

The Scottish Red Meat Industry

Profile



2023 Edition



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. It 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.

Quality Meat Scotland is a Non-Departmental Public Body. This advice is provided under the Quality Meat Scotland Order 2008 Schedule 1 point 18 'Advising on any matters relating to the red meat sector (other than remuneration or conditions of employment) as to which the Scottish Ministers may request Quality Meat Scotland to advise, and undertaking inquiry for the purpose of enabling Quality Meat Scotland to advise on such matters'. This advice is freely available and further information can be provided by the designated contact above.

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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.

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QMS Current Programmes

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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

FARMGATE AVERAGE PRICES IN 2022

PRIME CATTLE

439.2p/kg dwt

PRIME SHEEP

253.8p/kg lwt

PIG SPP

177.5p/kg dwt

FARM ASSURED PREMIUM AT SCOTTISH AUCTIONS IN 2022

PRIME CATTLE

18.3%

(22.7% in 2021)

PRIME SHEEP

5.9%

(5.7% in 2021)

FARM ASSURED SALES COVERAGE AT SCOTTISH AUCTIONS IN 2022

PRIME CATTLE

97.9%

PRIME SHEEP

92.2%

ABATTOIR OUTPUT IN 2022

£926 million (+5.1%)

BEEF

£668
million

(+5.1%)

SHEEPMEAT

£119
million

(-6.9%)

PIGMEAT

£39
million

(+0.5%)

OFFAL

£78
million

(+19%)

SKINS & HIDES

£24
million

(+5.1%)

RED MEAT PROCESSING SALES IN 2022

SCOTLAND

26%

REST OF UK

65%

INTERNATIONAL EXPORTS

10%

ABATTOIR SECTOR EMPLOYMENT IN 2022

>3,000
employees

39%
are non-UK
nationals
(37% in 2021)

£83.3
million
of wages

LIVESTOCK POPULATION

CATTLE

1,705,795
heads
(June 2022)



SHEEP

6,831,705
heads
(June 2021)



PIG

302,600
heads
(June 2021)



SELF-SUFFICIENCY IN 2022

BEEF

153.8%
(abattoir) / 174.6% (farm)

SHEEPMEAT

186.0%
(abattoir) / 539.4% (farm)

PIGMEAT

23.4%
(abattoir) / 66.9% (farm)

PER CAPITA CONSUMPTION (CARCASE WEIGHT EQUIVALENT) IN 2022

BEEF

19.2kg
(UK 15.9kg)

SHEEPMEAT

2.2kg
(UK 4.2kg)

PIGMEAT

17.3kg
(UK 21.3kg)

EXPORTS OF MEAT AND MEAT PREPARATIONS IN 2022

46,804
tonnes

£128.1
million

4th largest
category in Scottish food
& live animal exports

CLIMATE CHANGE

Livestock farming
GHGs emissions
(-17.6% in 2020 v 1990)

Introduction

Following the volatility of 2020 and 2021, when the red meat supply chain had to cope with the public health response to the Covid-19 pandemic and the United Kingdom's exit from the EU single market, the challenges continued in 2022. Input costs had already been rising sharply as the year began but these pressures intensified following Russia's invasion of Ukraine in February.

For livestock producers, feed costs spiked sharply in the spring and, while they fell back later in the year, they remained elevated above pre-war levels, maintaining the squeeze on already thin margins. In addition, higher global oil and gas prices passed through to the cost of fertiliser, fuel and heating. For livestock processors and independent retailers, energy bills will have surged when fixed-term supply contracts came up for renewal, increased fuel prices will have raised haulage costs and a tight UK labour market will have maintained the upwards pressure on wages. Rising interest rates will also have pushed up the cost of borrowing for businesses in the red meat supply chain.

In the cattle sector, after a soft start to the year, farmgate prices for finished stock rebounded through the spring and spent the April to December period at record high levels for the time of year. However, store cattle prices were more subdued, struggling to rise above year-earlier levels, likely influenced by the pressure on finishing margins from surging input costs.

Meanwhile, after showing signs of stabilising in the previous year, the combination of rising input costs,

attractive cull cow prices and uncertainty over future agricultural support led to a renewed contraction of Scotland's beef breeding herd, with numbers down 3.3% year-on-year in December. Calf registrations did, however, prove more stable, with greater use of beef genetics in the dairy herd underpinning numbers. Continuing labour supply challenges in Scotland's abattoir sector and firm demand from finishers based in England, where the suckler herd had contracted more sharply since 2018, resulted in an increased outflow of store cattle, limiting the number of prime cattle available to Scottish abattoirs.

In the sheep sector, market prices fell back from the records set in the previous year but remained elevated at historically firm levels. In the run up to Easter, the number of hogs available for sale exceeded year-earlier levels due to the delayed marketing of the 2021 lamb crop. Market supply was also supported by a rebound in import volumes as Covid-19 control measures in China resulted in

“Following the volatility of 2020 and 2021, the red meat supply chain challenges continued in 2022”



a rebalancing of lamb exports from Australia and New Zealand towards the EU and UK. However, towards the end of the year, market prices remained subdued despite a slow marketing of the 2022 lamb crop and a renewed reduction in imports. Consumer demand for lamb struggled given its position as an expensive protein and the pressure on household budgets from a rising cost of living.

After a disastrous 2021 for the pig sector, the challenges remained in the first half of 2022 as soft farmgate prices, elevated feed costs and a backlog of slaughter-ready pigs waiting to be processed weighed on margins and led to further losses for producers. However, this backlog was worked through as the year progressed and processors supported producer prices with a view to protecting a future supply. By the end of the year, a sharp contraction in breeding pig numbers had fed through to supplies, providing further support to market prices, while feed costs had begun to

fall back. In addition, a similar tightening of supply in the EU pushed up import prices, supporting the competitiveness of home-produced pork in the domestic and export markets.

Turnover from primary red meat processing in Scotland is estimated to have risen for a third consecutive year in 2022, lifting 5% to £926 million. Revenues generated from beef, offal, hides and skins are all estimated to have risen but this was partially offset by reduced revenue from lamb and pork sales. Reduced margins are expected to have limited the increase in overall turnover.

With processors continuing to face considerable recruitment challenges in 2022, employment in the primary processing sector is estimated to have reduced by around 4%, partially offset by the arrival of new staff from outside Europe. However, the overall wage bill is estimated to have been unchanged due to the impact of a tight labour market on wages and salaries.



Producer Prices

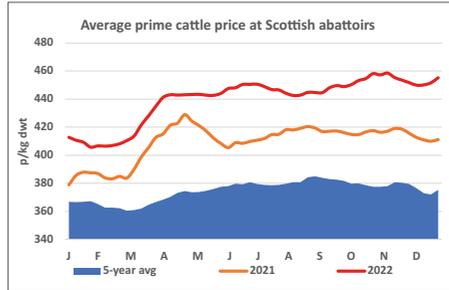
Cattle

Prices For Finished Prime Cattle

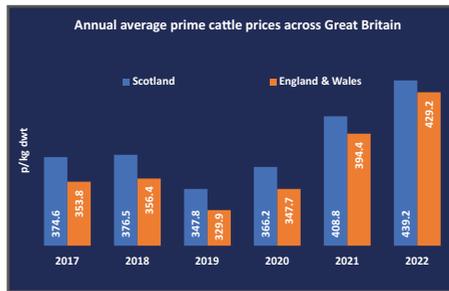
The fact that Russia's invasion of Ukraine pushed global input costs to a higher level in 2022, together with a tighter UK beef market balance, drove prime cattle prices up by 7.4% to an average of 439.2p/kg. However, the real term after inflation adjustments¹ showed a sign of weakness compared to 2021.

On average, prime cattle prices in Scotland were 10p/kg (2.3%) higher than in England and Wales in 2022. This gap narrowed in the first half of the year before recovering to peak at 5% in the autumn.

Cull cow prices averaged 23% higher than in 2021, at 359.4p/kg.



Source: AHDB; QMS calculations



Source: AHDB; QMS calculations

Farm assurance premium in 2022	
	18.3% (22.7% in 2021)
	38.8p/kg lwt (42.6p/kg in 2021)

Source: IAAS; QMS calculations
Note: Pricing premium for sales of assured prime cattle over non-assured prime cattle at Scottish auctions.

Price comparison for most common grades at Scottish abattoirs in 2022					
	R4L steer	R4L heifer	R3 young bull	R4L cow	
% of carcasses in category	29.1%	34.7%	20.3%	10.3%	
p/kg	443	444.9	435.4	381	
£ per carcasse	1,621	1,476	1,519	1,484	
Change on year	p/kg	7.4%	7.6%	7.6%	20.4%
	£ per carcasse	7.9%	7.8%	6.8%	19.1%
Difference with England & Wales	p/kg	0.7%	1.3%	0.2%	1.4%
	£ per carcasse	0.2%	0.7%	-2.2%	1.6%

Source: AHDB; QMS calculations

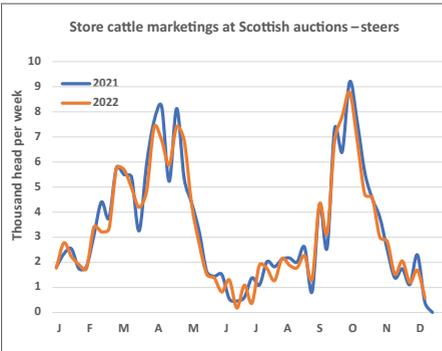
¹ Real prices: When inflation is greater than zero, the price that the producer receives is lower in real terms than the market (nominal) price. This is because the sales proceeds have less purchasing power in the wider economy due to the rise in the general level of prices. For example, a sales price 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.

Prices for Store Cattle

Surging input costs impacted demand from finishers in the first half of the year, resulting in a weaker performance of store steer prices at Scottish auctions. While volumes continued to lag year-earlier levels during the peak autumn selling period, prices followed seasonal trends, recording year-on-year increases for steers aged six-12 months and 12-18 months of 1.5% and 4.1% respectively.

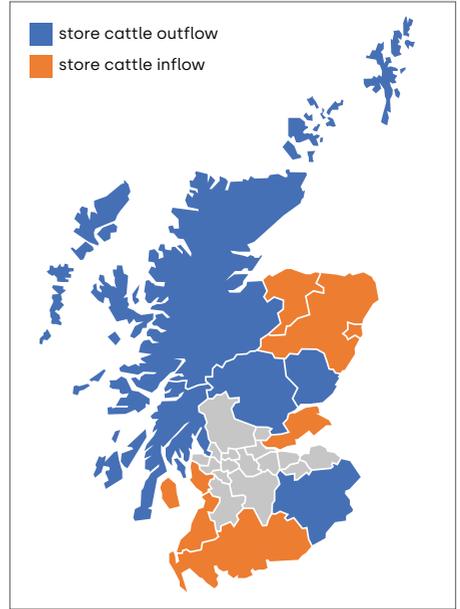


Source: IAAS; Scottish Government; QMS calculations

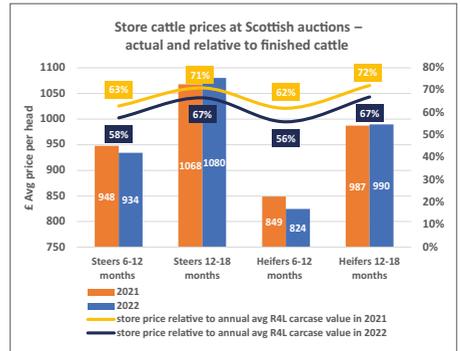


Source: IAAS; Scottish Government; QMS calculations

Figure 1: Store cattle inflow & outflow in Scotland



Source: Scottish Agricultural Census June 2021; QMS calculations
Note: This map was created to demonstrate the store cattle movement in Scotland. When the percentage out of national total for beef cow in a region is greater than that of male cattle aged 1-2 years, it indicates a store cattle outflow. Otherwise, it indicates a store cattle inflow. As to Lothian, East Central and Clyde Valley, the percentage differences are too small to be categorised.



Source: AHDB; IAAS/Scottish Government; QMS calculations

➔ Producer Prices (continued)

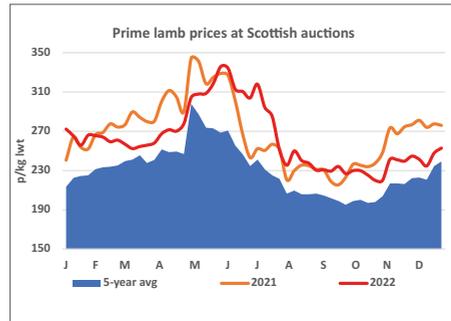
Sheep

Prices For Finished Sheep

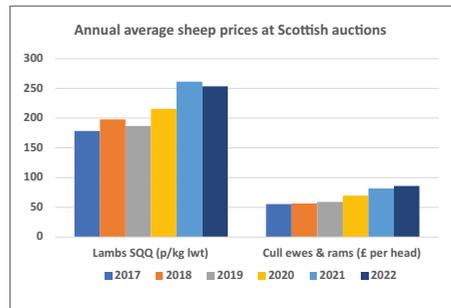
Prime sheep prices² slid by 3% at Scottish auctions in 2022, averaging 253.8p/kg liveweight. The adjusted value after inflation adjustments remained notably lower compared to the levels observed in 2021, while considerably higher than the values recorded in the preceding decade.

