 400p/kg in period 2 would be equivalent to a price of 392.2p/kg in period 1 if the rate of inflation between the two periods was 2%, and 384.6p/kg with inflation at 4%. The inflation rate used is the CPIH – a measure of retail price inflation published and favoured by the ONS. A price of 350p/kg in period 2 would be equivalent to a price of 343p/kg in period 1 if the rate of inflation was 2%. With inflation at 4%, a price of 350p/kg in period 2 would be equivalent to just 336.5p/kg in period 1.

Producer Prices (continued)

Sheep

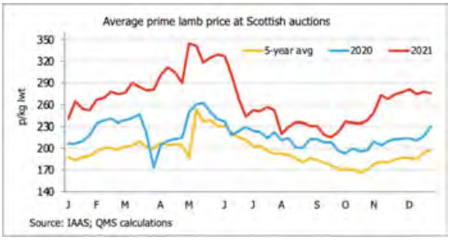
Building on a strong 2020 and reflecting an even tighter market balance, prime sheep prices[2] jumped by 21.2% at Scottish auctions in 2021, averaging 261.5p/kg liveweight.

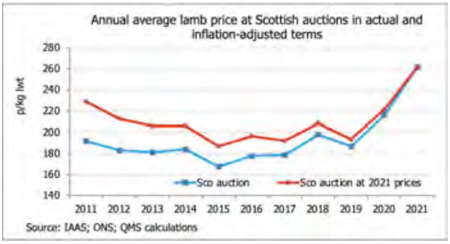
This meant they moved 36.4% above the 2016-20 average while pushing beyond the inflation-adjusted high from 2011.

At price-reporting abattoirs in Great Britain, lamb prices showed a similar increase, up 21.5% at 578.4p/kg deadweight. They were 34.1% above their five-year average.

An early marketing pattern in the 2020/21 season resulted in very high prices for hoggs in spring 2021, with a delayed marketing pattern in 2021/22 then boosting values in autumn 2021.

For cull ewes and rams, the average selling price surged by 17% on 2020 at Scottish auctions, reaching £81.53 per head.





Annual average sheep prices at Scottish auctions		
	Lambs SQQ (p/kg liveweight)	Cull ewes and rams (£ per head)
2016	177.8	57.22
2017	178.4	55.21
2018	197.8	56.50
2019	186.8	58.74
2020	215.9	69.52
2021	261.5	81.53
2016-20 avg	191.8	59.83

Source: IAAS; QMS calculations.

2 Annual average prime sheep prices are based on the old season price from January to April and then the new season lamb price from the beginning of May, and are based on the Standard Quality Quotation, which is lambs weighing 25.5-45.5kg liveweight at auction sales and 12-21.5kg deadweight at GB abattoirs.

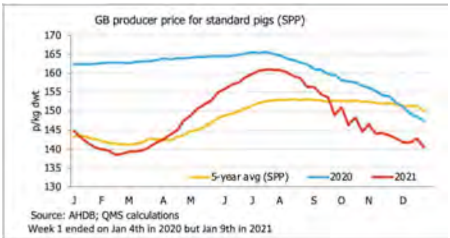
Pigs

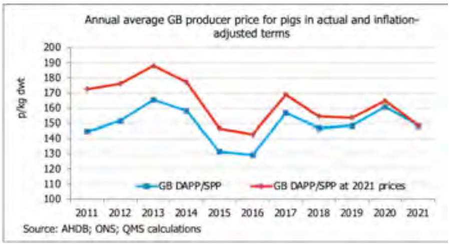
The annual average price at GB price-reporting abattoirs for standard pigs in 2021 was 7.7% lower than in 2020, slipping back to match its 2019 level of 148.4p/kg deadweight but holding a fraction above its 2016-20 average[3].

After adjusting for inflation, pig prices remained slightly higher than they were at their 2015 and 2016 lows.

The All Pig Price (APP), which includes those with specific characteristics which can attract a pricing premium, fell at a slightly slower 6.6% to 153.1p/kg. This suggests that premium scheme pigs had a small relative price increase in 2021, which fits with economic theory that in a period of market weakness, prices for higher quality animals will perform better.

While a backlog of pigs on farms placed significant downwards pressure on per kilo prices in the second half of 2021, the increase in carcase weights this resulted in meant that there was less downwards pressure on the average value of a pig carcase. Standard carcases averaged 3% less than in 2020 but still 7% above their five-year average.





Annual average prices for standard pigs at GB abattoirs			
	Price per kilo (p/kg dwt)	**Avg carcase weight (kg)**	**Price per carcase (£)**
2016	129.2	82.9	107.05
2017	156.7	83.7	131.15
2018	146.8	83.6	122.72
2019	148.4	84.2	124.92
2020	160.7	84.7	136.18
2021	148.4	89.0	132.09
2016-20 avg	148.3	84.1	123.37

Source: AHDB; QMS calculations.

3 The Standard Pig Price (SPP) is the price paid by a sample of abattoirs across Great Britain for a 'standard pig'. A standard pig is one that does not receive a premium based on a specific characteristic, such as its breed or being farmed organically. Bonus payments for meeting specific contract targets are also excluded. The only premia included are, therefore, those based on weight and carcase grade.

Producer Prices (continued)

Farm Assurance Premium at Scottish Auctions

Although individual sales may differ, prices paid at Scottish auctions for finished farm assured cattle and sheep average higher than for non-farm assured stock over the course of the year.

It should be noted that these are based on realised selling prices; the true premium cannot be observed because it is the difference between the price paid for an animal and the price which would have been paid for the animal had its assurance status been the opposite.

It should also be noted that just 2% of the prime cattle and 7% of the prime sheep sold at Scottish auctions in 2021 were non-assured, resulting in small sample sizes – particularly for cattle, with overall auction volumes equating to less than 4% of annual prime cattle slaughter.

Farm assurance premium for prime cattle at Scottish auctions

	Average price for assured stock (p/kg lwt)	Average price for non-assured stock (p/kg lwt)	FA premium (p/kg lwt)	FA premium (%)
2019	200.0	157.3	42.8p	27.2%
2020	207.9	169.9	38.1p	22.4%
2021	230.5	187.9	42.6p	22.7%

Source: IAAS; QMS calculations

Farm assurance premium for prime sheep at Scottish auctions[4]

	Average price for assured stock (p/kg lwt)	Average price for non-assured stock (p/kg lwt)	FA premium (p/kg lwt)	FA premium (%)
2019	187.4	180.8	6.6p	3.6%
2020	216.7	206.9	9.8p	4.7%
2021	262.8	248.5	14.2p	5.7%

Source: IAAS; QMS calculations.

4 Annual average prime sheep prices are based on the old season price from January to April and then the new season lamb price from the beginning of May, and are based on the Standard Quality Quotation, which is lambs weighing 25.5-45.5kg liveweight at auction sales.

Prices for Livestock for Finishing

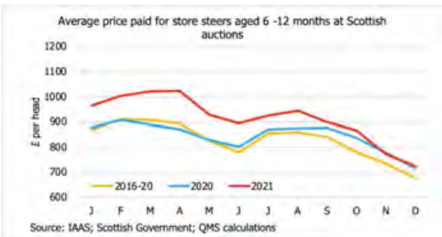
Store Cattle

For store cattle, the seasonal pricing pattern for steers aged 6-12 months returned to one in which prices peaked higher at spring sales than in the autumn.

As a result, year-on-year increases were in the 10-15% range in the first half of the year, before softening to 3.5% in October, the peak month for autumn sales.

For yearling steers aged 12-18 months, prices reached similar peaks in the spring and autumn but year-on-year increases softened to 5-6% in the autumn, from around 15% in the spring.

Over the year, slightly more steers and heifers aged 6-18 months were traded than in 2020.



Producer Prices (continued)

Store cattle prices at Scottish auctions – actual and relative to finished cattle					
	Average price per head in 2021	Average price per head in 2020	% change y/y	Store price relative to annual average R4L carcase value in 2021 (%)	Store price relative to annual average R4L carcase value in 2020 (%)
Steers 6-12 months	948	857	+10.6%	63.0%	63.3%
Steers 12-18 months	1068	975	+9.5%	71.0%	72.1%
Heifers 6-12 months	849	774	+9.7%	62.0%	63.0%
Heifers 12-18 months	987	908	+8.7%	72.1%	73.9%

Source: AHDB; IAAS/ Scottish Government; QMS calculations.

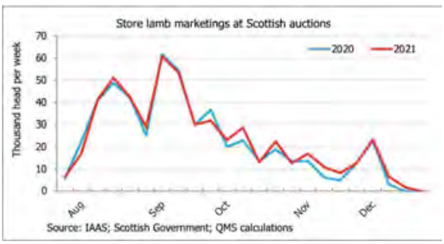
Store Sheep

Having risen more than 7% in 2020, the number of store lambs marketed at Scottish auctions between the final week in July and year-end rose by another 4% in 2021.

This was an additional 22,700 lambs, accounting for 20.5% of the increased lamb crop in the June census. The annual average new season store lamb price rose around 20% for a second year, approaching £73 – 41% above its five-year average (£51.50).

Store lamb trade at Scottish auctions						
	2021	2020	% change y/y	2021	2020	% change y/y
Blackface	£60	£50.50	+19.0%	100,700	110,500	-8.9%
Cheviot	£68	£58	+17.1%	110,500	103,300	+7.0%
Suffolk	£82	£70	+17.0%	73,900	66,100	+11.9%
Texel	£82.50	£69.50	+18.9%	140,000	126,700	+10.5%
Overall average	£73	£61	+18.9%	545,200	521,800	+4.5%

Source: IAAS/Scottish Government; QMS calculations.
Prices rounded to nearest 50p and marketings to nearest 100 head.



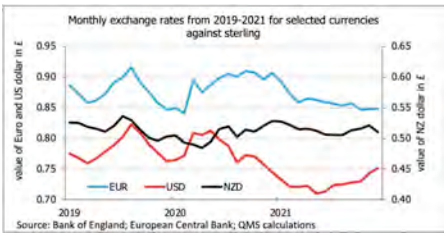
Exchange Rate Movements

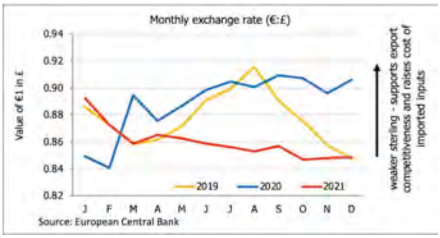
Shifts in exchange rates affect the competitiveness of Scotland's red meat at home and abroad, and can influence the cost of production for farmers and meat processors. However, hedging, forward-buying and contract-pricing can slow the pace of these changes in the supply chain.

After a weaker 2020, sterling was stronger in 2021, supported by a free trade agreement with the EU, economic recovery and the expectation of rising interest rates. A strengthening of sterling tends to hinder exports because it reduces the sterling revenue from an unchanged euro price.

Stronger sterling reduces the relative price of imports, potentially reducing demand for home-produced product in price-sensitive markets – most likely in food manufacturing and food service.

But rising sterling also tends to reduce input costs, and where imported inputs are priced in US dollars, a weak US dollar between late 2020 and 2021 will have offset some inflationary pressure.





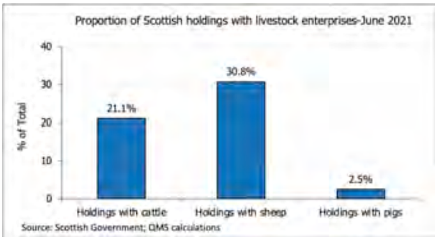
Impact of exchange rate movements on import and export competitiveness			
	Annual average exchange rate (value of €1 in £)	Return in £/kg to a UK exporter from an export price of €5/kg	EU export price needed to hold UK import price at £5/kg
2012	81.1p	4.05	6.17
2013	84.9p	4.25	5.89
2014	80.6p	4.03	6.20
2015	72.6p	3.63	6.89
2016	81.9p	4.10	6.10
2017	87.7p	4.38	5.70
2018	88.5p	4.42	5.65
2019	87.8p	4.39	5.70
2020	89.0p	4.45	5.62
2021	86.0p	4.30	5.82

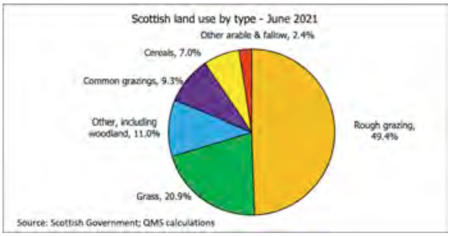
Source: ECB; QMS calculations.

Livestock Production

The June Agricultural Census results continue to highlight the importance of livestock farming in Scottish agriculture.

In June 2021, nearly 80% of the country's agricultural area was grass and grazing land, while 94% of holdings had an area of grass or grazing land. Meanwhile, 35% of the country's 50,231 holdings allocated a main farm type in 2021 were classed as either LFA (less favoured area) or non-LFA cattle and sheep[5], 9% were mixed and another 39% were 'general cropping, forage'. The main farm type on 0.6% of holdings was 'specialist pigs'. Nearly one in three Scottish holdings had sheep and one in five had cattle in 2021. One in 40 had pigs.

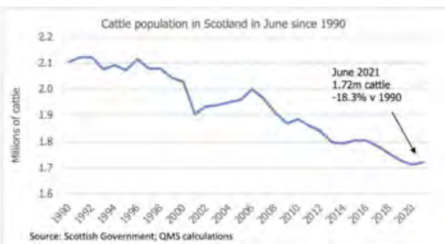


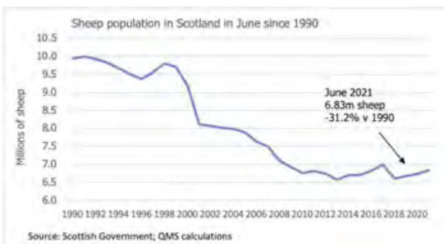


The cattle population in Scotland has seen a steady decline since the late 1990s. Although the Foot and Mouth Disease (FMD) outbreak of 2001 did result in some volatility, the trend resumed after Common Agricultural Policy (CAP) reform in the mid-2000s resulted in a shift away from a support system based on animal numbers towards one based on the area farmed.

Scotland's sheep population in June 2021 was down by more than 30% on its 1990 level. However, unlike the steady decline in cattle, nearly all of the decline in sheep took place between 1999 and 2010, driven firstly by FMD and then by CAP reform. However, the population has recovered slightly over the past decade, supported by firm market conditions.

QMS Enterprise Profitability Reports highlight that, on average, sheep production tends to make a small net margin before factoring in area-based subsidy payments, whereas cattle production is characterised by significant losses.





5 LFA refers to 'Less Favoured Areas', which are areas of land deemed to be disadvantaged due to low levels of productive potential and/or a low human population in the area which is largely reliant on agriculture.

Livestock Production (continued)

Cattle Production – National and Regional

Although Scotland's beef herd continued to contract in the year to December 2021, the downwards trend has slowed, with a fall of 0.3% in 2021 following a decrease of 0.4% in 2020. However, the seasonal decline between June and December did rise slightly compared with 2020.

Having slumped to a seven-year low in December 2020, Scotland's dairy cow population recovered slightly in 2021, rising just over 1% and reaching a three-year high.

Beef cows continued to account for just under 70% of the cattle breeding herd in Scotland. This share has been trending slowly but steadily lower since 2014 after a significant decline in the early 2010s, and looks set to continue in 2022.

Structural change within the dairy sector may account for some of the significant upturn in the calves to cows ratio in the past couple of years.

Dips in 2013 and 2018 reflected challenging spring weather conditions which raised mortality rates.

Scottish cattle population structure in December – thousand head					
	2020	2021	y/y change	Change since June 2021	Avg Jun to Dec change 2016-20
Female beef cattle, over 2 years with offspring	398.4	397.1	-0.3%	-3.9%	-3.9%
Female beef cattle, 1-2 years	181.0	181.4	+0.3%	-7.4%	-6.1%
Female dairy cattle, over 2 years with offspring	172.8	174.8	+1.2%	+0.4%	-0.1%
Female dairy cattle, 1-2 years	55.5	59.2	+6.8%	+4.0%	-0.5%
Males over 12 months plus females over 24 months without offspring	297.1	292.8	-1.4%	-15.4%	-14.5%
Calves	527.0	530.6	+0.7%	-0.8%	-1.2%

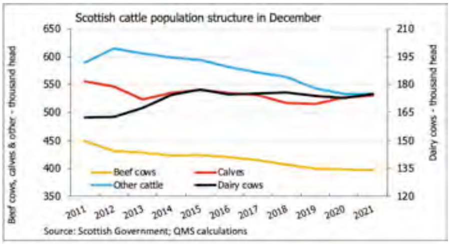
Source: Scottish Government; QMS calculations

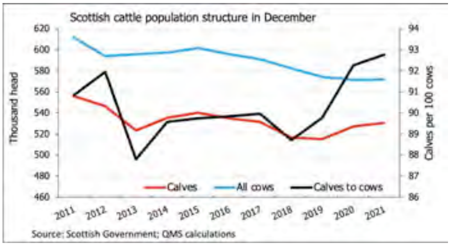
With livestock production heavily influenced by land type, the cattle population is skewed towards producing beef calves in island and upland areas.

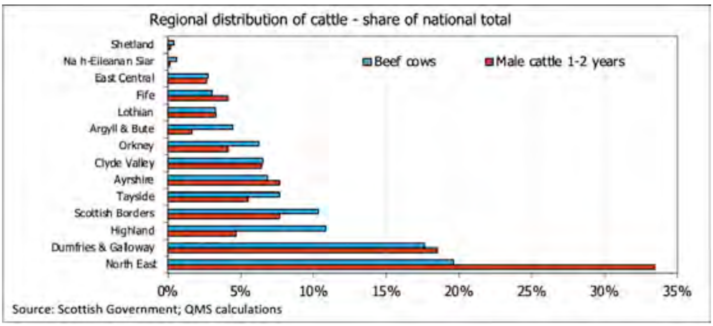
Meanwhile, dairy production and finishing operations are common in the South West, with Fife and the North East geared towards cattle finishing.

Agricultural Census data from June 2021 showed that 78.7% of Scotland's beef cows were in LFAs, compared with 69.1% of the dairy cows and 56.6% of the male cattle over a year old.

Highlighting the flow of store cattle into Aberdeenshire for finishing, the North East had 33.5% of Scotland's male cattle between 1 and 2 years of age in June 2021 but only 19.6% of the beef cows, and this share of males was around two percentage points higher than in 2020.



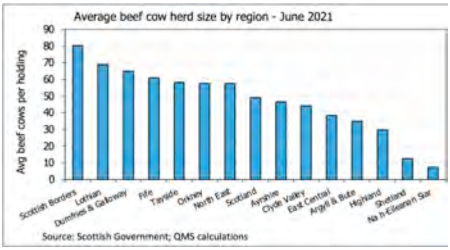


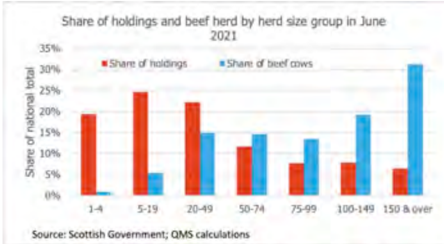


Herd Size

The average number of beef cows on Scottish holdings increased to 49.0 in June 2021, up from 48.6 in 2020.

Average herd sizes vary considerably across the country, with the average of just over 80 in the Borders being nearly 11 times that of Eileanan Siar. While the average beef herd size in Scotland was 49 in June 2021, 79% of the cattle were on holdings with at least 50, and just over half of the herd were on holdings with at least 100 beef cows.





Calf Registrations

Calf registrations increased for a third straight year in Scotland in 2021, lifting by 1% to 563,000 head. Numbers were similar to their average over the previous decade.

Seasonality in calvings reflects the predominance of spring calving in the beef herd, with 56.5% of the total taking place between March and May in 2021 compared with 23.4% of dairy registrations.

Beef sired registrations increased for the sixth time in seven years, matching the overall 1% uplift to push around 2% above their average in the previous decade, reaching 471,700 head.

Following seven declines in the previous eight years, there was also a slight rebound in dairy-sired registrations. However, the 0.5% rise to 91,300 head meant they continued to lag well behind their average over the previous decade (-10%).

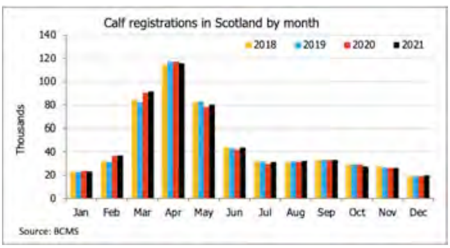
These figures highlight the continuing structural shift in cattle production in Scotland, with dairy producers making greater use of sexed semen for female replacements and beef genetics to produce higher quality male calves.

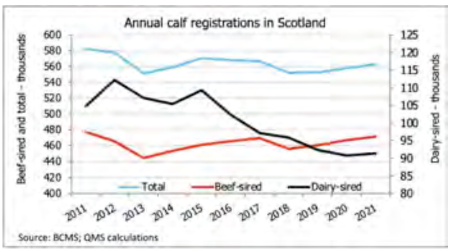
The recent shift in registrations from North East to South West continued in 2021, most notably in the dairy herd.

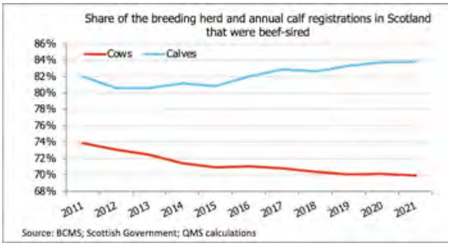
In addition to the change in structure of calf registrations away from dairy sires towards beef sires, there has also been a shift away from continental sires.

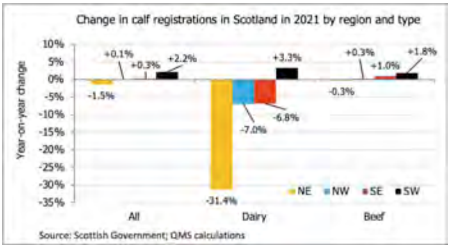
In part down to change in the dairy sector, Angus calvings have surged, overtaking Limousin as the most popular breed in 2020 and building further in 2021.

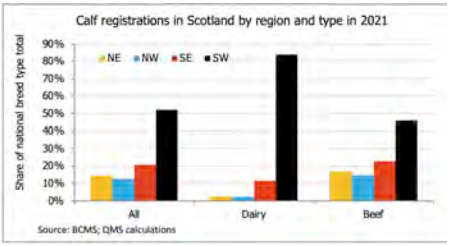
Of the other breeds to have shown strong increases since 2015, there was a second consecutive sharp fall for British Blue (-8%), though numbers were still up more than a quarter on six years before.











Calf registrations in Scotland					
Breed	**2019 (% of total)**	**2020 (% of total)**	**2021 (% of total)**	**% change 2021 v 2020**	**% change 2021 v 2015**
Angus	19.0%	20.7%	22.9%	+11.8%	+43.8%
Limousin	19.9%	19.3%	18.4%	-3.6%	-18.2%
Black & White Dairy Breeds	14.8%	14.3%	14.1%	-0.2%	-20.6%
Charolais	13.5%	13.0%	12.5%	-3.3%	-20.3%
Simmental	12.0%	11.6%	10.8%	-5.4%	-17.9%
Other	20.9%	21.1%	21.2%	+1.5%	+31.0%
Total registrations (head)	552,700	557,700	563,100	+1.0%	-1.3%

Source: BCMS; QMS calculations.

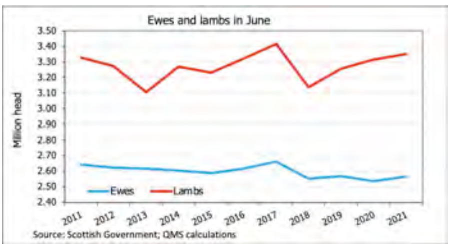
Livestock Production (continued)

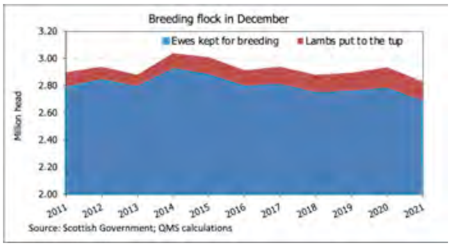
Sheep Production

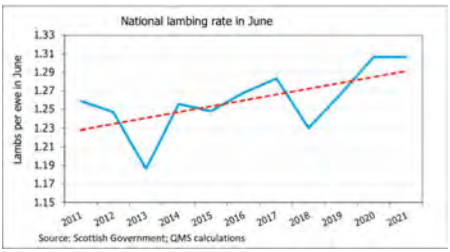
Following a strong sheep trade in 2020, Scotland's breeding flock showed a small expansion in 2021, with the June Census reporting an increase of just over 1%.

However, there was an early sign of a potential reversal in 2022, with the number of hoggs for future breeding down by nearly 3%. The December 2021 Sheep and Goat Inventory results confirmed this trend, with reductions of more than 3% in the number of ewes kept for breeding and an 8% fall for lambs put to the tup. Despite some localised cold and wet weather at lambing in 2021, the national lambing percentage matched the record high of the previous year (130.6%). As a result, the lamb crop rose by just over 1% and was almost 2% higher than its five-year average.

However, reflecting early marketing in 2020 and delayed marketing in 2021, the number of hoggs carried into 2022 rose strongly, with the December Sheep and Goat Inventory reporting a 4% uplift in slaughter lambs on Scottish farms.





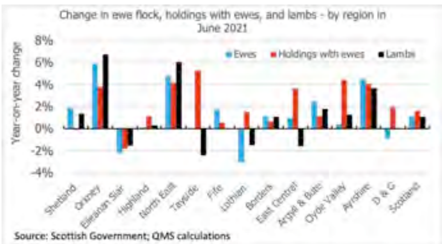


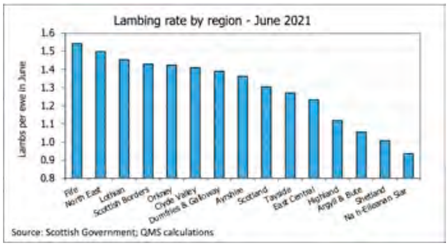
Regional Variation in Sheep Production

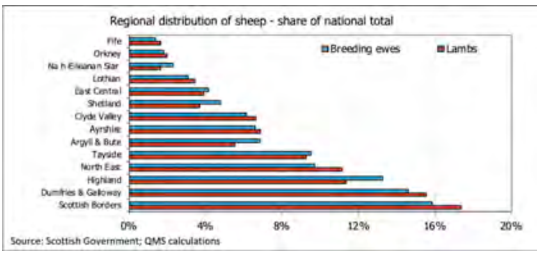
Sheep production continued to be spread slightly more evenly across Scotland than cattle in June 2021, while above-average lambing percentages meant the Borders, Dumfries & Galloway and the North East took higher shares of the national lamb crop than the ewe flock.

There were notable ewe flock expansions in Orkney, the North East and Ayrshire, supported by a rising number of sheep enterprises. In Dumfries & Galloway, the ewe flock contracted slightly despite more holdings taking on ewes. Regional variation in lambing performance is generally reflective of land and climate, but also farming structure.

Fife continued to lead the country in lambing performance in 2021 despite a fall of three percentage points. There were similar falls in Tayside and East Central, but there were increases of around two points in the North East and Lothian. Meanwhile, lambing performance was a fraction lower in the Borders but increased marginally in Highland and by over one point in Dumfries & Galloway.