At price-reporting abattoirs in Great Britain, lamb prices decreased by 1.9% at 567.2p/kg deadweight.

The average selling price for cull ewes and rams trended higher by 4.9% at Scottish auctions, reaching £85.54 per head.



Source: IAAS; QMS calculations



Source: IAAS; QMS calculations

Farm assurance premium in 2022

5.9% (5.7% in 2021)
14.37p/kg lwt (14.2p/kg in 2021)

Source: IAAS; QMS calculations

Note: Pricing premium for sales of assured prime sheep over non-assured prime sheep at Scottish auctions.

Notes: Farm Assurance Premium at Scottish Auctions

Prices paid at Scottish auctions for finished farm assured cattle and sheep 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.

Only 2% of the prime cattle and 9% of the prime sheep sold at Scottish auctions in 2022 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.

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.

Prices for Store Sheep

Prices of Blackface store lambs slumped the most among other breeds at Scottish auctions in 2022, possibly due to a better supply compared to 2021.

In 2022, the Texel store lambs represented 24% of the overall supply

at Scottish auctions, which is marginally lower than the figures recorded in 2021. In comparison, the Blackface store lambs constituted 19% of the total supply at Scottish auctions in 2022, representing a slight increase from the previous year.

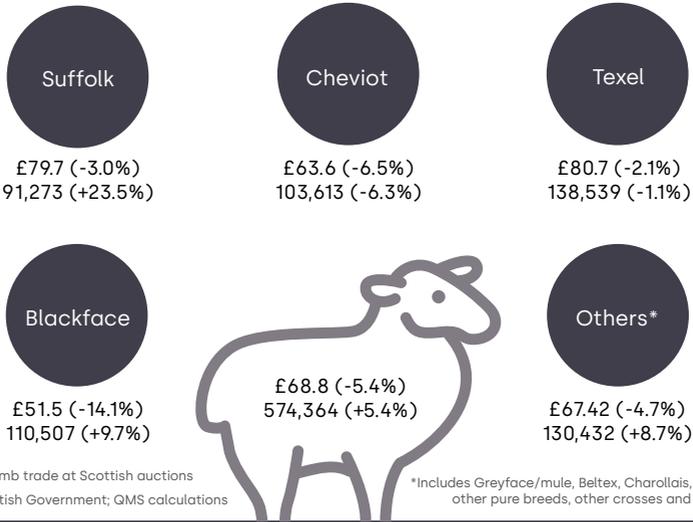
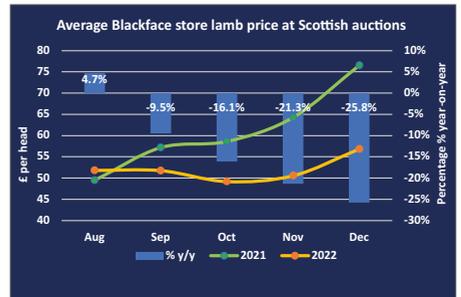


Figure 2 – Store lamb trade at Scottish auctions
Source: IAAS/Scottish Government; QMS calculations



Source: IAAS; Scottish Government; QMS calculations



Source: IAAS/Scottish Government; QMS calculations



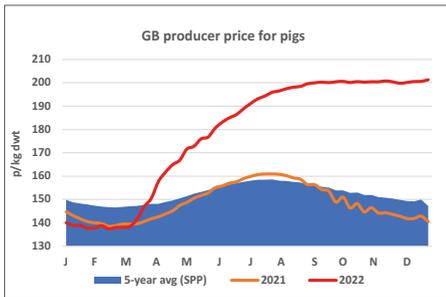
➔ Producer Prices (continued)

Pigs

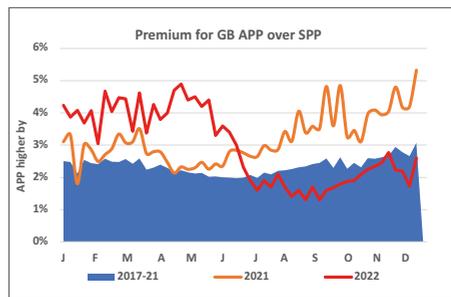
Prime pig prices at GB price reporting abattoirs (SPP)³ started the year lower than in 2021, due to a backlog of pigs on farms placing downwards pressure on per kilo prices. Partly reflecting skyrocketing input costs, farmgate prices jumped by around 45% between March and September, before stabilising around the 200p/kg mark in the last four months of the year. The annual average price for standard pigs was around 20% higher

than in 2021, at 177.5p/kg. Although prices increased in real terms after adjusting for inflation, they remained slightly lower than they were at their 2017 and 2020 real terms high points (since the SPP was first reported in 2014).

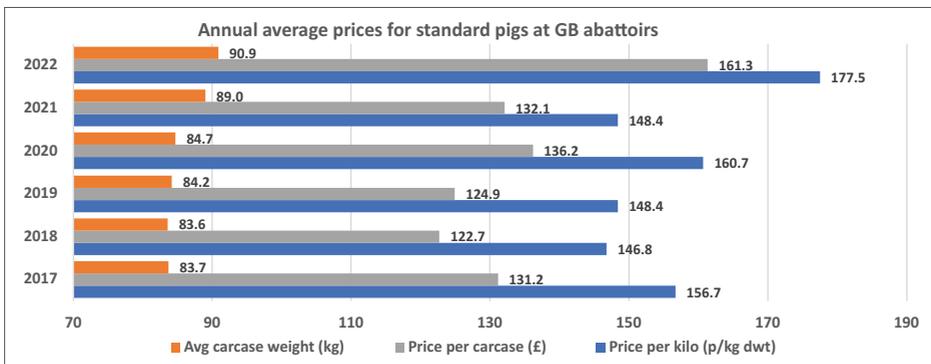
The premium for All Pig Price (APP) over SPP fell slightly to an average of 3% in 2022, meaning that pigs with specific production characteristics were no longer receiving exceptional premia as much as last year.



Source: AHDB; QMS calculations



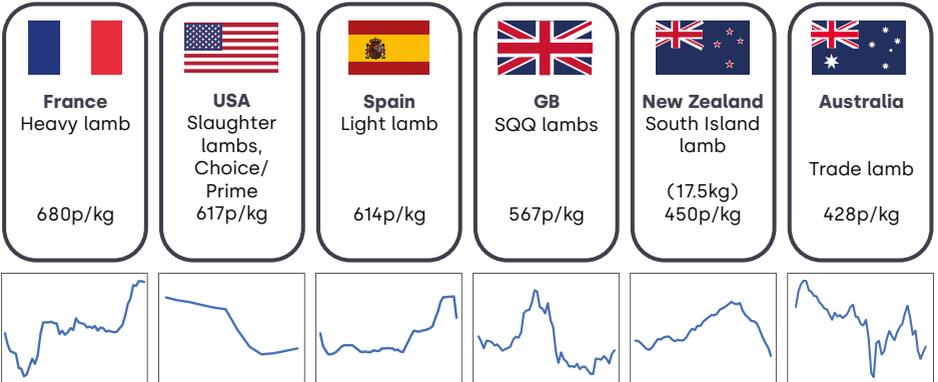
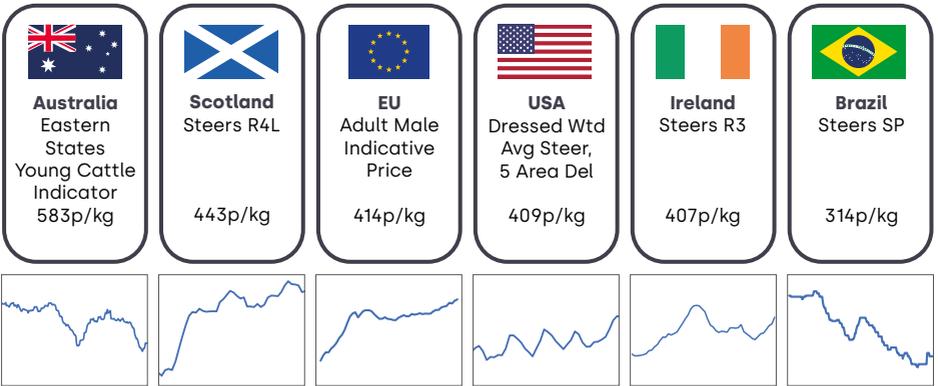
Source: AHDB; QMS calculations



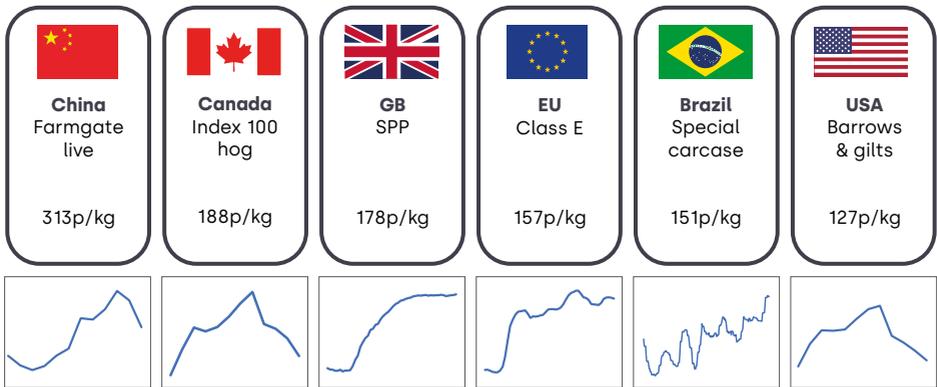
Source: AHDB; QMS calculations

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 carcass grade specific contract targets are also excluded. The only premia included are, therefore, those based on weight and carcass grade.

Deadweight Prices Comparison of Selected Countries and Regions in 2022



➔ Producer Prices (continued)



Sources:

- USA beef prices – USDA www.ers.usda.gov/data-products/livestock-and-meat-domestic-data
- Brazilian beef prices: www.pecuaria.com.br/cotacoes.php#quadro
- EU beef prices – European Commission: agridata.ec.europa.eu
- Australian beef prices – MLA: www.mla.com.au
- Irish beef prices – LMC: www.lmcni.com
- Scottish beef prices – AHDB ahdb.org.uk/markets-and-prices

- French and Spanish lamb prices – European Commission
- USA lamb prices – USDA
- GB deadweight lamb prices – AHDB
- New Zealand lamb prices – MLA statistics.mla.com.au and Farmers Weekly NZ issuu.com/farmersweeklynz
- Australian lamb prices – MLA
- China pork prices (deadweight prices were converted from farmgate live pig prices with 0.75 kill out rate) – Ministry of Agriculture and Rural Affairs of the People's Republic of China
- Canadian pork prices – Agriculture and

Agri-Food Canada: agriculture.canada.ca/en

- Brazilian pork prices: cepea.esalq.usp.br/br/indicador/suino.aspx
- EU pork prices – European Commission
- GB pork prices – AHDB
- USA pork prices – USDA
- QMS calculations
- Exchange rates – Bank of England, European Central Bank, OECD
- Charts indicate annual price fluctuations in 2022.

Livestock Production

June Agricultural Census results continue to highlight the importance of livestock farming in Scottish agriculture. When last carried out 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.

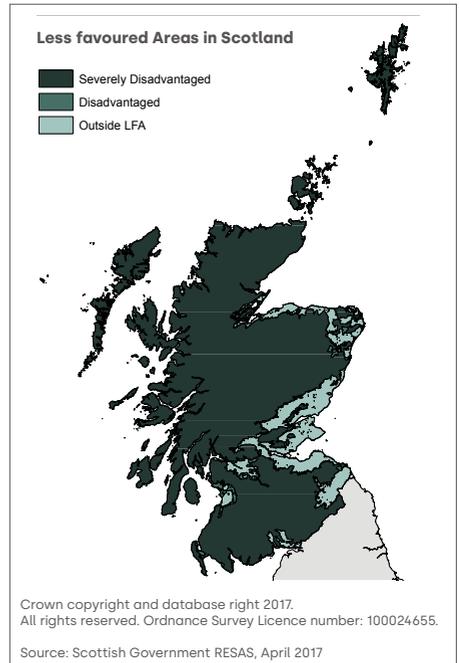
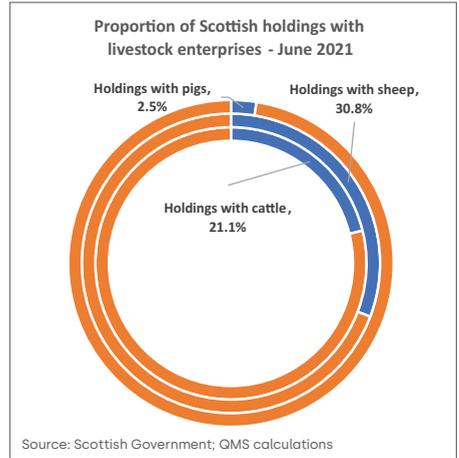
Meanwhile, 35% of the country's 50,231 holdings allocated a main farm type in 2021 were classed as either LFA or non-LFA⁴ cattle & sheep, 9% were mixed, and another 39% were 'general cropping; forage'. The main farm type on 0.6% of holdings was 'specialist pigs'. Nearly one in three Scottish holdings 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.