Flock Size

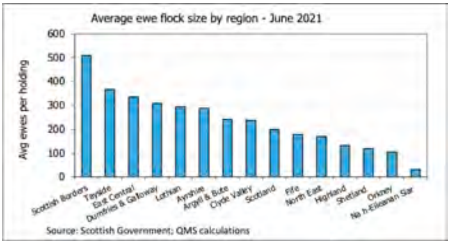
There was a slight fall in the average ewe flock size across Scotland in the year to June 2021, down by 1 at 199.9, as the number of holdings with ewes rose more strongly than the flock. The Borders increased its lead in average flock size in 2021, with a small lift from 509 to 511 head comparing against declines of around 2.5% for East Central and Dumfries & Galloway and 5% for Lothian and Tayside. Once again,

Livestock Production (continued)

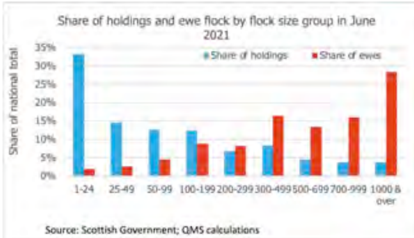
lambing performance and flock size did not correlate perfectly, with Fife, the North East and Orkney all below average for flock size having been ranked one, two and five for lambing.

This may reflect that sheep enterprises may tend to be a smaller part of a mixed farming business in areas such as Fife and the North East while tending to be large hill or upland flocks in areas such as the Borders and Perthshire.

Holdings with above-average flock sizes accounted for more than 82% of the national ewe flock in 2021, with 44% of the flock on holdings with at least 700 ewes (less than 8% of holdings).



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations

Pig Production

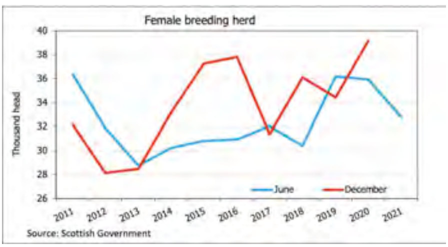
Scotland's pig breeding herd numbers tend to be volatile year-to-year, in the June and December census, with annual changes averaging 11% in December and nearly 7% in June reports over the past decade.

No December census was carried out for pig holdings in 2021, so the population estimates for 2021 rely on the June survey.

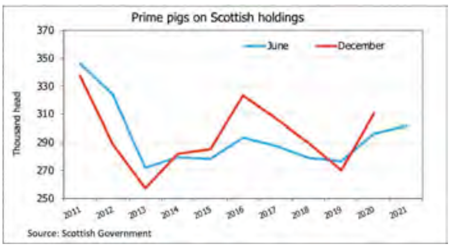
In June 2021, the breeding herd was nearly 9% below a year earlier and down nearly 13% on the average across the two 2020 surveys. However, it was only 1% below its five-year average. The number of gilts over 50kg to be used for future breeding is also volatile and, after falling sharply in 2019 and 2020, there was a rebound of 18% in the year to June 2021.

Following increases in both surveys carried out in 2020, there was a further rise in prime pig numbers in June 2021, with a 2% uplift – taking the total above the 300,000 head mark for the first time in June since 2012.

This led to an increase in the ratio of prime pigs to sows to 9.2 from 8.2, placing it slightly above its average over the previous decade.



Source: Scottish Government



Source: Scottish Government

Regional Spread of Pig Production in Scotland

A regional breakdown of the June census highlights the heavy concentration of pig production in eastern Scotland, with around 87% of pigs living there.

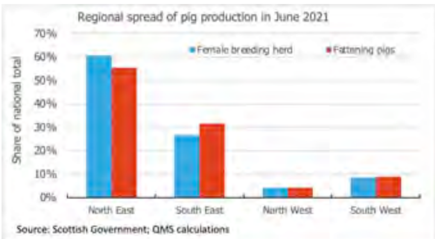
Combining the North East and Tayside would give 69% of the sow herd and 63% of non-breeding pigs.

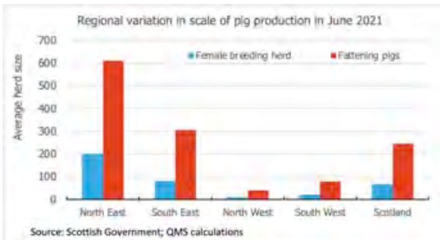
There does, however, appear to be some movement of weaner pigs for fattening from North East to South East, with Fife, Lothian and the Borders all having higher shares of non-breeding pigs than of the national sow herd. In addition to the North East, there also appears to be an outflow of weaners from Dumfries & Galloway.

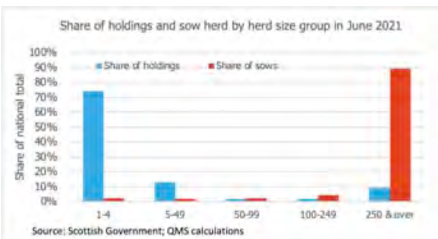
Pig production is heavily concentrated into a relatively small number of herds, with 44 of the 482 holdings with sows in June 2021 having at least 250 of them and being home to more than 89% of the herd.

These large holdings kept an average 666 sows, against a national average of only 68.

In June 2021, there were 131 Scottish holdings with at least 100 fattening pigs and they accounted for 98% of the national total.







Livestock Production (continued)

Farming Output

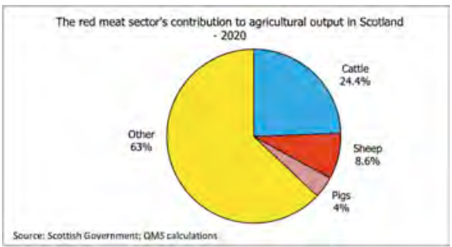
The Scottish Government estimated in 2020 that total agricultural output totalled £3.48 billion. The Total Income From Farming Estimates for 2021 were yet to be published as this report went to press.

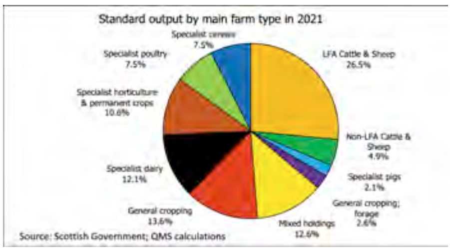
Highlighting the importance of the red meat sector to Scottish agriculture, a combined 37% of agricultural output came from cattle, sheep and pig production.

Combined output totalled nearly £1.29 billion, led by beef, at £849 million, with contributions of £299m from sheep and £139m from pigs.

Cattle and sheep continued to be of greater significance to Scottish agriculture than on average across the UK and EU. Scottish Government standard outputs for different farm types based on their principal enterprise in 2021 highlight revenues from livestock and arable farming before accounting for input costs. These show that cattle and sheep farms accounted for almost 31.5% of revenue, with another 2% from specialist pigs.

On top of this, nearly 13% came from mixed farms, of which a significant proportion of revenue will have been generated from livestock sales, while the 2.6% of standard output from forage production was generated for use in livestock production.





Contribution to agricultural output (%) in 2020[6]				
	Scotland	UK	Ireland	EU27
Cattle	24.4	14.4	27.1	6.7
Sheep	8.6	6.3	3.5	1.0
Pigs	4.0	5.7	6.8	9.6

Source: Eurostat; Scottish Government; QMS calculations.

6 UK, Ireland and EU sourced from Eurostat – real output in euro, production value at basic price.

Producer Input Costs

UK agricultural input costs reported by Defra surged to a record high in 2021, averaging more than 11% higher than in 2019 and 2020 – the previous record levels.

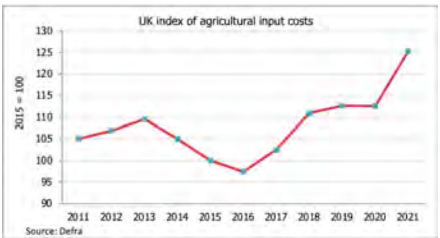
There were considerable increases for energy and feed in 2021, with each averaging around 15% higher than in 2020 and passing previous peaks reached in the early 2010s.

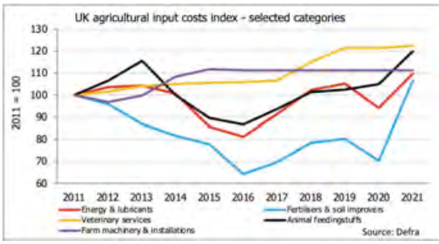
Although the cost of fertilisers surged by more than 50%, it was still below the peak reached during the oil and gas market boom of 2008. Input costs trended higher during the year, with a particularly high level of cost inflation during the autumn.

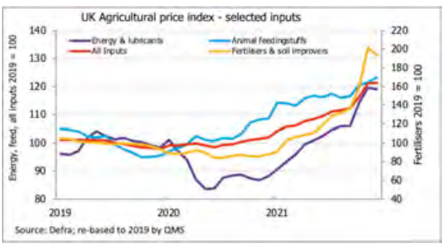
Energy costs were driven higher by the global economic rebound from the Covid lockdowns of 2020 and 2021. A surge in the cost of gas spilled over into fertiliser costs, given that gas is the main input for many fertilisers. Interestingly, there was similarly strong cost inflation for both straight and compound fertilisers, indicating an immediate pass-through of commodity price movements to end products.

For feed, a tight global grain market, driven by a poor global harvest and firm demand for grain for human food and animal feed, led to a fifth consecutive year of cost increases.

Unlike fertilisers, the increases for straight feeds were roughly double those of compound feeds, suggesting a slower pass-through.





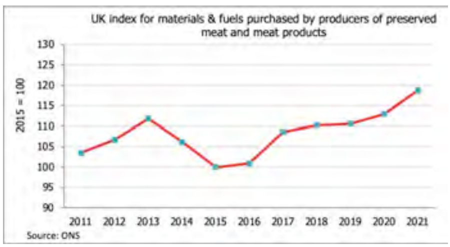


Livestock Production (continued)

Index of UK agricultural input costs – selected prices				
	2019	2020	2021	Annual change 2020 to 2021
	2015=100			%
Electricity	124.1	124.3	132.5	+6.6
Motor fuels	123.9	106.0	129.1	+21.7
Straight fertilisers	102.5	89.8	132.7	+47.8
Compound fertilisers	103.8	88.9	146.7	+65.0
Veterinary services	115.1	115.1	116.0	+0.8
Feed barley	124.4	122.5	159.1	+29.9
Soya bean meal	103.2	115.1	130.3	+13.2
Farm machinery and installations	99.6	99.6	99.7	+0.0
All inputs	112.6	112.6	125.3	+11.3

Source: Defra; QMS calculations.

The red meat processing sector will also have faced increased production costs in 2021, with livestock, energy, fuel and shipping becoming more expensive, along with export administration. The ONS producer price index for materials and fuels used in the preserved meat and meat products sector rose by 5.2% in 2021.



Primary Processing

Supply of Livestock to the Processing Sector

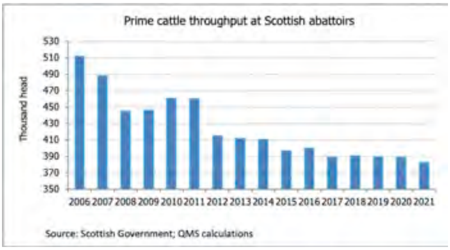
Cattle

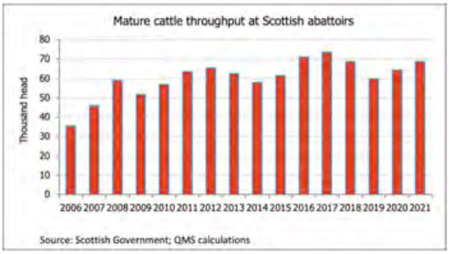
After averaging just over 389,000 head for four years, prime cattle slaughter slumped to 382,400 head in 2021[7] at Scottish abattoirs. This was 1.6% lower than in the previous year.

Slaughter opened the year above 2020 levels before contracting by nearly 4% year-on-year between June and December, with an unusually weak final quarter driven by abattoir labour constraints.

Heifer slaughter remained elevated in 2021, while there was a continued rebalancing of males from young bulls to steers.

Mature cattle slaughter has shown volatility at Scottish abattoirs in recent years and although lifting by around 7% for a second year in a row to reach 68,800 head in 2021, it remained below the highs of 2016-17.





Prime cattle slaughter by category at Scottish abattoirs since 2015				
	Steers	Heifers	Young bulls	Steers as a share of prime male kill
2015	52.4%	38.7%	8.9%	85.5%
2016	53.3%	38.2%	8.6%	86.1%
2017	53.8%	38.6%	7.6%	87.6%
2018	53.3%	39.3%	7.4%	87.8%
2019	52.9%	39.5%	7.6%	87.4%
2020	52.6%	40.0%	7.4%	87.7%
2021	53.0%	40.0%	7.0%	88.3%

Source: Scottish Government; QMS calculations.

7 Annual slaughter based on a 52-week year, ending 1 January 2022.

Primary Processing (continued)

Slaughter of Scottish-born cattle at abattoirs in Great Britain			
Calendar	**Under 30 months of age**	**Over 30 months of age**	**Female share**
2017	375,600	117,200	48.6%
2018	371,100	116,900	49.1%
2019	375,300	120,300	49.1%
2020	368,500	115,800	49.7%
2021	362,900	115,400	50.3%

Source: BCMS; QMS calculations.

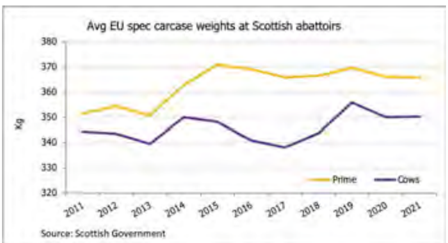
Data from BCMS indicates that 1.5% fewer cattle born in Scotland were slaughtered at less than 30 months of age at GB abattoirs in 2021. Despite more older females being processed (+1.4%), the total kill at over 30 months dipped by 0.4%.

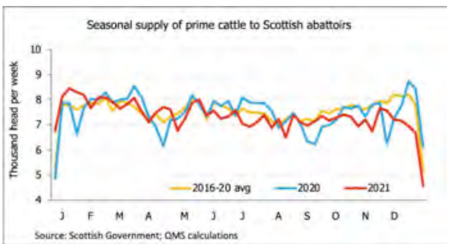
A rising female share of the Scottish-born kill points to herd reduction.

The average prime cattle carcase weight was almost unchanged at Scottish abattoirs in 2021, slipping 0.2kg (0.1%) to 365.9kg. While category weights are above the UK average in Scotland, weights for specific grades are often lower in Scotland than at price reporting abattoirs in England and Wales. Carcases which exceed the target weight range to meet product specifications for prime cuts of beef sold by UK supermarkets often face pricing penalties. This continued to pressure steer carcase weights, which fell to an eight-year low of 379.8kg in 2021 and were 3% below their 2015 peak.

With almost unchanged carcase weights in 2021, prime beef production fell by 1.7% to 139,900t, whereas cow beef output jumped by 6.8% to 24,300t.

The net result was that total beef output continued to trend lower in 2021 at Scottish abattoirs, slipping 0.5% to 164,300t, leaving it down more than 11% from a 21st century peak of 185,000t in 2006 and 2007.





Average carcase weights				
	Scotland			UK
	2019	2020	2021	2021
	kg per head			
Steers	385	381	380	372
Heifers	348	347	347	336
Young	371	366	369	359
All prime cattle	370	366	366	356
Cull cows	356	350	350	317

Source: Defra; Scottish Government; QMS calculations.
Note: UK carcase weights adjusted to same specification as Scottish weights based on conversion rates when Defra changed reporting method in September 2019.

Carcase weights for selected grades at price reporting abattoirs			
	Scotland		England and Wales
	2020	2021	2021
R4L steers	365	365	367
R4L heifers	331	331	333
R3 young bulls	348	352	359
R4L cows	388	394	391

Source: Defra; Scottish Government; QMS calculations.
Note: Weights reported in UK spec for the most common grade in each category at Scottish reporting abattoirs in 2021; 88% of the prime cattle kill at Scottish abattoirs was price reported in 2021 and 78% at E&W abattoirs.

Seasonality of Cattle Production

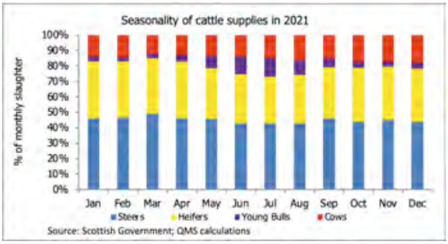
Steers and heifers accounted for four out of every five cattle processed at Scottish abattoirs in 2021, with an annual peak of 85% in March and low of 73% in July.

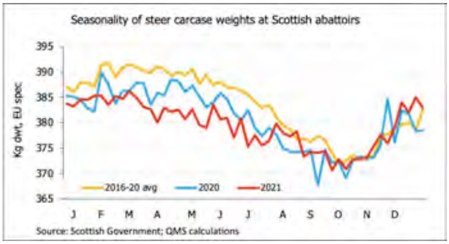
Young bulls accounted for 7% of the annual kill but exceeded 9% between May and August, peaking at 15% in July.

The cow kill ranged from a low of 12% in March up to an 18% peak in December.

The seasonal pattern in carcase weights at Scottish abattoirs reflects the dominance of spring calving in Scotland's beef herd. In the spring, prime cattle are being slaughtered at around two years of age compared with around 18 months in the autumn.

Primary Processing (continued)





Cattle Carcase Quality

To be labelled as Scotch Beef, beef from eligible animals must also meet product specifications. Carcases must be classified as either 2, 3, 4L, 4H or 5L for fat cover and E, U, R or O+ for conformation.

In general, carcase quality dipped back for a second year in 2021, driven by both conformation and fat cover for steers and conformation for heifers.

R4L continued to be the most common grade for steers and heifers at Scottish abattoirs in 2021, but for young bulls, R3 overtook the -U3 grade. Cows continued to have a much more even distribution.

Carcase Quality at Scottish Abattoirs				
Category	**Quality group**	**2019**	**2020**	**2021**
Steers	E,U,R,O+ and 2, 3L, 4L, 4H or 5L	95.3%	94.8%	94.3%
	E,U,R and 3 or 4L	68.2%	69.1%	68.3%
Heifers	E,U,R,O+ and 2,3L, 4L, 4H or 5L	97.9%	97.5%	97.3%
	E,U,R and 3 or 4L	60.1%	61.0%	59.8%

Source: AHDB; QMS calculations.

Steer carcases by grade at Scottish abattoirs in 2021			
	3	**4L**	**4H**
-U	8.6%	11.5%	1.7%
R	16.3%	29.4%	6.7%
O+	5.0%	7.7%	1.1%

Others: 12.0%.
Source: AHDB, QMS calculations.

Most common grades at price-reporting abattoirs in 2021					
Category	Position	Scotland		England and Wales	
		Grade	Share of total	Grade	Share of total
Steers	1st	R4L	29.4%	R3	21.5%
	2nd	R3	16.3%	R4L	14.9%
	3rd	-U4L	11.5%	O+3	13.0%
Heifers	1st	R4L	33.3%	R4L	20.5%
	2nd	R4H	15.4%	R3	17.2%
	3rd	R3	11.0%	O+4L	13.7%
Young bulls	1st	R3	21.5%	R3	18.3%
	2nd	-U3	19.0%	R2	16.0%
	3rd	R4L	8.5%	-U3	8.9%
Cows	1st	R4L	10.6%	-P1	16.6%
	2nd	O+4L	8.8%	-O3	10.9%
	3rd	O+3	7.9%	P+2	9.7%

Source: AHDB; QMS calculations.

Age of Cattle at Slaughter

There was a further shift forwards in the slaughter profile at Scottish abattoirs during 2021, with both males and females being handled at younger ages, thereby reducing greenhouse gas emissions over their lifetime.

The median age at death in Scotland for males aged 12 to 47 months remained 21 months and held at 22 months for females. In England and Wales, this was 22 months for males and 24 months for females.

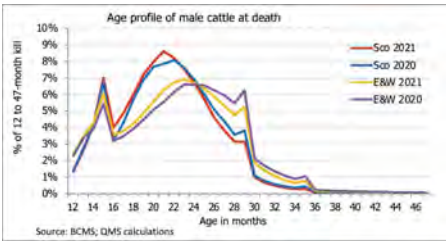
The Scottish profile remained slightly more variable than in England and Wales, where slaughter also moved forwards in 2021.

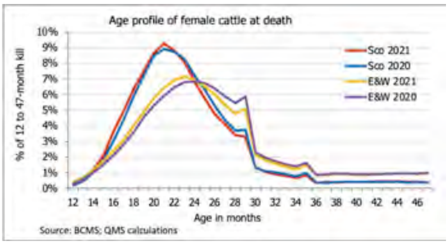
It also remained significantly younger in Scotland, although in the female profile this in part reflects the net outflow of cows from Scotland for slaughter.

Primary Processing (continued)

Proportion of slaughter by selected age groupings (% of gender total at 1-4 years old)						
Age at death (months)	**Scottish abattoirs**				**England and Wales**	
	Males, 2021	**Males, 2020**	**Females, 2021**	**Females, 2020**	**Males, 2021**	**Females, 2021**
12-15	15.1	15.0	4.1	3.5	16.2	4.1
16-23	54.4	51.4	57.3	55.1	42.0	40.8
24-29	27.1	29.7	28.1	30.5	34.2	34.6
30-35	3.0	3.5	5.6	6.1	6.5	9.6
36-47	0.4	0.4	4.9	4.7	1.1	11.0

Source: BCMS; QMS calculations.





Sheep

Prime sheep slaughter dipped below 1.1m head at Scottish abattoirs in 2021 for only the third time in the 21st century.

At 1.09m head, throughput was down 9.9% on the previous year and by 6.8% on the five-year average. Around 88% were sourced directly from farms, highlighting that most lambs sold at Scottish marts will be processed south of the border.

Working on an estimate that nearly 80% of spring lambs will be slaughtered rather than retained for breeding suggests there may have been more than 2.6m slaughter lambs produced by Scottish farms in 2021.

However, the early slaughter of the 2020 lamb crop and delayed slaughter of the 2021 crop are likely to have reduced lamb slaughter from Scottish farms during calendar year 2021 to closer to 2.5m.

As a result, Scottish abattoirs are estimated to have handled a net figure of around 43% of the lambs sent for slaughter from Scottish farms in 2021.

The number of ewes and rams processed by Scottish abattoirs fell for a third year in 2021, down 3.5% at 18,100 head. They did hold above the lows of 2015 and 2016.

Very limited interest in processing mature sheep in Scotland means that around 95% of ewes and rams being sent to slaughter from Scottish farms will be processed elsewhere in Great Britain.

Prime sheep carcase weights at Scottish abattoirs increased by 0.7% in 2021 to approach 20.5kg. Although weights remained heavier than the average at UK abattoirs, the gap narrowed to 2.3% compared with 3.2% in 2020, and an average of 4.5% between 2013 and 2018.

Average sheep carcase weights				
	Scottish abattoirs			UK
	2016-20	2020	2021	2021
	kg per head			
Lambs	20.30	20.35	20.49	20.02
Cull sheep	32.0	34.0	33.9	27.2

Source: Defra; Scottish Government; QMS calculations.

Seasonality of Sheep Production

Lamb production shows much more significant seasonal fluctuations than cattle or pig production.

On the supply side, lambs are born at a similar time of year while, on the demand side, consumption tends to peak around key Christian and Islamic festivals.

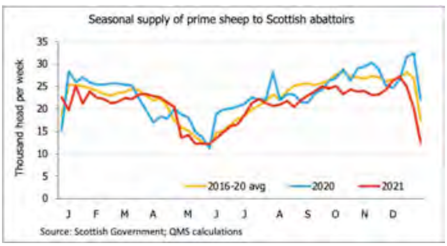
Compared with England and Wales, Scotland's climate and topography results in a much slower arrival of new-season lambs and a higher share are processed in the following calendar year.

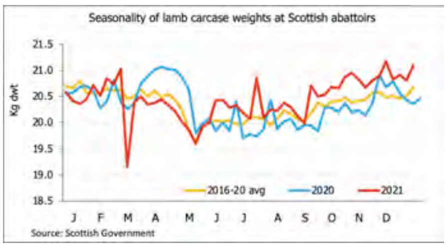
In early 2021, lamb throughput was limited by the introduction of border controls for meat being exported to the EU, which made export activity less attractive.

However, slaughter was boosted in late March by an earlier Easter and Ramadan.

The 2021 lamb crop then arrived more slowly onto the market than in the previous year, with an increased share of the lamb crop carried into 2022 for processing as hoggs.

Activity around Eid al Adha was much weaker than in 2020, with slaughter peaking at a 21% lower level. The shift forward in the calendar of procurement for this festival to mid-July may have contributed by limiting availability.





Primary Processing (continued)

Lamb Carcase Quality

Carcase quality significantly increased at Great Britain's price-reporting abattoirs in 2021, with two-thirds of SQQ[8] carcases grading at E, U or R for conformation and 2 or 3L for fat cover.

In general, carcases were significantly leaner than in 2020, but conformation rebalanced towards R grades from E and U.

R3L strengthened its position as the most common grade in 2021, accounting for 35% of the total, with R2 taking over from R3H as the second most common, having been in fourth and also behind U3L in 2020.

A further proxy of lamb quality is the proportion of prime sheep sold at auction markets that qualify as SQQ due to their live weight at sale.

After an increase of nearly five percentage points to 70.7% in 2020, this proportion softened to 70.0% in 2021.

The vast majority of lambs sold beyond the SQQ range are to the heavy side.

Combined with the seasonal profile in 2021, this suggests that hoggs were lighter than usual, with new season lambs then proving heavier than usual.

SQQ lamb carcases by grade at GB price-reporting abattoirs in 2021

	2	3L	3H
U	3.5%	12.1%	4.6%
R	14.8%	34.8%	12.9%
O	4.9%	5.4%	1.5%

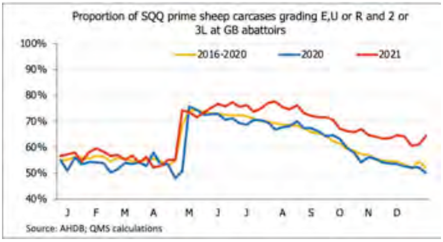
Others: 5.4%.
Source: AHDB; QMS calculations.

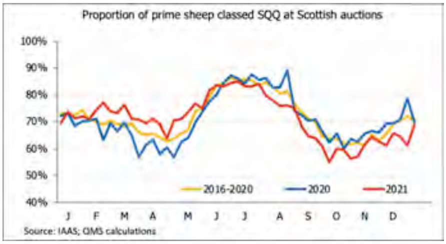
SQQ lamb carcase distribution at GB price-reporting abattoirs

	Proportion grading E,U or R and 3 or 4L	Most common		2nd most common		3rd most common	
		Grade	Share of total	Grade	Share of total	Grade	Share of total
2019	59.7%	R3L	30.7%	R3H	15.7%	U3L	12.6%
2020	60.9%	R3L	32.3%	R3H	16.1%	U3L	12.0%
2021	66.8%	R3L	34.8%	R2	14.8%	R3H	12.9%

Source: AHDB; QMS calculations.

8 SQQ stands for Standard Quality Quotation. In deadweight price reporting, this encompasses carcases weighing between 12 and 21.5kg, while in auction market price reporting, it encompasses live lambs sold at weights of 25.5-45.5kg.





Pigs

After reaching an eight-year high in 2020, prime pig slaughter at Scottish abattoirs contracted by 21.6% to 278,800 head in 2021.

It did, however, hold above its 2017 low (when Brechin abattoir had been closed for three months due to fire damage).

On a weekly basis, slaughter slumped to an average of just under 5,360 head.

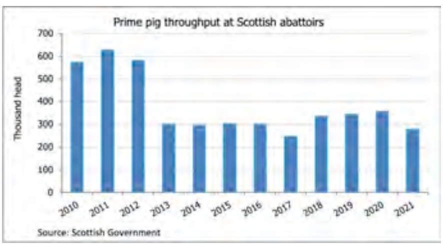
The driver of the sharp decline in throughput in 2021 was the suspension of the licence for pigmeat produced by Brechin abattoir to be shipped to China, caused by a Covid outbreak. This made it more economic for an increased proportion of the slaughter pigs produced by Scottish farms to be transported to England for slaughter.