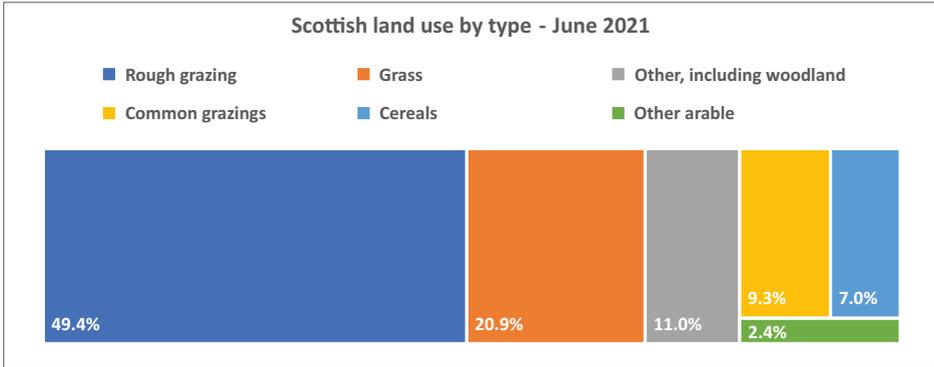
Scotland's sheep population in June 2021 was down by more than 30% on its 1990 level. However, unlike the steady decline in cattle, nearly all of the decline in sheep took place between 1999 and 2010, driven firstly by FMD and then by CAP reform. However, the population has recovered slightly over the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

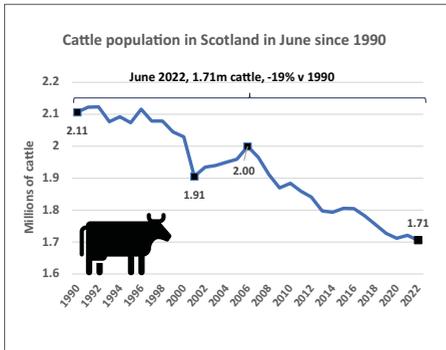
⁴ LFA refers to 'Less Favoured Areas', which are areas of land deemed to be disadvantaged due to low levels of productive potential and/or a low human population in the area which is largely reliant on agriculture.



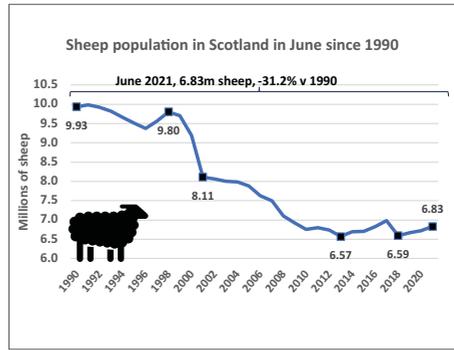
➔ Livestock Production (continued)



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations

Climate Change Actions

The Scottish Government has committed to reaching net zero emissions by 2045, with an interim target of a 75% reduction by 2030. As part of this effort, the Scottish

Government has developed a range of measures aimed at supporting farm businesses to reduce emissions from livestock production.

Climate Change Plan

The Scottish Government's Climate Change Plan includes several measures to reduce emissions from agriculture, including livestock farming. These include promoting low-carbon farming practices, increasing the use of renewable energy and reducing food waste.

Agri-Environment Climate Scheme

The Agri-Environment Climate Scheme (AECS) provides funding to farmers and land managers to implement practices that reduce carbon emissions and promote sustainable land use.



Farm Advisory Service

The Farm Advisory Service provides free advice to farmers and land managers on a range of topics, including reducing carbon emissions.

Net Zero and Nature Restoration Roadmap

The Scottish red meat industry has committed to bringing forward a full science-backed route map to Net Zero by the end of 2023, working with our Scottish scientific and research institutes to detail how as an industry we reach our legislative goal of net zero by 2045.

Monitor Farm Scotland Programme

A Scottish Government funded programme, instigating positive transformational change through innovative sustainable farming practices on nine farms across the country, providing key learnings for farmers across Scotland.

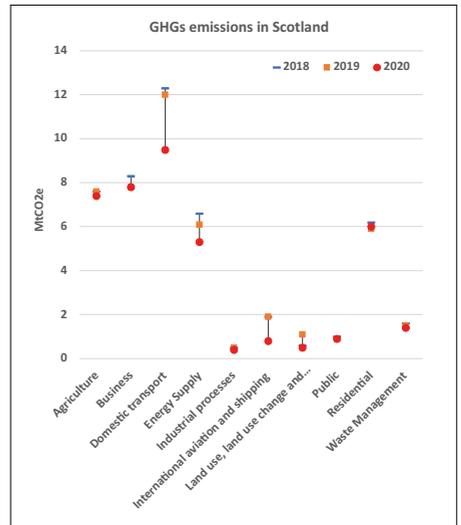
In Scotland, Greenhouse Gas (GHGs) emissions totalled 40MtCO₂e in 2020, with the agriculture sector being the third largest source of emissions. The Scottish

agriculture sector reduced its emissions by 15% between 1990 and 2020, equivalent to 1.3MtCO₂e.

1990-2020 GHGs emission reductions in Scotland (values in MtCO₂e)

Agriculture	-1.3
Business	-5.0
Domestic transport	-4.1
Energy supply	-16.1
Industrial processes	-1.5
International aviation and shipping	-0.5
Land use, land use change and forestry	-5.6
Public	-1.0
Residential	-2.0
Waste management	-4.5

Source: Scottish Government; GMS calculations



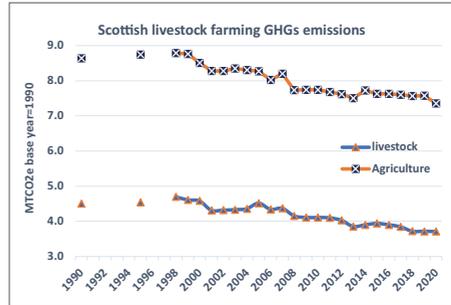
Source: Scottish Government

➔ Livestock Production (continued)

The Scottish red meat industry recognises the need for action and has already made significant progress in reducing its environmental impact, with many farmers adopting sustainable practices and investing in new technologies. Livestock farming reduced its greenhouse gas emissions by 17.6% between 1990 and 2020⁵, heavily influenced by a reduction in stock numbers.

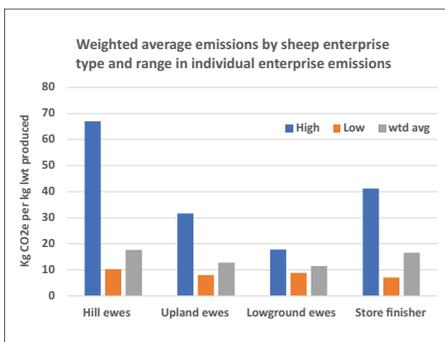
In Scotland, the greenhouse gas emissions⁶ from livestock farming tend to be significantly lower in top-third herds and flocks for financial performance than in the bottom third (second footnote here)⁶. High levels of animal efficiency and productivity generally leads to lower emissions intensity.

The environmental crisis isn't only about climate change and carbon emissions, it is also about preventing

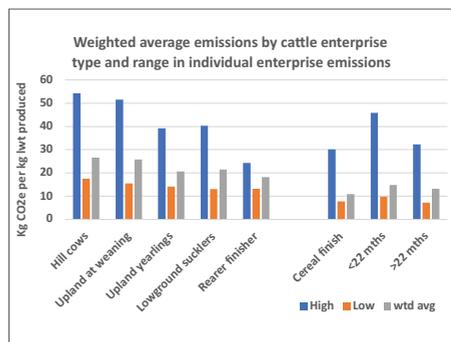


Source: Scottish Government; QMS calculations

biodiversity loss and land degradation. Well-managed, sustainable livestock systems can help tackle these problems and exert a significant and positive influence over the appearance of our landscapes and their suitability as habitats for key species. Healthy soils developed by mixed farming systems are abundant in nutrients, organic matter and invertebrate life which promote thousands of vital farmland species.



Source: QMS⁵



Source: QMS⁵

⁵ Scottish Greenhouse Gas Statistics 2020; QMS calculations. Datasets include 3A1b Enteric Fermentation non-dairy cattle, 3A2 Enteric Fermentation sheep, 3A3 Enteric Fermentation swine, 3B11b Manure Management Methane non-dairy cattle, 3B12 Manure Management Methane sheep, 3B13 Manure Management Methane swine, 3B21b Manure Management Non-methane non-dairy cattle, 3B22 Manure Management Non-methane sheep, 3B23 Manure Management Non-methane swine, 3B25 Manure Management Indirect Emissions other cattle, 3B25 Manure Management Indirect Emissions sheep, 3B25 Manure Management Indirect Emissions swine.

⁶ Scotland's Cattle and Sheep Enterprise Profitability report, commissioned by Quality Meat Scotland (QMS); Estimates have been made of the greenhouse gas emissions associated with the surveyed enterprises, reported based on net liveweight produced or added during the 2021 calf and lamb crop year.

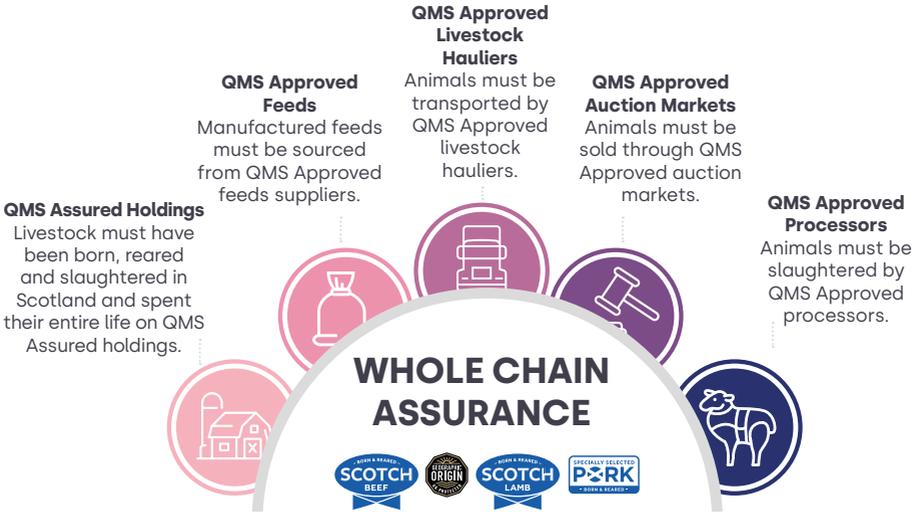
Whole Chain Assurance

To carry the Scottish red meat industry's three premium brands – Scotch Beef PGI, Scotch Lamb PGI and Specially Selected Pork – livestock must have been born, reared and slaughtered in Scotland and have spent their entire life on QMS Assured holdings.

Whole chain assurance underpins the integrity of these premium brands

and provides reassurance to consumers of provenance, highest standards of production, animal welfare and wellbeing, to deliver a quality eating experience.

Data from sales of finished stock at Scottish auctions demonstrates the high level of coverage of the assurance schemes in Scotland.



Sales of assured and non-assured stock at finished auction sales in Scotland, 2022

Category	Total sales	Assured	Non-assured	% Assured
Prime cattle	14,388	14,089	299	97.9%
Cows	36,106	34,472	1,634	95.5%
Adult bulls	2,353	2,174	179	92.4%
Prime lambs and hogs	958,005	882,870	75,135	92.2%
Cull ewes	327,718	276,746	50,972	84.4%

Source: IAAS; QMS calculations

Note: Based on sales data from 50 of 52 weeks with data for w/e 5/2/22 not available while no sales were recorded in w/e 31/12/22.



➔ Livestock Production (continued)

Cattle Production – National and Regional

After slowing to a marginal pace of contraction in 2020 and 2021, the decline in Scotland's beef herd accelerated in 2022, with a 3.3% reduction on a year earlier in December 2022. This reflected a sharp uplift in cow slaughter in the second half of the year, driven by rising production costs, uncertainty around future agricultural support and attractive cull cow prices. There were also fewer replacement heifers available to add to the herd in autumn 2022.

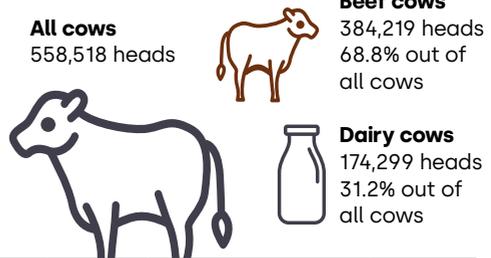
Scotland's dairy cow population also contracted but the decline was more marginal, at -0.3%.

The faster rate of decline in the suckler herd meant that the share of total cow numbers that were beef cows fell by 0.6 percentage points to 68.8%. This share has been trending slowly but steadily lower

since 2014 after a significant decline in the early 2010s.

Structural change within the dairy sector may account for some of the significant upturn in the calves to cows ratio in the recent years, but it is also likely to reflect some productivity improvement in the beef herd. Dips in 2013 and 2018 reflected challenging spring weather conditions which raised mortality rates.

Figure 3 – Scottish cow numbers in 2022



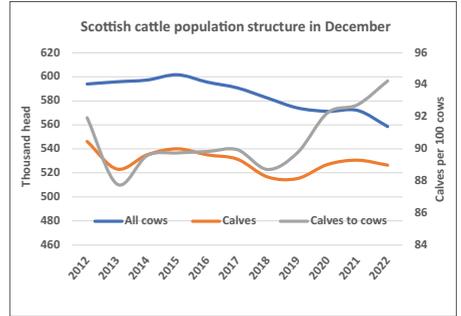
Scottish cattle population structure in December – thousand head						
	2021	2022	y/y change	Change since Dec 2017	Seasonal change since June 2022	Avg June to Dec change 2017-21
Female beef cattle, over 2 years with offspring	397.1	384.2	-3.3%	-7.5%	-6.1%	-4.0%
Female beef cattle, 1-2 years	181.4	177.1	-2.4%	-2.8%	-7.3%	-6.3%
Female dairy cattle, over 2 years with offspring	174.8	174.3	-0.3%	-0.5%	-0.6%	+0.0%
Female dairy cattle, 1-2 years	59.2	62.6	+5.7%	+11.5%	+1.7%	+0.2%
Males over 12 months plus females over 24 months without offspring	292.8	279.4	-4.6%	-16.3%	-16.6%	-14.8%
Calves	530.6	526.4	-0.8%	-0.9%	-1.4%	-1.0%

Source: Scottish Government; QMS calculations

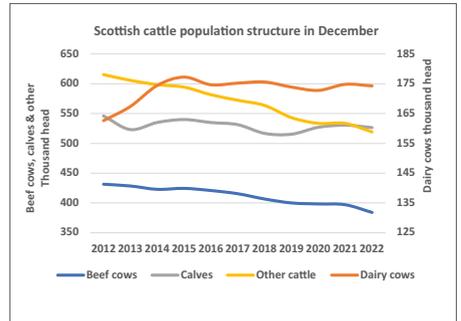
With livestock production heavily influenced by land type, the cattle population is skewed towards producing beef calves in Scotland's island and upland areas. Meanwhile, dairy production and finishing operations are common in the South West, with Fife and the North East geared towards cattle finishing.

June Agricultural Census data from 2021 showed that 78.7% of Scotland's beef cows were in Less Favoured Areas (LFA), compared to 69.1% of the dairy cows and 56.6% of the male cattle over a year old.

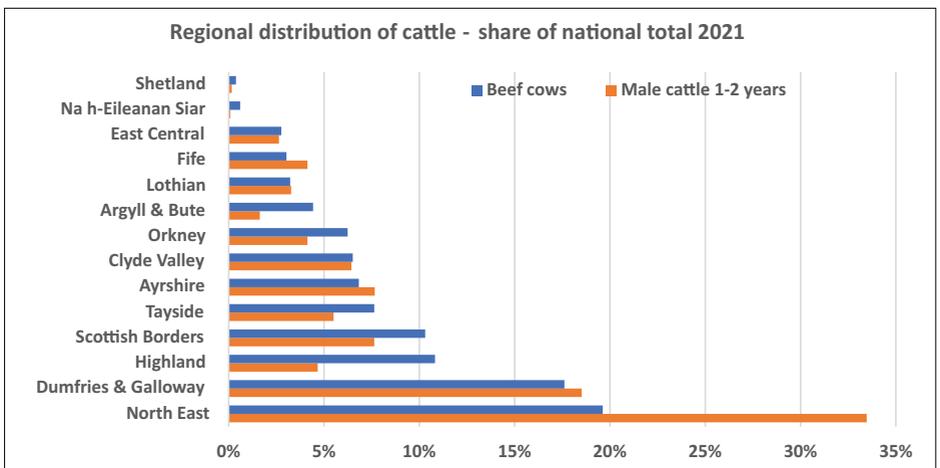
Highlighting the flow of store cattle into Aberdeenshire for finishing, the North East had 33.5% of Scotland's male cattle between one and two years of age in June 2021 but only 19.6% of the beef cows.



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations



➔ Livestock Production (continued)

Herd Size

The average number of beef cows on Scottish holdings was 49.0 when regional census data was last reported for June 2021.

Average herd sizes vary considerably cross the country, with the average of just over 80 in the Borders being nearly 11 times that in 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.

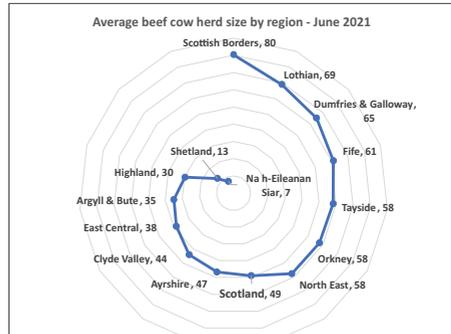
Calf Registrations

After three years of increases, there was a marginal dip in calf registrations in Scotland in 2022, with a 0.2% reduction to 562,000 head. Numbers remained in line with their average over the previous decade.

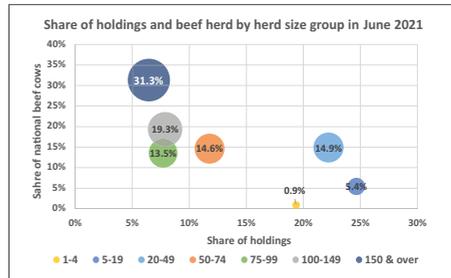
Seasonality in calvings reflects the predominance of spring calving in the beef herd, with an increased 56.8% of the total taking place between March and May in 2022 compared to 23.7% of dairy registrations.

Beef-sired registrations increased for the seventh time in eight years, lifting 0.7% to an 11-year high of 475,200 head.

By contrast, dairy-sired registrations decreased for the sixth time in seven years, down 4.9% at 86,800 head. These figures highlight the continuing structural shift in cattle production in Scotland, with dairy producers making



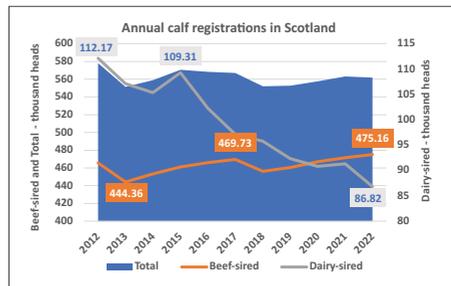
Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations



Source: BCMS

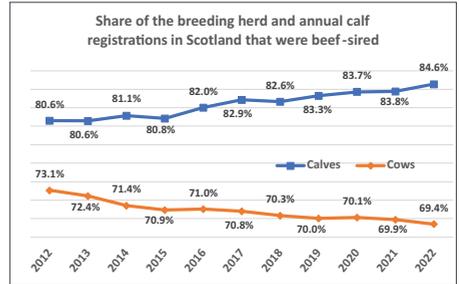


Source: BCMS; QMS calculations

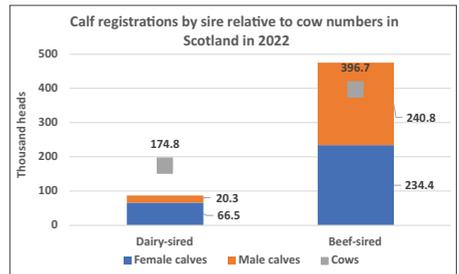
greater use of sexed semen for female replacements and beef genetics to produce higher quality male calves.

Data from the Scottish Suckler Beef Support Scheme, which shows a downwards trend in the number of beef calves that a support payment was claimed on since 2015, is also likely to reflect a reduction in eligibility due to the increase in beef-sired calves being born to dairy cows.

However, at the margins, a small portion could reflect business decisions not to claim support payments, and it is possible that economic pressures may have contributed to some of the rebound in claims in 2022, which rose by 2% compared to a 0.8% increase in beef-sired calf registrations for the period (December 2021 to November 2022).



Source: BCMS; Scottish Government; GMS calculations
Cow numbers based on average of June and December



Source: BCMS; Scottish Government; GMS calculations
Cow numbers based on average of June and December

Scottish Suckler Beef Support Scheme – annual claims 2015-22 relative to calf registrations							
Scheme year	No. of animals claimed	No. of businesses submitting an application	Avg calves claimed per business	Beef-sired registrations	% of beef-sired calf registrations	Total calf registrations	% of total calf registrations
2015	394,449	7,335	53.8	460,053	85.7%	568,950	69.3%
2016	394,247	7,074	55.7	465,678	84.7%	569,139	69.3%
2017	386,707	6,817	56.7	469,438	82.4%	566,458	68.3%
2018	388,302	6,937	56.0	457,079	85.0%	553,511	70.2%
2019	378,617	6,806	55.6	459,945	82.3%	552,301	68.6%
2020	382,764	6,748	56.7	466,562	82.0%	557,710	68.6%
2021	372,508	6,503	57.3	470,950	79.1%	562,252	66.3%
2022	379,999	6,519	58.3	475,641	79.9%	563,008	67.5%

Source: Scottish Government; BCMS; GMS calculations



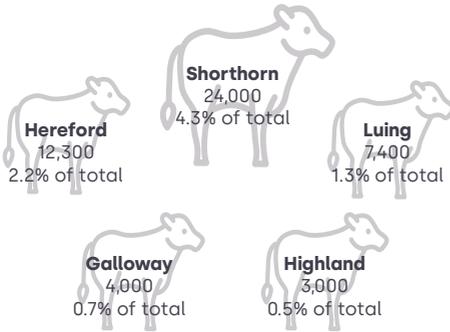
➔ Livestock Production (continued)

The recent shift in registrations from North East to South West continued in 2022.

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 and 2022.

Calf registrations in 2022 for selected native Scottish and British beef breeds



Source: BCMS; QMS calculations. Births rounded to nearest 100



Figure 4 – Calf registrations: Share of national total and year-on-year change in births in Scotland by region and type in 2022.

Source: BCMS; QMS calculations

Calf registrations in Scotland by main breed groups					
Breed	2020 (% of total)	2021 (% of total)	2022 (% of total)	% change in number of births 2022 v 2021	% change in number of births 2022 v 2015
Angus	20.7%	22.9%	24.9%	+8.1%	+55.5%
Limousin	19.3%	18.4%	17.4%	-5.6%	-22.8%
Black & White Dairy Breeds	14.3%	14.2%	13.4%	-5.7%	-25.0%
Charolais	13.0%	12.5%	12.1%	-2.8%	-22.6%
Simmental	11.6%	10.8%	10.6%	-2.8%	-20.2%
Other	21.1%	21.2%	21.6%	+1.8%	+33.4%
Total registrations (head)	557,700	563,100	562,000	-0.2%	-1.5%

Source: BCMS; QMS calculations

Sheep Production

When last reported in June 2021, Scotland's breeding ewe flock showed a small expansion of just over 1% to reach 2.565 million head.

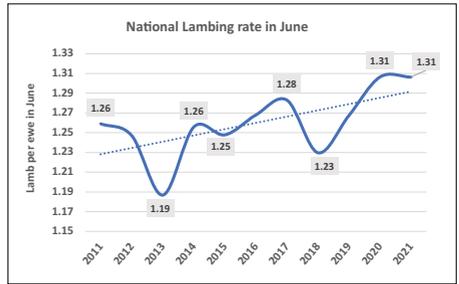
However, there was an early sign of a potential reversal in 2022, with the number of hogs for future breeding down by nearly 3%. December 2021 Sheep and Goat Inventory results appeared to confirm this trend, with reductions of more than 3% in the number of ewes kept for breeding and an 8% fall for lambs put to the tup.

As a June census was not carried out in June 2022, we will not know how the breeding flock turned out. However, the December 2022 Sheep and Goat Inventory results pointed to a further contraction of the flock, with the number ewes kept for breeding down by another 0.4%, at 2.68m head, and the numbers of lambs put to the tup falling by 5.7% to 130,800 head. The combined female breeding flock was therefore down by 0.7% at 2.81m head.

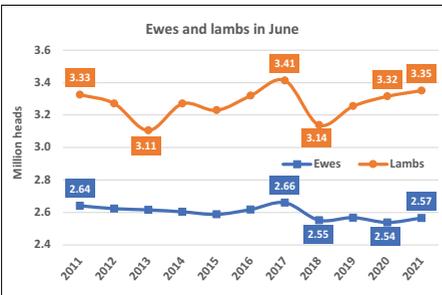
While ewe numbers in June trended slightly downwards over the past decade, lamb numbers have held up better, pointing to increased productivity. When last calculated for 2021, the national lambing percentage of 130.6% matched

the record high of the previous year. As a result, the lamb crop increased by just over 1% and was almost 2% higher than its five-year average.

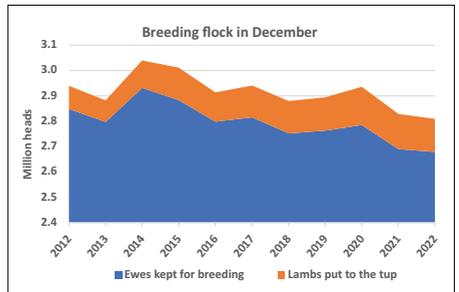
Reflecting early marketing of lambs in 2020 and delayed marketing in 2021, the number of hogs carried into 2022 rose strongly, with the December Sheep and Goat Inventory for 2021 reporting a 4% uplift in slaughter lambs on Scottish farms. In the December 2022 Sheep and Goat Inventory, the number of slaughter lambs on Scottish farms showed a further marginal increase, up 0.1% at 1.833m head, pointing to another strong period for hog sales in the first half of 2023.