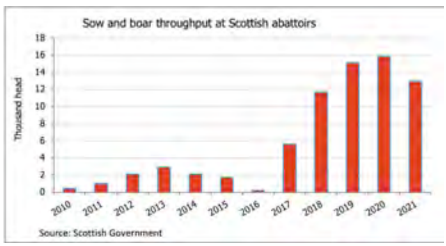
As a result, the proportion of Scottish-born pigs being sent for slaughter in England, either directly or having been finished on a farm in Northern England, is likely to have risen towards 70%.

Sow slaughter also fell back at Scottish abattoirs in 2021, declining by 18% to just under 13,000 head. However, this reflected a lack of processing of sows for most of Q1 2021 due to Covid challenges. Once slaughter returned to a more normal level in late March, it increased by more than 9% year-on-year between then and the year-end, averaging above 300 head per week.

Prime pig carcase weights rose for a sixth year at Scottish abattoirs, with a 2.9% increase driven by a backlog of fast-growing pigs on farms in the second half of the year as abattoirs in England struggled to process an increased pig crop due to labour constraints.

Higher weights partially offset the reduction in throughput but annual prime pigmeat production still declined by 19.3% to 24,500t. It was similar for sow meat production, which fell by around 16% to 1,800t. Total pigmeat production decreased by 19.1% to 26,300t but remained above 2013-17 levels.





Primary Processing (continued)

Average Carcase Weights (EU spec)				
	Scotland			UK
	2019	2020	2021	2021
	kg per head			
Clean pigs	83.7	85.4	87.9	87.2

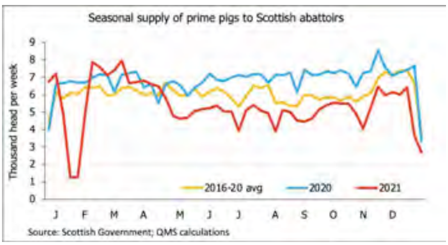
Source: Scottish weights are estimated by QMS using the Scottish Government's slaughter survey and AHDB's APP price reports.
UK weight converted into EU spec by QMS from Defra slaughter statistics.

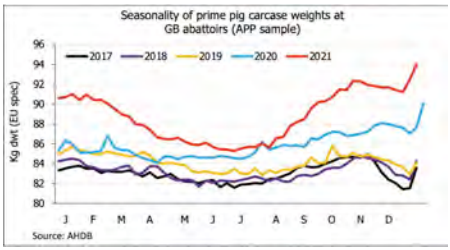
Seasonality of Pig Production

Prime pig slaughter has less of a seasonal trend at Scottish abattoirs than in the whole of the UK, where production falls in the summer months.

However, it did drop to a lower level between April and October 2021 due to increased cross-border slaughter, before showing some recovery towards the year-end – likely down to labour availability considerations.

Prime pig carcase weights have a seasonal profile but the backlog on farms led to a steeper upturn than usual in the autumn of 2021.





Scottish Abattoir Output and Employment

Twenty-one red meat abattoirs operated in Scotland in 2021 and submitted levy returns to QMS, unchanged from 2020. Cattle slaughter took place on 17 sites, with sheep slaughter on 16 while 10 handled pigs, one fewer than in 2020.

Scottish Government slaughter data shows that the total number of livestock slaughtered and the volume of meat produced declined in 2021. The volume of meat produced fell more slowly due to the marginal reduction in beef output, which accounts for around three-quarters of total red meat abattoir production.

Scottish abattoir output									
	Number of animals			Volume of meat (t)			Estimated value (£m)		
	2020	2021	y/y change	2020	2021	y/y change	2020	2021	y/y change
Cattle	453,290	451,290	-0.4%	165,155	164,285	-0.5%	620	683	+10.3%
Sheep	1,229,445	1,108,355	-9.8%	25,270	22,950	-9.2%	124	136	+9.5%
Pigs	371,350	291,625	-21.5%	32,535	26,305	-19.1%	57	43	-24.8%
Skins and hides	n/a	n/a	n/a	n/a	n/a	n/a	19	22	+19.2%
Combined	2,054,085	1,851,270	-9.9%	222,960	213,540	-4.2%	820	885	+7.9%

Source: QMS Processor Survey; QMS calculations and estimates; Scottish Government
2020 figures based on 52 weeks to January 2nd 2021; 2021 based on 52 weeks to January 1st 2022

Despite a reduction in livestock throughput, turnover from primary red meat processing is estimated to have risen significantly in 2021.

In cattle and sheep processing, higher turnover reflects a modelled increase in wholesale prices for beef and lamb, added to by a sharp rebound in by-product markets, supported by a general recovery in global manufacturing output and rising commodity prices.

By contrast, output from pig processing is estimated to have reduced sharply, reflecting a contraction of abattoir production and reduced wholesale prices in a difficult year for the pork market at home and overseas.

Reflecting tight labour supply, employment is estimated to have fallen towards 3,100 in 2021 from nearly 3,300 in 2020 – a reduction of 5%[9]. Despite an estimated wage increase of nearly 4%, the reduction in staff numbers is estimated to have reduced the total amount paid in wages by 1.3% to £75.6m.

Meanwhile, it is estimated that the share of UK nationals in the labour force increased to 58% in 2021 compared to 53% in 2020. This reflects an estimated 4% increase in UK nationals overall, set against a 15% decline in workers of non-UK origin. Within this non-UK labour pool, the number of EU/EEA nationals fell more significantly but this was partially offset by hiring workers from further afield.

The cattle processing sector continues to be more evenly spread in terms of capacity than the sheep or pig sectors, which are dominated by a small number of very large sites.

9 The estimated wage bill is based on average wages and salaries reported by processing companies in accounts filed with Companies House for 2020, plus ONS figures for manufacturing earnings growth in 2021 (series K55I).

Primary Processing (continued)

Scottish abattoir sector scale			
	Cattle	Sheep	Pigs
Abattoirs killing stock	17	16	10
Proportion of kill in 5 largest abattoirs (%)	74.4	94.4	97.9
Proportion of kill in 5 smallest abattoirs (%)	0.6	0.7	2.1

Source: QMS red meat levy returns

Distribution of Primary Red Meat Sales

Sales Distribution of Primary Red Meat Processors by Destination in 2021						
	Scotland		Rest of UK		Exports	
	Value (£m)	% by value	Value (£m)	% by value	Value (£m)	% by value
Beef	162	26	431	68	37	6
Sheepmeat	29	22	83	65	16	13
Pigmeat	9	24	29	76	<1	<1
Total red meat	200	25	544	68	53	7
Fifth quarter	27	42	22	34	16	24
Skins & hides	15	67	5	21	3	11

Note: Distribution based on first point of delivery
Source: QMS Processor survey; QMS calculations and estimates

England and Wales remained the most common first point of sale for Scottish processors in 2021, with an estimated two-thirds of revenue generated there. However, the introduction of customs checks between GB and NI led to a significant reduction in product being shipped to sites in NI. In some instances, beef, lamb and pork is delivered to processing and packing sites in England, Wales and Northern Ireland before returning to Scotland in shelf-ready retail packs or will be exported from there.

The Scottish processing sector continued to direct less of its produce overseas than the UK as a whole. After a sharp fall in exports due to the pandemic in 2020, trade is estimated to have been relatively stable in value in 2021 as a whole, rebounding as the year progressed after a challenging start due the introduction of customs checks at the EU border.

In the pork sector, direct exports from Scotland are believed to have remained negligible, with products being shipped overseas following secondary processing in England. However, the loss of approval for pork from pigs slaughtered at Scotland's largest pig abattoir to be exported to China in spring 2021 led to an earlier onset of market crisis for Scotland's pig producers than for their counterparts elsewhere in the UK.

Fifth quarter products continued to play an important role in helping cattle and sheep processors achieve carcase balance and were a strong source of export revenue for cattle processors in 2021.

Multiple retailers remained the dominant market outlet for Scotland's red meat processors in 2021 but overseas wholesalers were an important outlet for exporters. Sales to the foodservice sector saw some recovery in 2021, reflecting looser restrictions than for much of the previous year.

Product sales mixes continued to vary considerably by species, with boneless cuts the main product for beef processors and carcase trade dominating the pork sector. While lamb sales were more balanced, the lead for bone-in cuts may reflect the popularity of leg roasts.

Sales Distribution of Primary Red Meat Processors by Outlet in 2021

	Beef	Sheepmeat	Pigmeat	Fifth-quarter
	% by value			
Multiple retailers	69	65	61	13
Independent retailers	6	9	14	7
Wholesalers	10	23	9	23
Food manufacturers	7	2	6	20
Pet food manufacturers	1	<1	<1	11
Food service and catering suppliers	6	1	9	1
Other	<1	<1	<1	26

Note: Distribution based on first point of delivery
Source: QMS Processor survey; QMS calculations and estimates

Primary Processing (continued)

Sales Distribution of Primary Red Meat Processors by Product Category in 2021			
	Beef	**Sheepmeat**	**Pigmeat**
	% by value		
Carcases	2	22	77
Bone-in cuts	5	39	13
Boneless cuts	71	28	10
Mince	19	5	<1
Other	2	6	<1

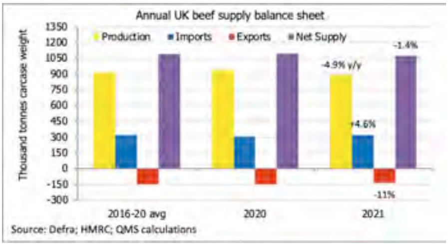
Note: Distribution based on first point of delivery
Source: QMS Processor survey; QMS calculations and estimates

Red Meat Supply and Consumption

Product Available for Consumption[10]

Beef

The total volume of beef added to the UK market in 2021 is estimated to have decreased by 1.4% as a rise in net imports was unable to fully offset a 5% reduction in domestic production.

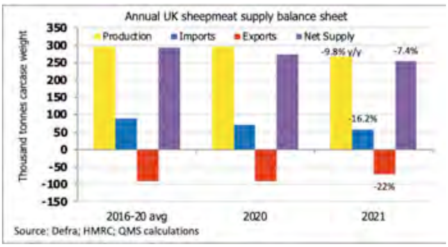


UK beef market balance sheet ('000 tonnes carcase weight equivalent)						
	2021 volume	**2021 market share**	**2020 volume**	**2020 market share**	**2016-20 average annual volume**	**2016-20 market share**
Production	888.0	82.5% of supply	933.9	85.5% of supply	913.4	83.9%
- Exports	133.6	15.0% of production	150.1	16.1% of production	148.4	16.2%
+ Imports	322.2	29.9% of supply	308.0	28.2% of supply	324.1	29.8%
= Total Supply	1076.6		1091.8		1089.1	

Source: Defra; HMRC; QMS calculations.

Sheepmeat

New supply of sheepmeat added to the UK market contracted heavily in 2021, down 7.4%, despite a reduction in net exports, due to the scale of the fall in domestic production. Supply declined for the fifth straight year and was down by 21% over this period.



10 New supplies made available during the calendar year. This excludes any change in inventories during the year, which would be needed to make a better estimate of annual consumption. Import and export volumes are converted from product weight into carcase weight equivalent.

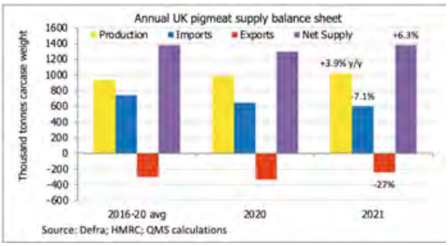
Red Meat Supply and Consumption (continued)

UK sheepmeat market balance sheet ('000 tonnes carcase weight equivalent)						
	2021 volume	**2021 market share**	**2020 volume**	**2020 market share**	**2016-20 average annual volume**	**2016-20 market share**
Production	267.0	105.2% of supply	296.1	108.1% of supply	296.5	101.0%
- Exports	71.7	26.8% of production	91.9	31.0% of production	91.4	30.8%
+ Imports	58.4	23.0% of supply	69.7	25.4% of supply	88.4	30.1%
= Total Supply	253.7		273.9		293.5	

Source: Defra; HMRC; QMS calculations.

Pigmeat

New supplies of pigmeat added to the UK market rebounded strongly to match its 2016-20 average in 2021 after a significant fall in 2020. This recovery, of 6.3%, was underpinned by higher domestic production and net imports.

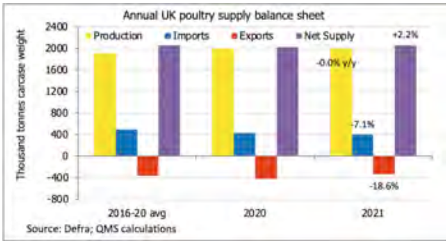


UK pigmeat market balance sheet ('000 tonnes carcase weight equivalent)						
	2021 volume	**2021 market share**	**2020 volume**	**2020 market share**	**2016-20 average annual volume**	**2016-20 market share**
Production	1022.3	71.2% of supply	984.3	75.8% of supply	938.2	64.1%
- Exports	242.9	30.2% of production	332.6	33.8% of production	300.1	28.8%
+ Imports	600.3	50.3% of supply	646.0	49.8% of supply	741.8	54.4%
= Total Supply	1379.7		1297.7		1379.9	

Source: Defra; HMRC; QMS calculations.
Exports and imports based on HS 0203, 021011, 021012 and 021019.

Poultry

New supply of poultry rebounded in 2021 as the decline in exports more than offset reduced imports. This meant poultry held its position as the most commonly available meat category for use in retail, catering and further processing in the UK. Poultry supply overtook beef in 1987 and pigmeat in 1991.



Structural change in UK meat supplies					
	2009-11 avg annual net supply	2019-21 avg annual net supply	Change over decade	% of total 2009-11	% of total 2019-21
Beef	1.05m	1.08m	+2.3%	23.6%	22.6%
Sheepmeat	0.32m	0.27m	-14.5%	7.2%	5.8%
Pigmeat	1.35m	1.37m	+1.0%	30.4%	28.7%
Poultry	1.73m	2.05m	+18.3%	38.8%	42.9%
Total	4.46m	4.77m	+6.9%	100%	100%

Source: Defra; QMS calculations.