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations



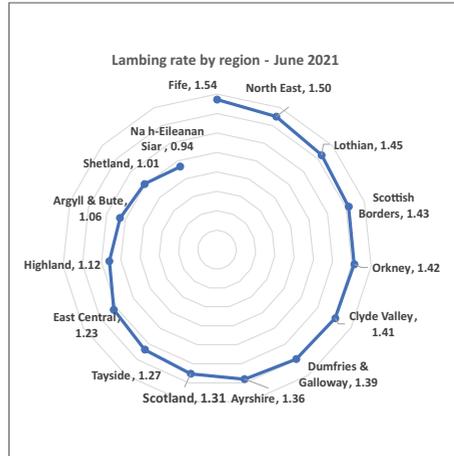
Source: Scottish Government; QMS calculations

➔ Livestock Production (continued)

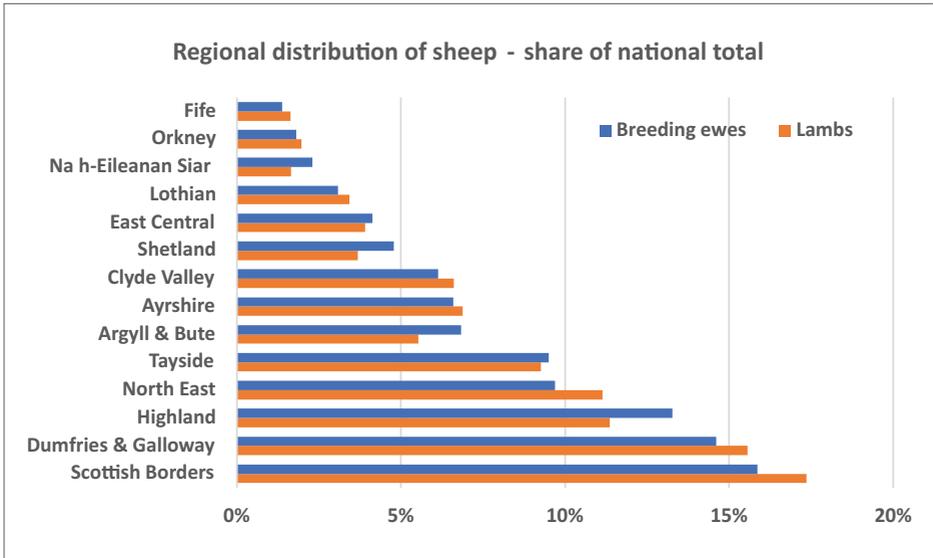
Regional Variation in Sheep Production

Sheep production continued to be spread slightly more evenly across Scotland than cattle when the latest available regional livestock numbers were published for June 2021. Above average lambing percentages meant that the Borders, Dumfries & Galloway and the North East took higher shares of the national lamb crop than the ewe flock.

Regional variation in lambing performance is generally reflective of land and climate but also farming structure, with performance tending to be weaker in areas of the country with a higher proportion of remote upland grazing.



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations

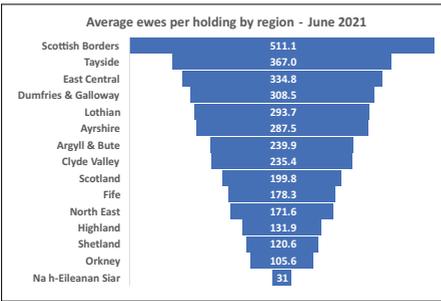
Flock Size

In June 2021, there was an average of 199.9 ewes on each holding with breeding ewes in Scotland.

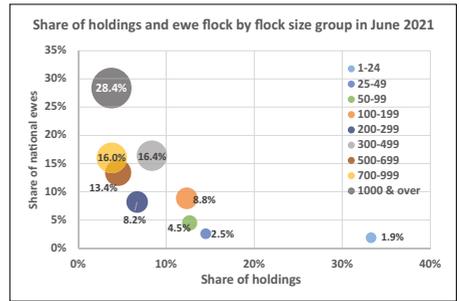
Lambing performance and flock size do not correlate perfectly in Scotland, with Fife, the North East and Orkney all below average for flock size in 2021, having been ranked one, two and five for lambing. This may reflect that sheep enterprises may tend to be a smaller part

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 like the Borders and Perthshire (within the Tayside region).

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 female pig breeding herd numbers tend to be volatile from year-to-year, both in the June and December census, with annual changes averaging around 11% in December and nearly 7% in June reports, in the decade preceding their last publication in 2020 and 2021 respectively.

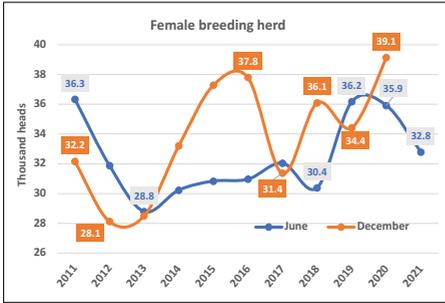
In 2021 and 2022, no December census was carried out for pig holdings, while no June census was carried out in 2022. However, the Scottish Government did make an estimate of the total number of breeding pigs

in June 2022 for inclusion in Defra statistics on regional livestock numbers across the UK. This figure included gilts for future breeding and boars, with the combined total being around 5-6,000 head higher than the female breeding herd number reported in June between 2017 and 2021.

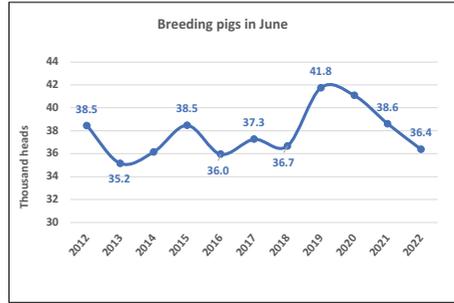
In June 2021, at 32,800 head, the female breeding herd was nearly 9% lower than a year earlier and down nearly 13% on the average across the two surveys in 2020. However, it was only 1% below its five-year average.



➔ Livestock Production (continued)



Source: Scottish Government

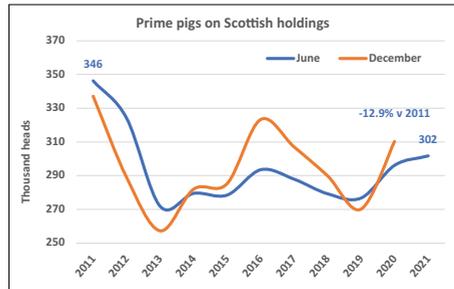


Source: Scottish Government Includes breeding sows, gilts for future breeding and boars

In June 2022, the total number of breeding pigs estimated by the Scottish Government was down by 5.8% on a year earlier, at 36,400 head. Interestingly, despite considerable market challenges for producers in the autumn and winter of 2021/22, this was a slightly slower pace of decline than had been reported for total breeding pig numbers in June 2021, of 6.0%. Meanwhile, it was well below the 18% year-on-year reduction reported in England's June census for 2022.

For prime pig numbers, the June 2021 census results had shown a further increase following significant increases in both surveys carried out in 2020, with a 2% uplift taking the total above the 300,000 head mark for the first time in June since 2012. No new estimate for

fattening pigs (including barren sows for fattening) was provided by the Scottish Government to Defra for their June 2022 regional livestock population statistics, with the figure being the same as June 2021's 302,600 head, which had included less than 900 barren sows.



Source: Scottish Government

Regional Spread of Pig Production in Scotland

The latest available regional breakdown of the June census from 2021 highlights the heavy concentration of pig production in eastern Scotland, with around 87% of pigs living there. Combining the North East and Tayside would have accounted for 69% of the sow herd and 63% of non-breeding pigs in 2021.

The 2021 regional data pointed to 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, the 2021 data pointed to 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 of 666 sows, compared to 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.

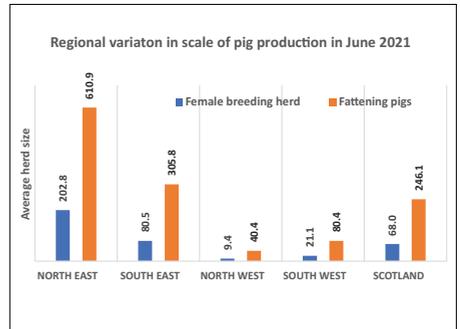
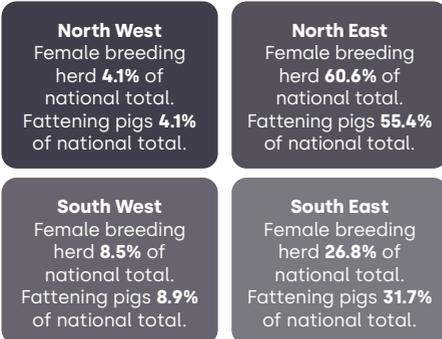
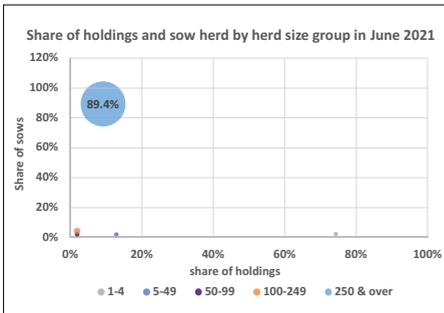
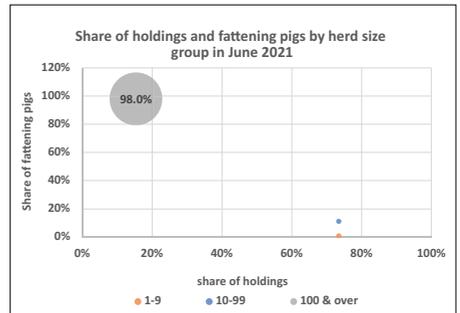


Figure 4 – Regional spread of pig production in June 2021.
Source: Scottish Government; QMS calculations

Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations

➔ Livestock Production (continued)

Farming Output

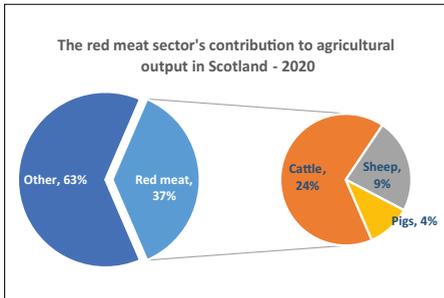
In 2020, the Scottish Government estimates that total agricultural output totalled £3.48 billion. The Total Income from Farming Estimates for 2021 and 2022 were yet to be published as this report went to press.

Highlighting the importance of the red meat sector to Scottish agriculture, a combined 37% of agricultural output came from cattle, sheep and pig production in 2020. Combined output totalled nearly £1.29bn, led by beef, at £849m, with contributions of £299m from sheep and £139m from pigs.

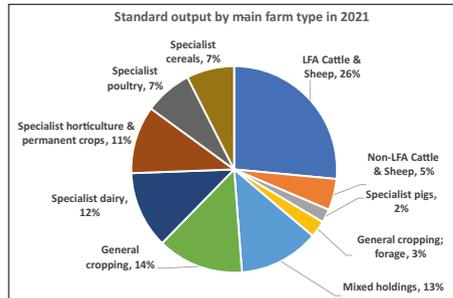
Cattle and sheep continued to be of greater significance to Scottish agriculture than on average across the UK and EU⁷.

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.



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations

Contribution to agricultural output (%) in 2020



Source: Eurostat; Scottish Government; QMS calculations

⁷ 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 for the second consecutive year in 2022, averaging 28% higher than in the previous year, on the back of an 11.5% increase in 2021.

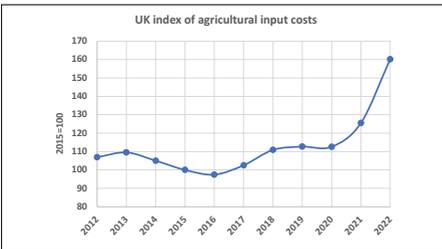
Having already risen by around 50% in 2021, the cost of fertilisers doubled in 2022, moving well beyond the previous peak during the oil and gas market boom of 2008. Meanwhile, energy and fuel costs rose by more than 50% and feed by nearly 30%. Costs for machinery, buildings and investment also rose significantly, but the cost of veterinary services rose by only 1.5%.

Having trended higher during 2021, costs rose by another 20% in the first half of 2022, before falling back slightly from their July peak in the second half of

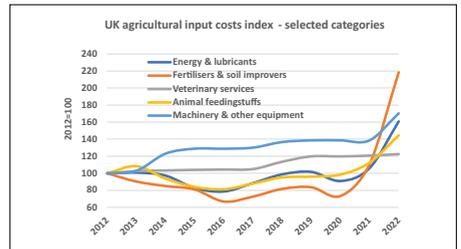
the year. Indeed, energy and fuel costs averaged around 3% lower in December 2022 than in July, while fertiliser fell by 8% over the same period. While straight feed costs had also begun to slip back, compound feed prices were still rising as previous commodity cost hikes were still being passed through to end prices.

In 2021, the global economic rebound from the pandemic had pushed up the cost of oil and gas, with a knock-on effect for the price of energy and fertilisers. However, in 2022, prices were pushed up further by fears over the impact of the response to the war in Ukraine on energy supply.

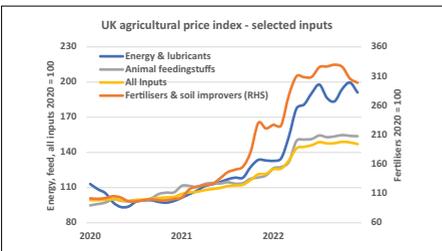
For feed, with the Black Sea region being one of the world's leading arable crop-producing areas, the war in



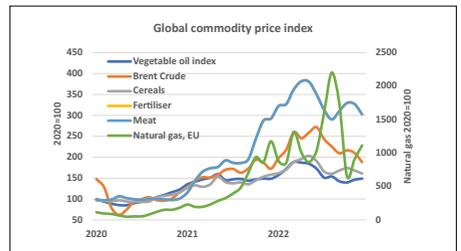
Source: Defra



Source: Defra



Source: Defra; re-based to 2020 by QMS



Source: IMF; re-based to 2020 by QMS

➔ Livestock Production (continued)

Ukraine led to considerable concern over global grain and oilseed supplies, resulting in a surge in prices during the spring of 2022.

However, a deal which led to the resumption of exports from Ukraine's ports then led to a sharp downwards rebalancing of grain and oilseed prices in the second half of 2022; although soyameal prices remained elevated due to a drought in Argentina.

The red meat processing sector will also have faced increased production costs in 2022, with livestock, energy, fuel and shipping becoming more expensive. After a 5.9% uplift in 2021, the ONS producer price index for materials and fuels used in the preserved meat and meat products sector rose by 17.4% in 2022.

With many internationally traded commodities priced in US dollars, a weaker sterling in 2022 will have added to the upwards pressure on input costs.

Fuels
+51%

Soya bean meal
+26%

Electricity
+49.1%

Machinery
+22.9%

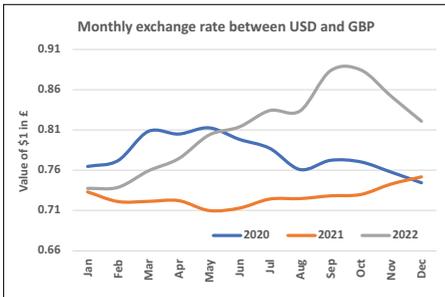
Compound fertilisers
+80%

Straight fertilisers
+113.5%

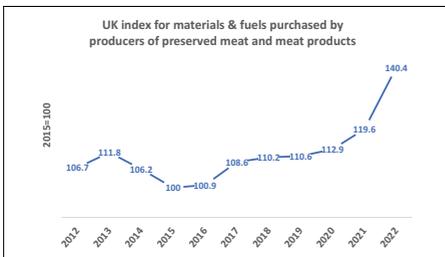
All input
+27.7%

Feed barely
+46.9%

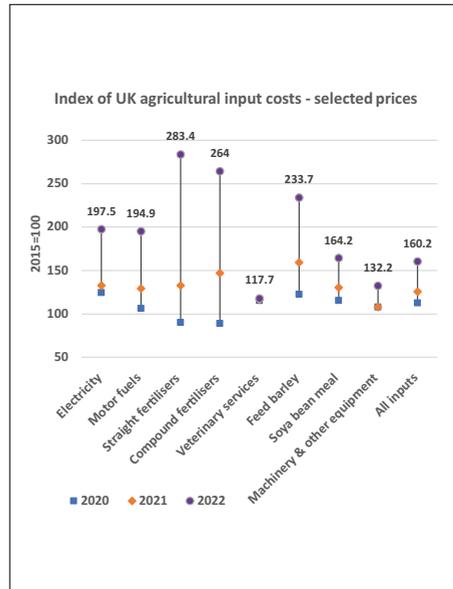
Veterinary service
+1.5%



Source: Bank of England; QMS calculations



Source: ONS



Source: Defra; QMS calculations

Primary Processing

Supply of Livestock to the Processing Sector

Cattle

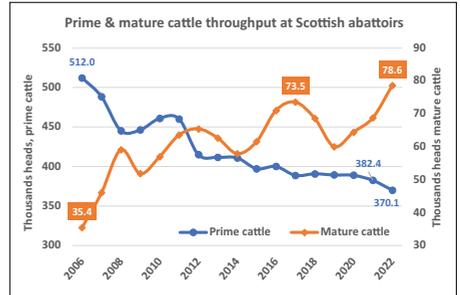
Prime cattle slaughter fell by 3.2% to 370,100 head at Scottish abattoirs in 2022, double the pace of decline in 2021⁸.

Volumes trailed year earlier levels for much of 2023, although they did rebound slightly from the unusually low levels of late 2021 in the final two months of the year.

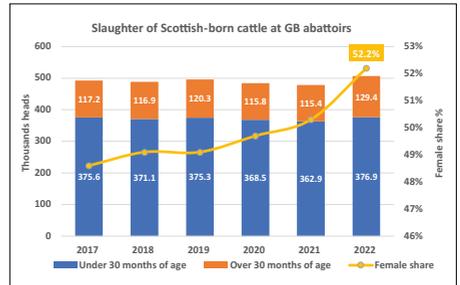
With heifer slaughter down only slightly year-on-year at Scottish abattoirs in 2022, it accounted for a higher share of the prime cattle kill, while the rebalancing of the male kill towards steers seen in previous years came to a halt.

Mature cattle slaughter surged to a record high at Scottish abattoirs in 2022 for the period since slaughter for the food chain resumed in the mid-2000s. There was a 14.3% lift to more than 78,600 head, of which fewer than 1,500 were adult bulls. Nearly 10,000 more cows were handled than in 2021, with most of this increase during the peak autumn cow processing period.

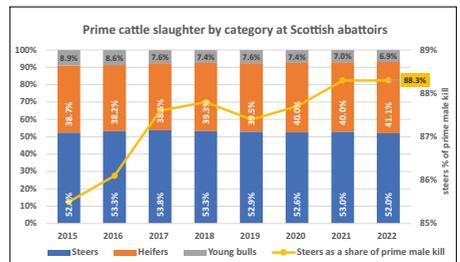
Whereas prime cattle slaughter fell by 3.2% at Scottish abattoirs in 2022, data from BCMS indicates that 3.9% more cattle born in Scotland were slaughtered at less than 30 months of age at GB abattoirs in 2022 compared to the previous year, highlighting an increased outflow of prime cattle to England for finishing and for slaughter.



Source: Scottish Government; QMS calculations



Source: BCMS; QMS calculations



Source: Scottish Government; QMS calculations

8 Annual slaughter based on a 52-week year, ending 31 December 2022.



➔ Primary Processing (continued)

Numbers of cattle aged under 30 months moving from Scotland directly to abattoirs in England and Wales rose by 24% in 2022. In addition, numbers moving to auction markets rose by 26%, and moves to farms rose by 35%. Increased moves to farms and auctions in 2022 will also have an impact on prime cattle slaughter in Scotland in 2023, given the time taken to finish a store animal for slaughter.

Meanwhile, the kill of Scottish-born cattle at over 30 months in GB jumped by 12.2% which, along with a rising female share, points to significant herd reduction.

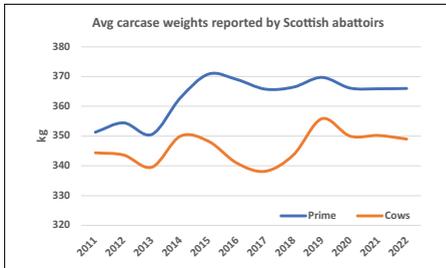
The average prime cattle carcass weight was almost unchanged for a second year at Scottish abattoirs in 2022, edging up by 0.5kg (0.1%) to 366.4kg. While category weights are above the UK average in Scotland, weights for specific grades are often lower in Scotland than at price

reporting abattoirs in England and Wales.

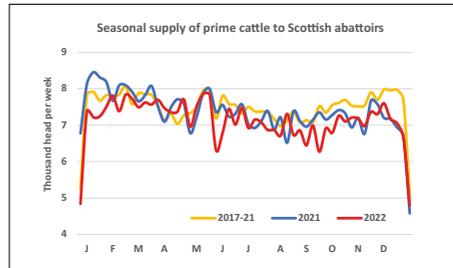
Carcases which exceed the target weight range to meet product specifications for prime cuts of beef sold by UK supermarkets often face pricing penalties. This continued to pressure steer carcass weights, which fell by a fraction to 379.7kg in 2022 – a nine-year low and 3% below the 2015 peak.

With almost unchanged carcass weights in 2022, the 3.2% fall in prime cattle slaughter at Scottish abattoirs in 2022 converted to a 3.1% fall in prime beef output to 135,600t. Meanwhile, slightly lighter weights for mature cattle resulted in a 14.3% lift in throughput, converting to a 13.7% rise in output to 27,700t.

The net result was that total beef output continued to trend slightly lower at Scottish abattoirs, slipping 0.6% to 163,300t, leaving it down almost 12% from a 21st-century peak of 185,000t in 2006 and 2007.



Source: Scottish Government



Source: Scottish Government; QMS calculations

Average carcass weights				
	Scotland			UK
	2017-21	2021	2022	2022
	kg per head			
Steers	382	380	380	371
Heifers	346	347	349	335
Young bulls	366	369	370	359
All prime cattle	367	366	366	355
Cull cows	347	350	349	315

Source: Defra; Scottish Government; QMS calculations.

Note: UK carcass weights adjusted to same specification as Scottish weights based on conversion rates when Defra changed reporting method in September 2019.

Figure 6 – Carcass weights for selected grades at price reporting abattoirs

Scotland	England and Wales
Carcass weights	Carcass weights
R4L steers 366 (+1kg v 2021)	R4L steers 368 (+1kg v 2021)
R4L heifers 332 (+1kg v 2021)	R4L heifers 334 (+1kg v 2021)
R3 young bulls 349 (-3kg v 2021)	R3 young bulls 358 (-1kg v 2021)
R4L cows 389 (-5kg v 2021)	R4L cows 389 (-2kg v 2021)

Source: AHDB

Note: Weights reported in UK spec for the most common grade in each category at Scottish reporting abattoirs in 2022; 88% of the prime cattle kill at Scottish abattoirs was price reported in 2022 and 77% at England and Wales abattoirs.



➔ Primary Processing (continued)

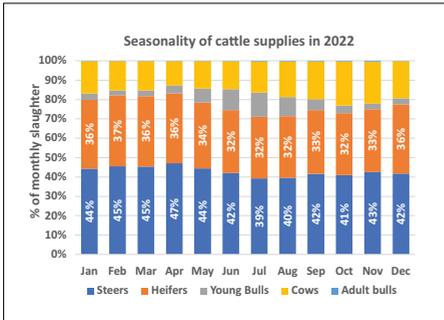
Seasonality of Cattle Production

Steers and heifers accounted for just over three-quarters of the cattle processed at Scottish abattoirs in 2022, with an annual peak of 83% in April and low of 71% in July.

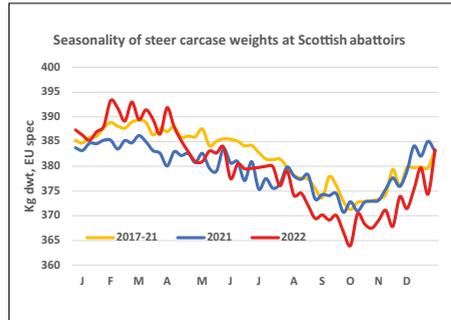
Young bulls accounted for 7% of the annual kill but exceeded this between May and August, peaking at 15% in July. Cows accounted for 17% of the kill, ranging from a low of 13% in April up to a peak of 23% in October. From September through to

December 2022, the cull cow share of the kill exceeded the peak of 18% that had been reached in 2021.

The seasonal pattern in carcass 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 to around 18 months in the autumn.



Source: Scottish Government; QMS calculations



Source: Scottish Government; QMS calculations

Cattle Carcass Quality

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

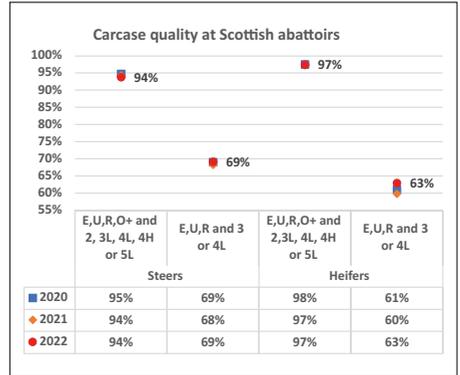
Steer carcasses by grade at Scottish abattoirs in 2022			
	3	4L	4H
-U	8.9%	10.7%	1.6%
R	17.7%	29.1%	6.1%
O+	5.5%	6.5%	0.9%
-O	2.4%	1.8%	0.1%

Others: 8.7%

Source: AHDB; QMS calculations

Based on the proportion grading E, U or R for conformation and 3 or 4L for fat cover, carcass quality for steers and heifers rebounded in 2022 and was higher than in the 2019-21 period for which we have data.

R4L continued to be the most common grade for steers and heifers at Scottish abattoirs in 2022, while R3 remained the most common for young bulls having overtaken the -U3 grade in 2021. Cows continued to have a much more even distribution.