Per Capita Supplies

Assuming a similar increase in the UK population in the year to mid-2021 as reported by the ONS in the previous year (+0.4%), a slightly increased meat supply would have been required to maintain per capita supply at 2020 levels.

Therefore, population growth exacerbated the fall in UK beef and sheepmeat supply when viewed in per capita terms, while slightly softening the lift in pigmeat supply.

Scottish per capita supply can be estimated from population statistics, differences in sales levels reported by Kantar between Scotland and Great Britain as a whole, and from differences in Defra's Family Food datasets for the nations and regions of the UK (though the latest Defra estimates are for 2018/19).

These estimates are based mainly on consumption at home and have limited coverage of processed products, which can be hard to separate between different meats.

The evidence continues to indicate above-average beef consumption in Scotland but below-average pigmeat consumption and much lower levels of sheepmeat consumption.

Red Meat Supply and Consumption (continued)

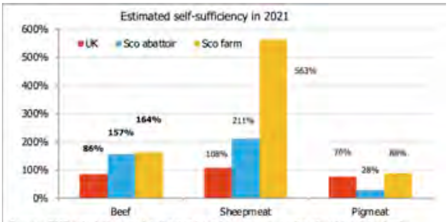
Per capita supplies (kg per person)							
		Beef	Sheepmeat	Pigmeat	Poultry	Total meat
UK	2020	16.3	4.1	19.3	30.1	69.8
	2021	16.0	3.8	20.5	30.6	70.8
Scotland	2020	19.5	2.1	15.8	26.5	63.9
	2021	19.1	2.0	16.9	27.0	65.1

Note: Excludes adjustment for opening and closing inventory.
Source: Defra; Kantar; ONS; Scottish Government; QMS calculations and estimates.

Self-Sufficiency

Scotland's abattoir production of beef and sheepmeat far out-strips estimated total consumption levels, but pigmeat production is far below total demand.

However, self-sufficiency based on farm production levels[11] would be slightly higher for beef and surge for sheepmeat, and would rise to close to 90% for pigmeat, reflecting the significant volume of cross-border movement of live animals for finishing and for slaughter.



Source: QMS calculations and estimates based on census results, slaughter data, lamb auction market throughput, international trade data, consumption data

Basic estimates of self-sufficiency do not, however, take into consideration the demand for and supply of different cuts of meat or processed meat products, or the location of specialist further processing and packing sites, which can reflect workforce availability.

As a result, meat from animals which have been born, reared and slaughtered in Scotland can still cross borders for further cutting and packing before coming back to be sold in a retail outlet in Scotland.

11 Farm production estimates are based on the number of cattle, sheep and pigs born on Scottish farms.

Retail Sales

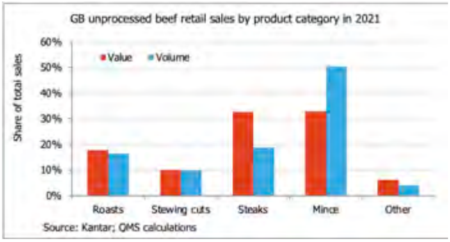
Beef

Based on its panel of 30,000 shoppers, Kantar estimates that after surging by more than 15% in 2020, GB households spent around 5% less money buying fresh and frozen unprocessed beef from the retail sector in 2021[12], as public health restrictions softened and people dined out more often. The proportion of households buying beef fell back by nearly 3% and the frequency of purchase by 4%.

Across GB there was also a rebalancing of spending within the beef offer as spending on mince fell by almost 14% whereas the dip for steaks was only 1% while spending on roasts was slightly higher.

Retail price inflation began to lift significantly in the final quarter, with mince averaging around 7% dearer than a year earlier and steaks by 9% in the 12 weeks to December 26th.

After a strong lift in demand in 2020, spend on beef at butchers' shops declined at an above-average pace in 2021, with the share of GB households using this service slipping back towards 9% from a peak of close to 12%.

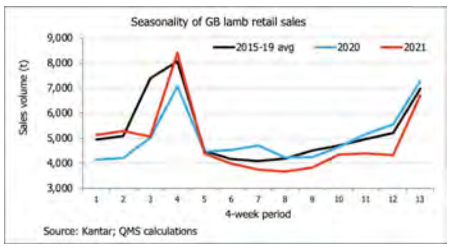


In Scotland, spending on beef fell by closer to 6%, with more significant declines for roasts, stewing beef and mince partially offset by a 3% increase in spend on steaks. The proportion of Scottish households buying beef remained slightly higher than in GB, at over 87%, and they bought it slightly more often.

Lamb

Kantar estimates that GB household spending on lamb increased for a third year in 2021, with a slight uplift of 1.4%. However, higher retail prices meant that this secured a 3% smaller volume. Although a smaller share of GB households bought lamb, those that did bought it more often, pointing to base consumer loyalty despite rising prices.

Within the product mix, there were small reductions in spending on chops & steaks and shoulder roasts, while spend on lamb mince was flat and there was a strong rebound for leg roasts, up 8.5%, after a



12 52 weeks ending 26 December 2021 compared with 52 weeks ending 27 December 2020. Please note that this definition of beef excludes products such as burgers.

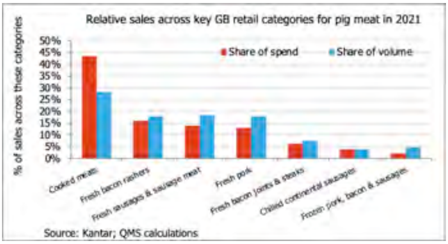
small reduction in 2020.

Leg roasts accounted for 38% of annual sales volumes, but this approached 61% in the four weeks around Easter and 64% in the four weeks to Boxing Day.

After surging in 2020, spending on lamb at GB butchers shops fell back by in 2021 but remained above pre-pandemic levels. However, only around 6% of households bought lamb from a butcher.

In Scotland, spending on lamb is estimated to have risen more strongly than in GB as a whole in 2021, up 5%, supported by a smaller contingent of shoppers buying it more often. Nevertheless, the share of Scottish households buying lamb remained well below the GB average, at less than 40% compared to over half in GB.

Pork



After a significant jump in 2020, GB household spending on fresh and frozen unprocessed pork in the retail sector is estimated to have dipped by 1.6% in 2021. Sales volumes were down by 1%, reflecting a marginal fall in average retail price. The share of households buying pork fell back and there was a marginal reduction in frequency of purchase.

After a surge in 2020, spend declined by nearly a fifth at GB butchers shops, with the share of households buying pork from a butcher slipping back towards 7% from a peak of around 9%.

In contrast to GB as a whole, spending on pork at retailers in Scotland is estimated to have risen slightly further in 2021. However, at two-thirds, the share of Scottish households buying pork is thought to have remained lower than the GB average of 70%.

Wider retail category data from Kantar points to further growth in sales of cooked meats in 2021, whereas spending on sausages fell by around 6%, with a decline of nearly 10% for bacon rashers. However, the share of households buying bacon (84%) and sausages (80%) remained well above the two-thirds buying fresh pork.

Retail Prices

Consumer Prices Index (CPIH[13])

Consumer price index and annual inflation rate for selected categories (CPIH)						
	Change from previous year (%)				Annual average index in 2021 (2015 = 100)	Index in December 2021 (2015 = 100)
	2019	2020	2021	December 2021		
All prices	+1.7	+1.0	+2.5	+4.8	111.6	114.7
All goods	+1.1	0.0	+2.8	+6.9	108.3	112.9
All services	+2.2	+1.7	+2.2	+3.1	114.0	115.7
Food	+1.1	+0.6	+0.3	+4.5	104.0	107.0
Meat	-0.2	+1.7	-0.5	+4.4	99.6	102.8
Beef and veal	-1.8	+0.6	-0.3	+7.3	95.5	99.1
Lamb and goat	+1.1	-2.4	+4.1	+8.5	114.6	121.7
Pork	-0.8	+4.5	+1.6	+3.4	100.9	103.4
Poultry	-2.0	-1.2	+0.3	+4.8	89.7	92.4
Edible offal	-1.5	+2.7	+3.2	+5.6	105.6	109.1
Dried, salted or smoked meat	+0.6	+4.2	-1.5	+2.8	100.4	102.9
Fish	+1.7	+1.3	-2.2	+1.7	111.1	111.8
Milk, cheese and eggs	+0.2	-0.3	+0.9	+4.4	101.6	105.3
Ready-made meals	+1.4	+1.1	+3.0	+4.6	106.9	113.7
Restaurants, cafes and dancing establishments	+2.4	+1.0	+3.0	+4.2	111.7	117.2
Fast food and takeaway food	+3.6	+4.2	+2.6	+3.6	117.6	123.3

Source: ONS.

13 CPIH is a measure of consumer price inflation which includes owner occupiers' housing costs.

Retail Prices (continued)

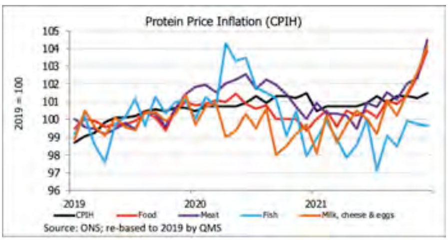
Consumer price inflation picked up significantly in 2021, having slowed in 2020 due to the initial economic impact from the pandemic.

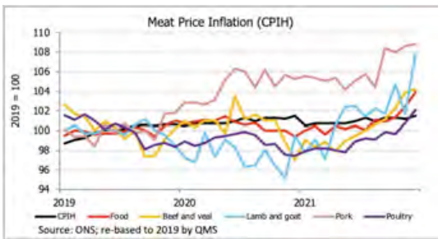
Goods price inflation accelerated strongly due to continuing supply chain problems from the pandemic at a time of elevated demand as people still spent more time at home and less time socialising. In the service sector, the economic rebound and gradual reopening meant inflation rates returned to a more normal level.

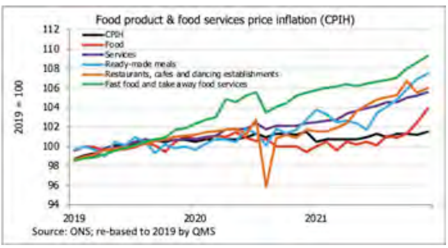
With price increases strengthening as the year progressed, inflation ended the year far stronger than it had been in the first half, so annual average increases in 2021 underplay this pick-up, which can be seen in the rates for the final month of the year. This is particularly true in meat pricing which, over the year as a whole, showed marginal decline but by the year-end was rising considerably. Nevertheless, beef and veal, and poultry, remained cheaper in December 2021 than they had averaged back in 2015. For lamb and goat meat, prices had already shown stronger inflation in recent years due to a prolonged period of tightening supply and inelastic demand from a relatively small pool of loyal buyers willing to pay higher prices.

Costs of ready meals and pricing in the food service sector tends to reflect wider economic forces such as the cost of labour more closely than the more volatile prices of their raw materials.

This trend continued in 2021, though there was some early evidence of the rising cost of food being passed through to consumer prices in the second half. However, rising labour and energy costs will also have been a factor.







International Trade

International trade is used to balance the supply of and demand for the wide range of different meat products and animal by-products when this is not achieved from domestic production. The aim of international trade is to maximise carcase value and consumer utility.

UK Regional Trade Statistics

HM Revenue and Customs publishes estimates of the level of exports from each of the devolved nations and English regions on a quarterly basis[14].

These trade figures are reported by Standard International Trade Classification (SITC) division, rather than the more detailed Harmonised System (HS). During 2021, Scottish exports of meat and meat preparations totalled £92.7m and 42,750t.

These were year-on-year declines of 4.9% and 17.7% respectively, while being 10.2% and 2.2% lower than their pre-EU exit average from 2016-20.

Scottish exports of meat and meat preparations			
	Value of exports (£m)	Volume exported ('000 t)	Avg export price (£/kg)
2016	96.9	39.8	2.43
2017	99.2	37.1	2.68
2018	113.8	41.5	2.74
2019	108.4	48.3	2.25
2020	97.5	51.9	1.88
2016-20 avg	103.2	43.7	2.36
2021	92.7	42.8	2.17

Source: HMRC; QMS calculations.

The annual contraction in export value was driven by a sharp fall in Q1 (-36% year-on-year), with revenue then higher in the April to December period than in 2020 – though sales volumes did continue to decline throughout the year.

A sharp rebound in trade through 2021 meant that by Q4, exports had almost doubled on Q1 levels compared with a more normal seasonal uplift of 15-20%.

The average export price for meat and meat preparations was below £2.20/kg in 2021, making it well under half of the average for beef and sheepmeat

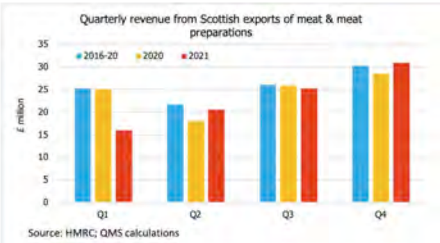
14 When a company is based in more than one UK region, its exports are allocated regionally by the number of employees based there. As a result, the data needs to be treated with caution. These trade figures are reported by Standard International Trade Classification (SITC) division, rather than the more detailed Harmonised System (HS), meaning that the most detailed level of breakdown for meat is 'meat and meat preparations', which will include prime cuts as well as offal, cured products, and cooked meat and offal products. Available at www.uktradeinfo.com/trade-data/rts-custom-table

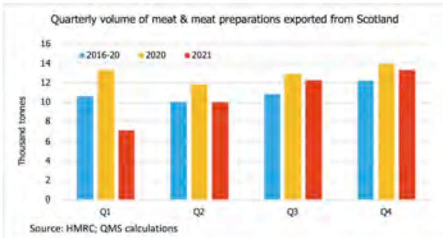
International Trade (continued)

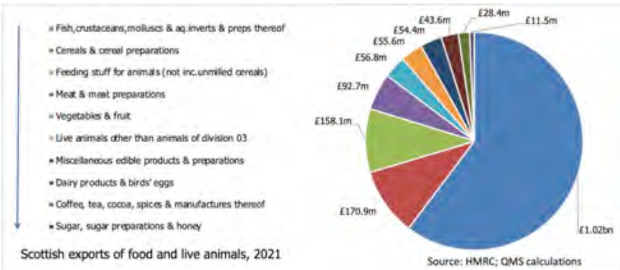
(£4.64/kg) in the headline UK trade statistics and thereby suggesting that a large part of this trade was in lower value meat products rather than prime cuts.