Source: AHDB; QMS calculations

Most common grades at price reporting abattoirs in 2022					
Category	Position	Scotland		England and Wales	
		Grade	Share of total	Grade	Share of total
Steers	1 st	R4L	29.1%	R3	22.2%
	2 nd	R3	17.7%	O+3	14.0%
	3 rd	-U4L	10.7%	R4L	13.5%
Heifers	1 st	R4L	34.7%	R3	19.0%
	2 nd	R4H	14.9%	R4L	18.7%
	3 rd	R3	12.3%	O+4L	12.3%
Young bulls	1 st	R3	20.3%	R3	18.0%
	2 nd	-U3	19.4%	R2	16.5%
	3 rd	R4L	9.0%	-U3	8.8%
Cows	1 st	R4L	10.3%	-P1	16.1%
	2 nd	O+3	9.8%	P+2	11.2%
	3 rd	O+4L	8.5%	-O3	10.1%

Source: AHDB; QMS calculations.



➔ Primary Processing (continued)

Age of Cattle at Slaughter

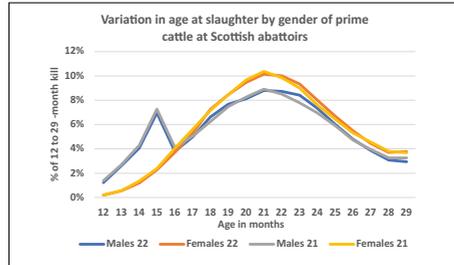
At Scottish abattoirs, there was some adjustment in age at slaughter in male and female prime cattle in 2022. For males, the share slaughtered at 12-15 months fell to 14.9% from 15.6% in the previous year, with more being processed at 16-23 months (57.1%) but the same 28% share at 24-29 months.

For females, there were slight reductions in the share slaughtered at 12-15 months and 16-23 months, with the share killed at 24-29 months rising to 32.1% from 31.4% in 2021.

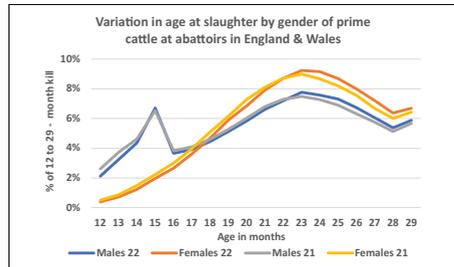
With drought having a more significant impact in England and Wales than Scotland, age at slaughter showed a more notable increase in England and Wales, with the share of males and females slaughtered at 24-29 months rising by 1.9 percentage points for males and 2.6 percentage points for females, reaching 38.9% and 46.1% respectively.

The median age at death in Scotland for cattle aged 12-29 months remained 21 months for males and 22 months for females in 2022. In England and Wales, it was 22 months for males and 23 months for females.

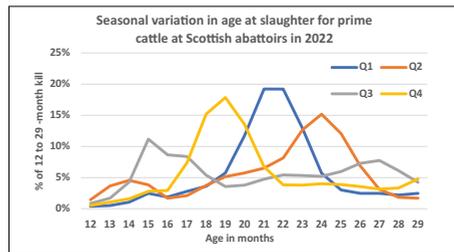
Quarterly age at slaughter shows a similar variation through the year at abattoirs in Scotland and in England and Wales, linked to the age of spring-born cattle. However, the greater dominance of spring calving in Scotland means that this link is stronger north of the border.



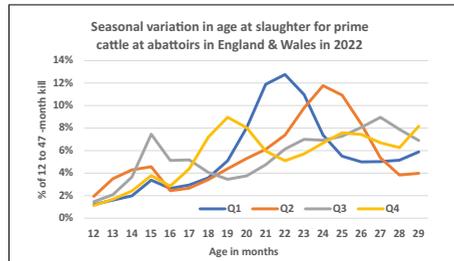
Source: BCMS; QMS calculations



Source: BCMS; QMS calculations



Source: BCMS; QMS calculations



Source: BCMS; QMS calculations

Sheep

Prime sheep slaughter fell for a third consecutive year at Scottish abattoirs in 2022 and was at its lowest level of the 21st century. At 1.034m head, throughput was down 5.1% from the previous year and by 10.3% on the five-year average. With only 6% of the sheep slaughtered in Scotland arriving from a Scottish auction mart, it highlights that most of the lambs sold at Scottish marts will be processed in England or Wales.

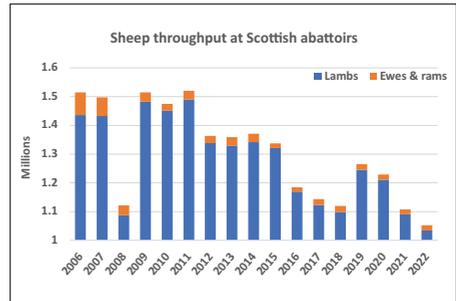
Working on an estimate that nearly 80% of spring lambs will be slaughtered rather than retained for breeding, and based on the assumption of a small increase in the 2022 lamb crop, suggests that there may have been close to 2.7m slaughter lambs produced by Scottish farms in 2022. After factoring in the delayed slaughter of the 2021 and 2022 lamb crops, slaughter availability from Scottish farms in 2022 is estimated to have been closer to 2.65m and higher than in 2021. As a result, Scottish abattoirs are estimated to have handled a net figure of around 39% of the lambs sent for slaughter from Scottish farms in 2022, down from an estimated 43% in 2021.

After three years of declines, the number of ewes and rams processed by Scottish abattoirs is estimated to have rebounded by 1.1% to 18,300 head. Nevertheless, Scottish abattoirs still handled only around 5% of the ewes and rams sent to slaughter from Scottish farms.

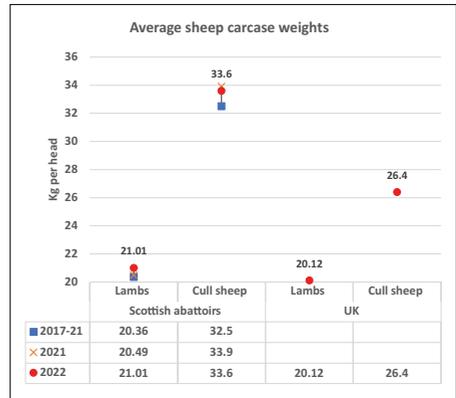
Prime sheep carcass weights at Scottish abattoirs increased by 2.6% in 2022, reaching an average of 21kg for the first time in a series which began in 2003. Average weights remained heavier than

the average at UK abattoirs, with the gap nearly doubling on 2021 to reach a five-year high of 4.4%.

Due to heavier weights, lamb production volumes fell more slowly than abattoir throughput, down by 2.7%. Meanwhile, mutton production was flat as higher throughput was offset by lighter carcass weights. The net result was that overall sheepmeat production declined by 2.6% to 22,350t.



Source: Scottish Government



Source: Defra; Scottish Government; GMS calculations



➔ Primary Processing (continued)

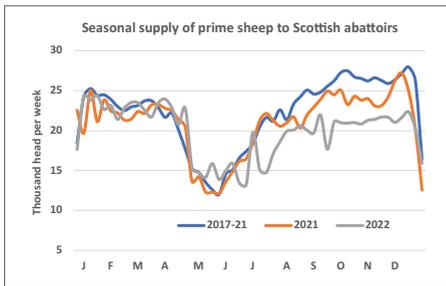
Seasonality of Sheep Production

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 to 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.

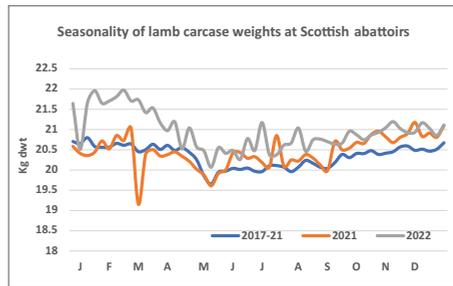
In early 2022, lamb throughput was supported by an increased carryover of hogs compared to 2021, when an early arrival of lambs into abattoirs had limited

the carryover. Easter was two weeks later in 2022, falling in the middle of April, boosting slaughter in the first half of the month, while the Eid festival at the end of Ramadan supported slaughter in the final week of April.

The 2022 lamb crop then arrived slowly onto the market for a second year in a row, with a dry summer having an impact on grass growth. Activity around the Eid al-Adha festival was weaker than in 2021, with slaughter peaking at a 7% lower level. The shift forward in the calendar of procurement for this festival to the start of July is likely to have contributed by limiting availability of early-born lambs.



Source: Scottish Government; QMS calculations



Source: Scottish Government

Lamb Carcass Quality

During 2022, carcass quality fell back from the highs reached in 2021 at GB price reporting abattoirs, with 63.4% of SQQ⁹ carcasses grading at E, U or R for conformation and 2 or 3L for fat cover compared to 66.8% in the previous year. In general,

SQQ lamb carcasses by grade at GB price-reporting abattoirs in 2022

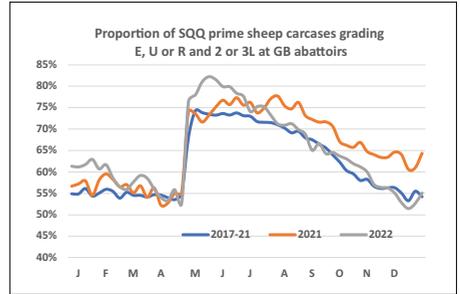
	2	3L	3H
U	2.7%	9.1%	3.0%
R	16.4%	34.0%	11.3%
O	8.7%	7.8%	1.7%

Others: 5.3%
Source: AHDB; QMS calculations

⁹ SQQ stands for Standard Quality Quotation. In deadweight price reporting, this encompasses carcasses weighing between 12 and 21.5kg, while in auction market price reporting, it encompasses live lambs sold at weights of 25.5-45.5kg.

carcasses became leaner for a second consecutive year, but conformation rebalanced from U and R grades towards O grades.

R3L remained the most common grade in 2022 but accounted for a slightly reduced 34.0% of the total, with R2 reinforcing its position as the second most common and R3H holding onto third.

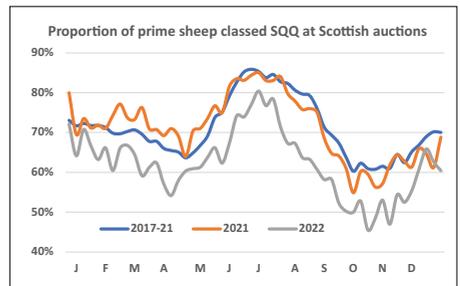


Source: AHDB; QMS calculations

SQQ lamb carcase distribution at GB price-reporting abattoirs							
	Proportion grading E, U or R and 3 or 4L	Most common		2 nd most common		3 rd most common	
		Grade	Share of total	Grade	Share of total	Grade	Share of total
2020	60.9%	R3L	32.3%	R3H	16.1%	U3L	12.0%
2021	66.8%	R3L	34.8%	R2	14.8%	R3H	12.9%
2022	63.4%	R3L	34.0%	R2	16.4%	R3H	11.3%

Source: AHDB; QMS calculations.

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 a slight dip in 2021, this proportion fell by 9.0 percentage points to 61.0%. As the vast majority of lambs sold out with the SQQ range are to the heavy side, this reduction fits with increased carcase weights at Scottish abattoirs in 2022.



Source: IAAS; QMS calculations



➔ Primary Processing (continued)

Pigs

Prime pig slaughter at Scottish abattoirs contracted sharply for a second year in a row in 2022, down 20.3% to just over 222,000 head, placing it 29% below the five-year average. On a weekly basis, slaughter slumped to an average of 4,270 head.

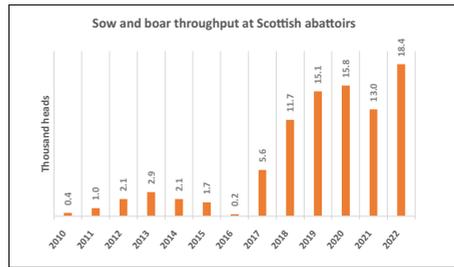
As a result, the proportion of Scottish-born pigs being sent for slaughter in England, either directly or having been finished on a farm in Northern England,

may have risen to around the 75% mark.

However, sow and boar slaughter did rebound strongly in 2022, rising by 42% to 18,400 head, averaging above 350 head per week. At this level, throughput pushed well beyond the previous high reached in 2020. While part of the recovery reflected the lack of processing in Q1 2021 due to Covid-19 challenges, throughput was still nearly 8% higher in the April to December period of 2022 than a year earlier.



Source: Scottish Government



Source: Scottish Government

Prime pig carcase weights rose for a seventh consecutive year at Scottish abattoirs, with an estimated 1.3% increase driven by a backlog of fast-growing pigs on farms in the first quarter 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% for the second consecutive year, slipping to 19,800t. However, sow meat production did lift by 39.5% to 2,500t. Total pigmeat production decreased by 15.2% to 22,300t but remained above its 2017 low.

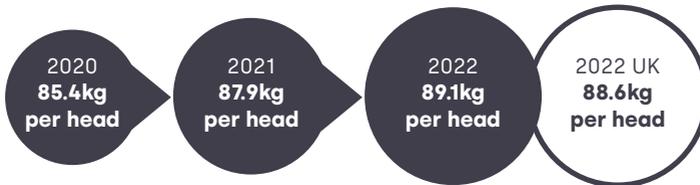


Figure 7 – Average carcase weights (EU spec) of clean pigs in Scotland.