Meat and meat preparations accounted for 5.5% of Scottish food and live animal exports during 2021, which totalled £1.69bn.

Fish and seafood continued to lead the way, with exports rising by more than 15% to pass the £1bn mark and account for 60% of the total.







Scottish exports of food and live animals, 2021

UK Overseas Trade Statistics

At UK level, detailed import and export statistics estimates under the HS system are published by HM Revenue and Customs, providing a view of the trade environment in which Scottish producers and processors operate.[15]

Beef

Imports

After a slow start to the year following the UK's exit from the EU single market, beef imports ended up rising in 2021 as a whole.

They went up by 4.1% in volume and 15.5% in value due to the increased cost of beef in a tight global market. Import volumes did, however, hold around 2% below their five-year average.

When converted into carcase weight equivalent, import volumes rose by closer

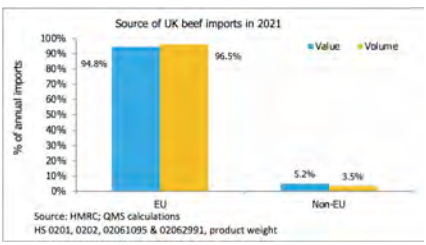
15 www.uktradeinfo.com/trade-data/ots-custom-table

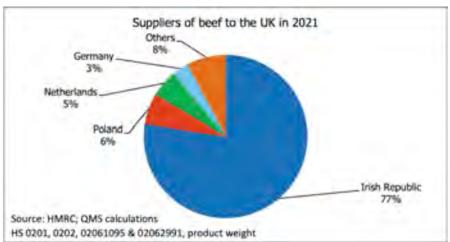
Annual UK imports of fresh and frozen beef				
	Value of imports (£m)	**Volume imported ('000t product weight)**	**Avg import price (£/kg)**	**Volume imported ('000t carcase weight*)**
2016	948.2	246.5	3.85	317.2
2017	993.7	253.9	3.91	326.0
2018	1,098.0	272.4	4.03	353.8
2019	948.7	241.7	3.92	315.4
2020	932.4	235.8	3.95	308.0
2016-20 avg	984.2	250.1	3.94	324.1
2021	1,077.3	245.5	4.39	322.2

Source: HMRC; QMS calculations.
HS codes 0201, 0202, 02061095 and 02062991.
*Boneless cuts converted from product weight to carcase weight using a factor of 1.36 (source: USDA).

to 5% in 2021 and were only marginally below their five-year average, reflecting more significant increases in imports of boneless cuts[16].

Imports continued to be mostly sourced from the EU due to high tariffs on non-EU meat and limited access to reduced tariff-quotas, with the Irish Republic remaining the dominant supplier, supported by integrated supply chains across the British Isles. However, the reopening of the foodservice sector did lead to some recovery in non-EU imports in the second half of the year, boosting demand for higher value products, such as steaks, at competitive prices.



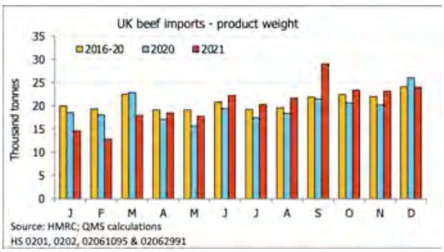


16 Based on coefficients in the USDA's Livestock World Markets and Trade publication.

International Trade (continued)

Composition of UK beef imports in 2021 – EU and non-EU comparison				
Product category	Imports from the EU		Imports from non-EU countries	
	Share of imports from EU	Average import price (£/kg)	Share of imports from non-EU	Average import price (£/kg)
Fresh carcases or half-carcases	9.8%	3.35	0.0%	n/a
Fresh cuts, with bone in	3.0%	4.68	0.6%	9.88
Fresh boneless	53.6%	5.19	63.0%	7.64
Frozen carcases or half-carcases	0.2%	3.97	0.0%	n/a
Frozen cuts, with bone in	0.7%	2.91	0.1%	13.75
Frozen boneless	31.3%	3.16	36.3%	4.50
Fresh or frozen skirt	1.5%	2.96	0.0%	n/a
Total	236,800t	4.31	8,700t	6.52

Source: HMRC; QMS calculations.
HS codes 0201, 0202, 02061095 and 02062991.



Exports

The UK's beef exports were initially hit hard by the exit from the EU single market and the introduction of border controls.

However, they made a strong recovery in the second half of the year, supported by firm demand for beef in the EU, though still limited by reduced domestic production.

Over the year, beef exports were nearly 12% below 2020 levels, while falling by almost 5% in value.

While average export prices were higher than in 2020, they were little different to the five-year average, meaning that exports were 11% below this average in volume and value. In carcase weight equivalent, volumes were 11% lower than in 2020, with increased trade in frozen boneless beef partially offsetting an above-average fall in trade of fresh boneless beef.

Composition of UK beef exports in 2021 – EU and non-EU comparison				
Product category	Exports to the EU		Exports to non-EU countries	
	Share of exports to the EU	Average export price (£/kg)	Share of exports to non-EU	Average export price (£/kg)
Fresh carcases and half-carcases	16.7%	2.39	0.2%	5.17
Fresh cuts, with bone in	7.1%	5.04	10.1%	2.38
Fresh boneless	49.1%	5.02	7.9%	3.67
Frozen carcases and half-carcases	0.0%	10.94	2.2%	3.52
Frozen cuts, with bone in	1.2%	3.35	9.5%	2.34
Frozen boneless	24.4%	2.48	66.9%	2.33
Fresh or frozen skirt	1.5%	4.91	3.2%	3.39
Total	76,400t	3.94	28,600t	2.51

Source: HMRC; QMS calculations.
HS codes 0201, 0202, 02061095 and 02062991

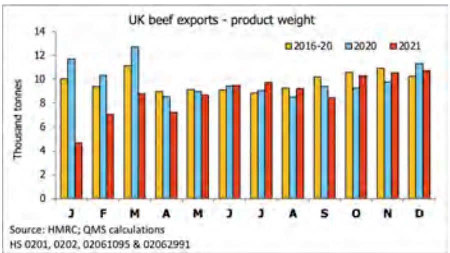
There was a continued rebalancing of export sales away from EU countries in 2021, but this was driven by a below-average fall of around 5% in exports to non-EU countries rather than further expansion. However, sales outside the EU, which tend to be of lower value cuts, did hold well above pre-2020 levels.

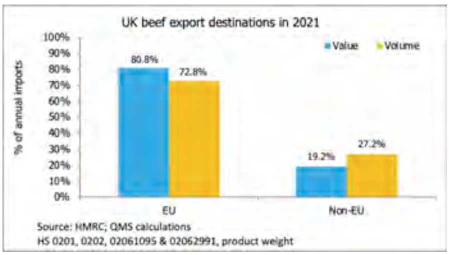
As well as being the major supplier of beef to the UK, the Irish Republic remained the UK's principal beef export destination in 2021, supported by the existence of cross-border supply chains within the British Isles.

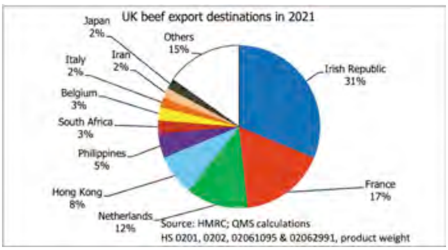
International Trade (continued)

Annual UK exports of fresh and frozen beef				
	Value of exports (£m)	Volume exported ('000t product weight)	Avg export price (£/kg)	Volume exported ('000t carcase weight*)
2016	375.2	113.4	3.31	143.2
2017	407.2	106.6	3.82	134.3
2018	439.3	112.4	3.91	142.7
2019	471.2	138.2	3.41	171.5
2020	390.7	119.1	3.28	150.1
2016-20 avg	416.7	118.0	3.53	148.4
2021	372.8	104.9	3.55	133.6

Source: HMRC; QMS calculations.
HS codes 0201, 0202, 02061095 and 02062991.
*Boneless cuts converted from product weight to carcase weight using a factor of 1.36 (source: USDA).







Sheepmeat

Imports

Annual UK Iimports of fresh and frozen sheepmeat				
	Value of imports (£m)	Volume imported ('000t product weight)	Avg import price (£/kg)	Volume imported ('000t carcase weight*)
2016	337.6	87.4	3.86	111.7
2017	353.7	75.5	4.68	93.5
2018	362.5	74.0	4.90	91.2
2019	303.1	60.5	5.01	75.8
2020	310.8	57.8	5.38	69.7
2016-20 avg	333.5	71.1	4.69	88.4
2021	263.1	47.2	5.57	58.4

Source: HMRC; QMS calculations.
HS code 0204[17].
*Boneless cuts converted from product weight to carcase weight using coefficients in UK import quotas.

UK sheepmeat imports contracted for an eighth consecutive year in 2021, despite a sharp fall in domestic production as New Zealand's processing companies continued to target the Chinese market, where wholesale prices remained at highly attractive levels.

There was an 18% fall in import volumes, with a slightly smaller 15% decline in the amount spent buying lamb from overseas due to a 3.5% lift in average import price.

After converting to carcase weight equivalent[18], imports fell slightly more slowly, down 16%, as trade rebalanced towards boneless cuts, with imports of frozen boneless sheepmeat rebounding. Sheepmeat imports to the UK are seasonal, with trade peaking around Easter and Christmas, particularly for leg roasts.

According to Kantar data, in the four-week period around Easter, sales of leg roasts were 2.8 times the annual average for a four-week period, and were 2.3 times higher in the four weeks to December 26.

Without imports, local production would have to expand if consumers were to continue buying leg roasts at the same level, though such an expansion in production could lead to problems with carcase balance. New

17 HS code 0204 also includes goat meat but trade is minimal.
18 The coefficients used are those for boneless cuts in UK import quotas, www.gov.uk/government/publications/reference-documents-for-the-customs-tariff-quotas-eu-exit-regulations-2020. When the quota coefficient is allocated at ten-digit level in the customs code, the two separate coefficients of 1.67 and 1.81 have been averaged to give 1.74 for the eight-digit product category.

International Trade (continued)

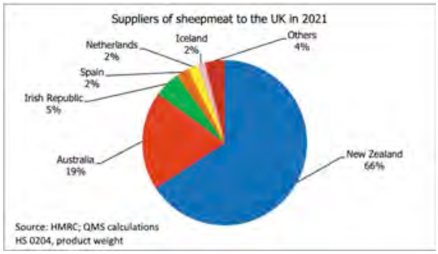
Composition of UK sheepmeat imports in 2021 – EU and non-EU comparison				
Product category	Imports from the EU		Imports from non-EU countries	
	Share of imports from EU	Average import price (£/kg)	Share of imports from non-EU	Average import price (£/kg)
Fresh lamb carcases & half-carcases	3.5%	6.37	0.0%	n/a
Fresh sheep carcases & half-carcases (excl. lambs)	0.1%	1.31	0.0%	n/a
Fresh or chilled sheep legs	9.3%	6.88	23.0%	6.51
Other fresh cuts, with bone in	10.9%	4.32	5.3%	5.71
Fresh or chilled boneless cuts	12.6%	4.30	8.9%	7.40
Frozen lamb carcases & half-carcases	1.2%	10.11	0.8%	3.74
Frozen sheep carcases & half-carcases (excl. lambs)	3.7%	6.01	0.0%	n/a
Frozen sheep legs	2.8%	6.42	26.6%	5.42
Other frozen cuts, with bone in	11.7%	5.08	13.2%	4.89
Frozen boneless cuts	30.9%	3.49	22.1%	5.07
Fresh, chilled or frozen meat of goats	13.2%	3.32	0.0%	2.53
Total	5,198t	4.52	42,049t	5.70

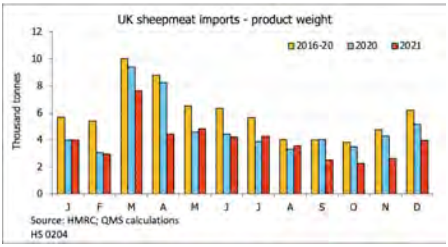
Source: HMRC; QMS calculations.

Zealand continued to supply a significantly smaller volume of sheepmeat to the UK than its quota level of 114,205t in carcase weight equivalent, with volumes estimated at 31,100t in product weight and 37,100t in carcase weight in 2021[19].

Sheepmeat imports from Australia increased for a second year in 2021 and reached a three-year high of 9,100t in product weight and 12,100t in carcase weight but held below the country's UK quota of 13,335t carcase weight.

Imports from the EU remained minor, at only 11% of the product weight total in 2021.





19 Conversion based on UK import quota coefficients (see footnote 15), with NZ and Australia quota allocations specified in this document.

International Trade (continued)

Exports

Annual UK exports of fresh and frozen sheepmeat				
	Value of exports (£m)	Volume exported ('000t product weight)	Avg export price (£/kg)	Volume exported ('000t carcase weight*)
2016	324.5	77.5	4.19	82.7
2017	383.3	89.4	4.29	95.4
2018	365.3	82.7	4.42	87.9
2019	397.2	94.7	4.20	98.9
2020	436.6	87.6	4.98	91.9
2016-20 avg	381.4	86.4	4.42	91.4
2021	439.1	70.1	6.26	71.7

Source: HMRC; QMS calculations.
HS code 0204.
*Boneless cuts converted from product weight to carcase weight using coefficients in UK import quotas.

Although UK sheepmeat export volumes fell by a fifth in 2021 and were a similar level below their five-year average, surging export prices meant that export revenues were up slightly on the year and by 15% on the five-year average.

Converting export volumes into carcase weight equivalent indicates a slightly stronger decline of 22% in 2021, reflecting a rebalancing of exports towards lamb carcases from boneless cuts. EU markets remained the main destination for UK sheepmeat exports in 2021 as volumes fell by 19%, compared with a 36% reduction in shipments to non-EU countries.

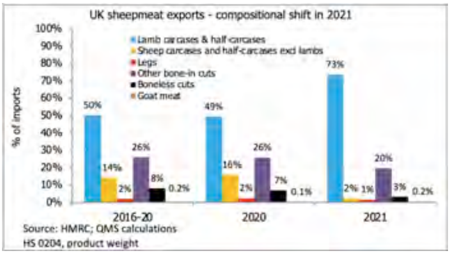
Non-EU destinations continued to be outlets for lower value frozen cuts and lamb carcases, whereas trade with the EU shifted even more heavily towards lamb carcases, which was likely driven by the introduction of EU customs controls.

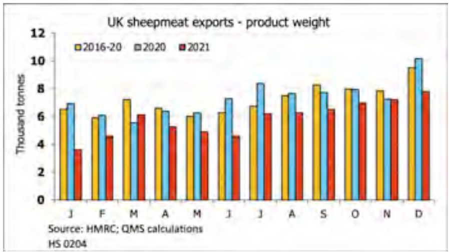
Composition of UK sheepmeat exports in 2021 – EU and non-EU comparison				
Product category	Exports to the EU		Exports to non-EU countries	
	Share of exports to EU	Average export price (£/kg)	Share of exports to non-EU	Average export price (£/kg)
Fresh lamb carcases and half-carcases	77.7%	6.22	8.6%	6.38
Fresh sheep carcases and half-carcases (excl. lambs)	2.4%	5.20	0.2%	11.57
Fresh or chilled sheep legs	1.0%	8.19	1.3%	4.80
Other fresh cuts, with bone in	14.5%	7.99	13.7%	6.57
Fresh or chilled boneless cuts	1.2%	10.59	3.5%	12.20
Frozen lamb carcases and half-carcases	0.1%	6.20	13.4%	1.82
Frozen sheep carcases and half-carcases (excl. lambs)	0.1%	6.47	0.5%	10.33
Frozen sheep legs	0.3%	6.06	0.9%	3.74
Other frozen cuts, with bone in	1.8%	3.58	44.4%	2.34
Frozen boneless cuts	0.8%	6.61	12.5%	2.53
Fresh, chilled or frozen meat of goats	0.2%	6.13	1.1%	3.47
Total	64,718t	6.48	5,406t	3.68

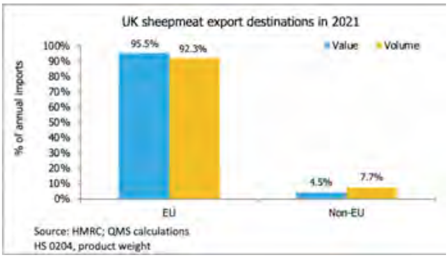
Source: HMRC; QMS calculations.

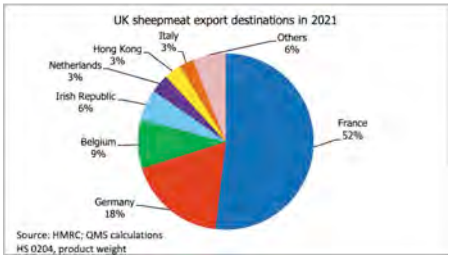
International Trade (continued)

After a reduction in its dominance of UK exports in recent years, France accounted for more than half of sales volumes for the first time in five years, driven by its demand for lamb carcases. Meanwhile, exports to the Irish Republic rebalanced away from bone-in cuts to carcases.









Pigmeat

Imports

UK pigmeat imports[20] contracted heavily for a third year in 2021 with a reduction of around 9% in volume to 594,100t in product weight, while the amount of money spent buying this meat fell by 15%.

Breaking this into components, imports of pork fell by just over 12% and prepared or preserved pigmeat by 14.5%, whereas around 4% more bacon and ham was brought into the UK. Despite this small rebound in the volume of bacon and ham imported, the value of imports still fell 5% and trade remained well below pre-2020 levels. Combined import volumes across the three categories were down by just over a fifth on their five-year average.

When converted into carcase weight equivalent, imports showed very similar rates

20 Pigmeat imports are defined here as including fresh and frozen pork (HS 0203), bacon and ham (HS 0210), and prepared or preserved pigmeat (HS 1602). In HS 0203, bone-in cuts converted from product weight to carcase weight using a factor of 1.11 and boneless cuts converted at 1.30. In HS 0210, bone-in hams and shoulders are converted at 1.30 and other products at 1.16. In HS 1602, conversion rates are 1.30 (source: USDA – Livestock and Poultry World Markets and Trade).

of change. With the value of pork falling across Europe in 2021, pork imports were bought at an average price that was down more than 10% on 2020, although it was still marginally above the five-year average. Imports of bacon and ham averaged around 8% cheaper but the fall was more marginal for prepared or preserved pigmeat.

UK pigmeat imports by product category

	Year	Value of imports (£m)	Volume imported ('000t product)	Average import price (£/kg)	Volume imported ('000t carcase weight)
Pork (HS 0203)	2016	721.4	405.1	1.78	501.0
	2017	881.7	432.6	2.04	535.6
	2018	803.8	433.5	1.85	535.1
	2019	897.4	420.0	2.14	520.5
	2020	843.8	367.2	2.30	456.6
	2016-20	829.6	411.7	2.02	509.8
	2021	661.4	321.9	2.05	403.8
Bacon and ham (HS 021011, 021012,021019)	2016	534.8	235.1	2.27	273.9
	2017	529.6	206.5	2.56	240.0
	2018	520.4	206.5	2.52	240.2
	2019	543.8	186.3	2.92	216.8
	2020	499.2	162.9	3.06	189.5
	2016-20	525.6	199.4	2.64	232.1
	2021	475.8	169.0	2.81	196.6
Prepared/ preserved pigmeat (HS 160241, 160242, 160249)	2016	483.2	145.2	3.33	188.8
	2017	552.5	152.2	3.63	197.9
	2018	536.3	153.6	3.49	199.7
	2019	476.7	116.6	4.09	151.6
	2020	474.3	120.7	3.93	156.9
	2016-20	504.6	137.7	3.67	179.0
	2021	402.9	103.2	3.91	134.1

Source: HMRC; QMS calculations; USDA (carcase weight conversion coefficients).

International Trade (continued)

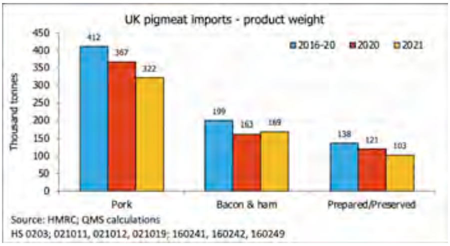
Composition of UK pigmeat imports in carcase weight equivalent			
	2016-20	2020	2021
Fresh carcases or half-carcases	1.4%	1.0%	1.2%
Fresh hams and shoulders, with bone in	13.3%	12.9%	14.3%
Fresh boneless	28.1%	30.2%	28.6%
Frozen carcases and half-carcases	0.1%	0.1%	0.1%
Frozen hams and shoulders, with bone in	0.4%	0.5%	0.5%
Frozen boneless	12.2%	12.3%	11.7%
Hams and shoulders, salted/in brine/dried/smoked, with bone in	0.7%	0.6%	0.6%
Bellies salted/in brine/dried/smoked	2.0%	1.9%	2.0%
Boneless cuts salted/in brine/dried/smoked	22.5%	21.1%	22.4%
Prepared or preserved hams	12.5%	10.5%	9.9%
Prepared or preserved shoulders	0.5%	0.4%	0.3%
Other prepared or preserved pigmeat or offal	6.5%	8.7%	8.3%
Total	920,800t	802,900t	734,400t

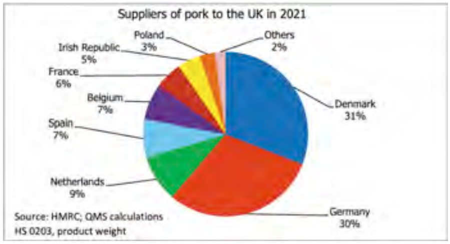
Source: HMRC; QMS calculations; USDA conversion rates.

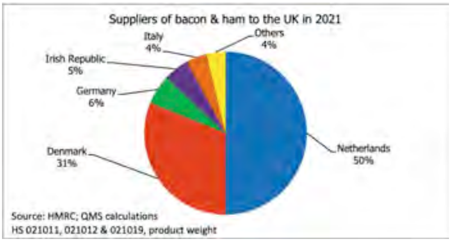
Imports in the different pigmeat categories tend to come from suppliers in a different balance of locations with Denmark and Germany dominating imports of pork; the Netherlands and Denmark dominating bacon and ham supply; and Poland and the Irish Republic dominating in prepared or preserved products.

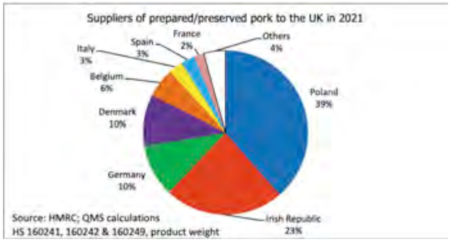
Italy remained a relatively minor supplier of bacon and ham despite its specialist regional hams featuring prominently on supermarket shelves. With pork supply, the share of imports arriving from Germany continued to trend higher, while its share of deliveries of bacon and ham continued to fall and there was a significant reduction in its share of prepared or preserved pigmeat supply to the UK.

Within the prepared or preserved pigmeat imports category, there was a further rebalancing away from the Irish Republic towards Poland.









Exports

Annual UK exports of fresh and frozen pork				
	Value of exports (£m)	Volume exported ('000t product weight)	Avg export price (£/kg)	Volume exported ('000t carcase weight*)
2016	250.5	204.5	1.23	253.1
2017	291.4	213.9	1.36	262.8
2018	289.4	216.1	1.34	267.5
2019	390.1	243.1	1.60	300.1
2020	420.3	258.4	1.63	317.2
2016-20 avg	328.3	227.2	1.45	280.1
2021	338.8	192.7	1.76	230.9

Source: HMRC; QMS calculations.
HS code 0203.
*Boneless cuts converted from product weight to carcase weight using USDA coefficients.

International Trade (continued)

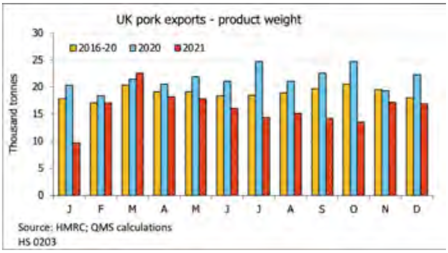
UK pigmeat exports fell back sharply in 2021 following significant growth, contracting by 25% and slumping to a six-year low of 192,700t.

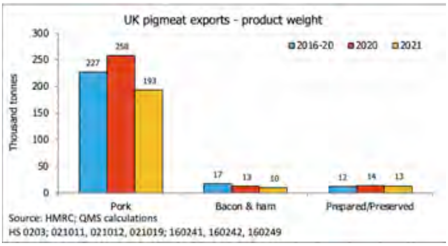
While trade rebounded after a challenging start to the year following the introduction of customs checks at the EU border, it remained weak due to the recovery of pork production in China and the subsequent reduction of its import requirements, leaving additional product on the EU market as well as having a direct impact on demand for UK pork.

In carcase weight, trade contracted even more heavily in 2021, with shipments down by 28% due to above-average declines in boneless cuts. Trade in carcases actually increased while for bone-in hams a rise in exports of frozen product nearly offset a fall for fresh product.

Exports of bacon and ham also fell heavily in 2021, down 22% and falling around 40% below their five-year average. Slightly less prepared or preserved pigmeat was exported than in 2020 (-4%) but trade held above its five-year average.

Both remained relatively minor components of UK pigmeat exports, collectively accounting for 11% of total exports in product weight. Despite exports





of pork to China falling back from the high reached in 2020, it remained the main export destination, with its share of the total holding well above 2016-18 average of 24% (based on sales to China and Hong Kong combined) and only three percentage points below the 2020 peak.

In the year as a whole, exports remained marginally higher than in 2019 but trade was lower than 2019 in the second half.

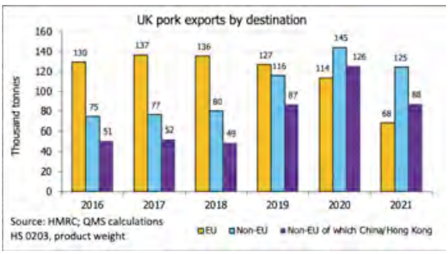
Composition of UK pork exports in 2021 – EU and non-EU comparison				
Product category	**Exports to the EU**		**Exports to non-EU countries**	
	Share of exports to EU	**Average export price (£/kg)**	**Share of exports to non-EU**	**Average export price (£/kg)**
Fresh carcases or half-carcases	48.2%	0.96	2.6%	1.41
Fresh hams and shoulders, bone in	16.4%	1.18	0.8%	2.42
Fresh boneless	23.4%	2.94	2.0%	1.93
Frozen carcases and half-carcases	0.0%	2.25	2.9%	1.75
Frozen hams and shoulders, bone in	1.9%	1.83	21.6%	1.67
Frozen boneless	10.0%	1.62	70.0%	1.95
Total	68,210t	1.55	124,509t	1.87

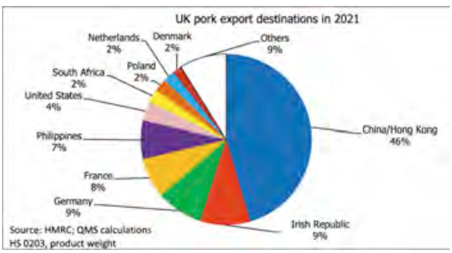
Source: HMRC; QMS calculations.
HS 0203

The EU, Irish Republic, Germany and France were the main destinations for UK pork in 2021.

For Germany and France, the vast majority of the sales were of sow carcases, at around 97% and 85% of volumes respectively, while with the Irish Republic, more than 72% of trade was in boneless cuts and only 4% in carcases.

Trade with Ireland had a similar balance of products to that with China, except most of the meat going to China was frozen.





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