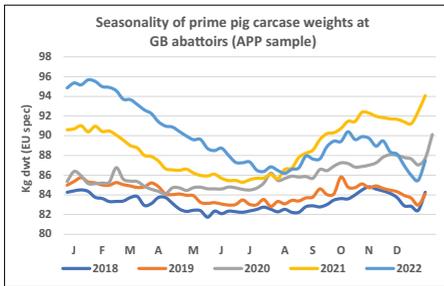
Source: Scottish weights are estimated by QMS using the Scottish Government's slaughter survey and AHDB's APP price reports; UK weight converted into EU spec by QMS from Defra slaughter statistics.

Seasonality of Pig Production

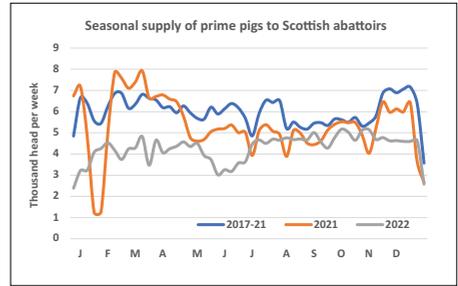
Prime pig slaughter has less of a seasonal trend at Scottish abattoirs than in the UK as a whole, where production tends to fall to its lowest levels in the summer months. Given the high share of pigs crossing the border to be slaughtered in England, throughput in

Scotland is more likely to reflect variables like customer demand and labour supply than availability of pigs for slaughter.

Prime pig carcass weights have a seasonal profile, tending to be at their lightest through the summer months and heaviest in winter.



Source: AHDB



Source: Scottish Government; QMS calculations

Scottish Abattoir Output and Employment

Twenty-one red meat abattoirs operated in Scotland in 2022 and submitted levy returns to QMS, unchanged from 2021. However, two sites did stop slaughtering during the year. Cattle slaughter took place on 17 sites, with sheep slaughter on 16 while 11 handled pigs, one more than in 2021.

Scottish Government slaughter data shows that the total number of livestock slaughtered and the volume of meat produced declined further in 2022, though the pace did slow compared to 2021. Increased carcass weights in the sheep and pig sectors meant that meat production fell by less than slaughter numbers.



➔ Primary Processing (continued)

Scottish abattoir output									
	Number of animals			Volume of meat (t)			Estimated value (£m)		
	2021	2022	y/y change	2021	2022	y/y change	2021	2022	y/y change
Cattle	451,290	448,770	-0.6%	164,285	163,275	-0.6%	681	733	+7.7%
Sheep	1,108,355	1,052,795	-5.0%	22,950	22,350	-2.6%	135	127	-6.2%
Pigs	291,625	240,445	-17.5%	26,305	22,305	-15.2%	43	43	-0.4%
Skins and hides	n/a		n/a	n/a		n/a	22	24	+5.1%
Combined	1,851,270	1,742,015	-5.9%	213,540	207,930	-2.6%	881	926	+5.1%

Source: QMS Processor Survey; QMS calculations and estimates; Scottish Government 2021 based on 52 weeks to 1 January 2022; 2022 based on 52 weeks to 31 December 2022. Slaughter numbers and tonnage rounded to nearest five; sales value rounded to nearest million.

Turnover from primary red meat processing in Scotland is estimated to have risen for a third consecutive year in 2022, lifting 5% to £926m. Revenue generated from beef, offal, hides and skins are all estimated to have risen but this was partially offset by reduced revenue from lamb and pork sales. Reduced margins are also expected to have limited the increase in overall turnover.

In cattle processing, higher turnover reflects a modelled increase in wholesale prices for beef and offal, with a second year of strong price increases for offal. For sheep processing, the decline in estimated revenue reflects reduced abattoir production and lower wholesale prices for lamb, partially offset by higher revenue from offal. In pig processing, lower production volumes are estimated to have been almost offset by higher wholesale prices.

Reflecting tight labour supply, employment is estimated have fallen

towards 3,050 in 2022 from just under 3,200 in 2021 – a reduction of 4%. The reduction in staff numbers is estimated to have offset the rise in average wage, meaning an almost unchanged total amount paid in wages, of £83.3m¹⁰.

Meanwhile, it is estimated that the share of UK nationals in the labour force slipped back to 61% in 2022 compared to an upwardly revised 63% in 2021. This reflects an estimated 7% decrease in UK nationals set against a slight 1% rebound in workers of non-UK origin. Within this non-UK labour pool, the number of EU/EEA nationals is estimated to have fallen by around 20%, but this is estimated to have been more than offset by a six-fold increase in the hiring of workers from further afield, which approached a 10% share of the total.

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.

¹⁰ The estimated wage bill is based on average wages and salaries reported by processing companies in accounts filed with Companies House for 2021, plus ONS figures for manufacturing earnings growth in 2022 (series K551).

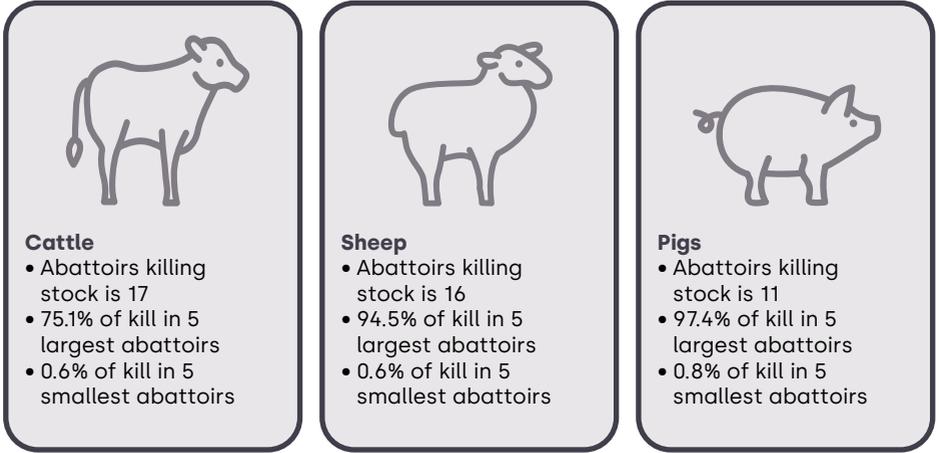


Figure 8 – Scottish abattoir sector scale 2022.
Source: QMS red meat levy returns

Distribution of Primary Red Meat Sales

Sales distribution of primary red meat processors by destination in 2022						
	Scotland		Rest of UK		Exports	
	Value (£m)	% by value	Value (£m)	% by value	Value (£m)	% by value
Beef	179	27	436	65	53	8
Sheepmeat	24	21	67	57	27	23
Pigmeat	8	20	31	80	<1	<1
Total red meat	211	26	534	65	80	10
Fifth quarter	35	45	27	35	16	20
Skins and hides	18	75	3	15	2	10

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



➔ Primary Processing (continued)

England and Wales remained the most common first point of sale for Scottish processors in 2022, with nearly two-thirds of revenue estimated to have been generated there. 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.

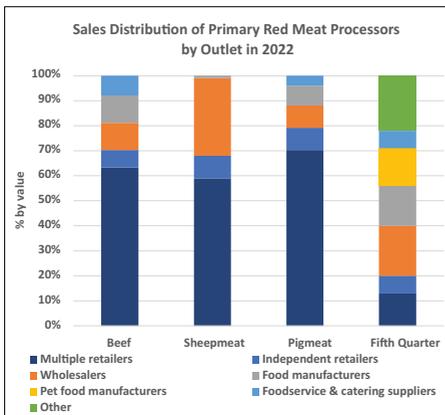
The Scottish processing sector continued to direct less of its produce overseas than the UK as a whole. However, a tight EU market is estimated to have supported a rebound in export sales in 2022, particularly for lamb, which had been harder hit during the pandemic.

In the pork sector, direct exports from Scotland are believed to have remained negligible, with products being shipped overseas following secondary processing in England. The export approval for pork produced by Scotland's largest pig abattoir in Brechin to be shipped to China remained suspended.

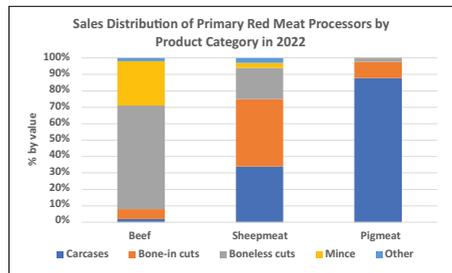
Fifth quarter products continued to play an important role in helping cattle and sheep processors achieve carcass balance and were a strong source of export revenue for cattle processors in 2022.

Multiple retailers remained the dominant market outlet for Scotland's red meat processors in 2022 but overseas wholesalers were an important outlet for exporters. For beef processors, there was some rebalancing of sales towards food manufacturers in 2022, reflecting increased cow beef output.

Product sales mixes continued to vary considerably by species, with boneless cuts the main product for beef processors and carcass trade dominating the pork sector. While lamb sales were more balanced, the lead for bone-in cuts may reflect the popularity of leg roasts, while carcasses increased in importance due to the rebound in export sales. For beef processors, the share of turnover generated from mince increased, reflecting economic circumstances.



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



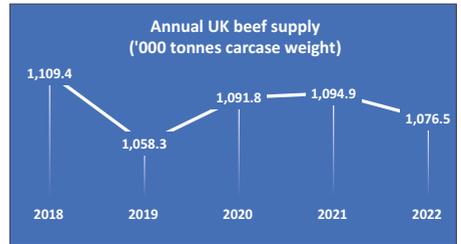
Note: Distribution based on first point of delivery
Source: QMS Processor survey, QMS calculations and estimates.

Red Meat Supply and Consumption

Product Available for Consumption¹¹

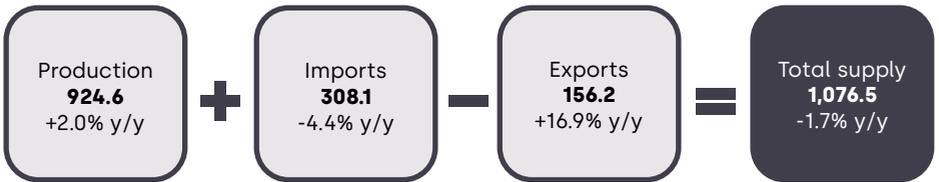
Beef

After a slight uplift in 2021, the total volume of beef added to the UK market is estimated to have decreased by 1.7% in 2022 as a 2% rebound in domestic production was more than offset by a 4.4% reduction in imports and a 17% jump in exports.



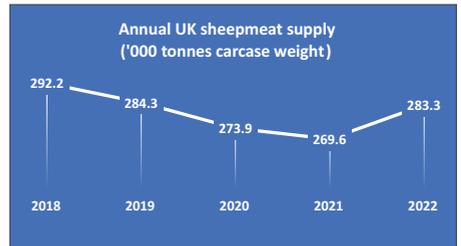
Source: Defra; HMRC; QMS calculations

Annual UK beef supply balance sheet in 2022 ('000 tonnes carcase weight)



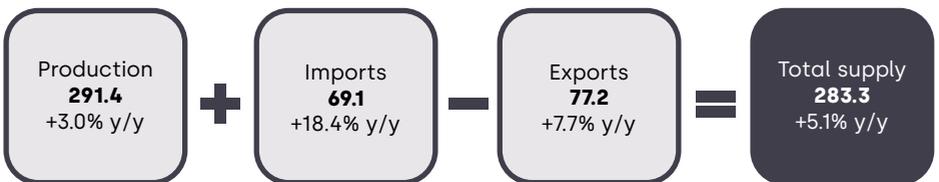
Sheepmeat

After five consecutive annual declines and a 16% reduction over this period, new supply of sheepmeat added to the UK market partially rebounded in 2022, up 5.1%. Higher domestic production was supported by significant recovery in imports, though a lift in exports limited the overall rebound in supply.



Source: Defra; HMRC; QMS calculations

Annual UK sheepmeat supply balance sheet in 2022 ('000 tonnes carcase weight)



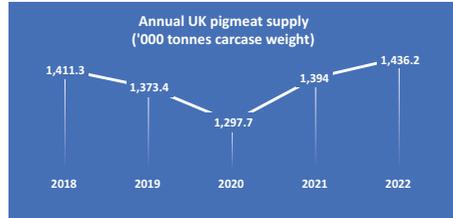
¹¹ New supplies made available during the calendar year. This excludes any change in inventories during the year, which would be needed to make a better estimate of annual consumption. Import and export volumes are converted from product weight into carcase weight equivalent.



➔ Red Meat Supply and Consumption (continued)

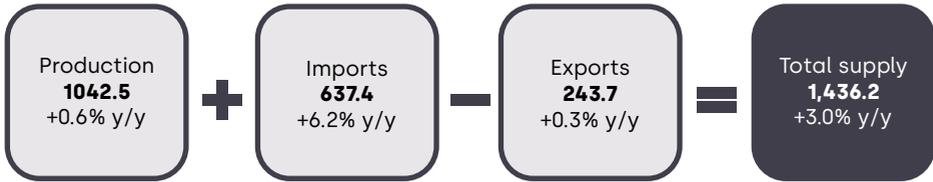
Pigmeat

New supplies of pigmeat added to the UK market increased significantly for a second year in 2022. After rising by 7.4% in 2021, volumes rose by another 3%, driven by a 0.6% rise in domestic production and a 6% rebound in imports. Meanwhile, exports remained low, only making a marginal recovery from a sharp fall in 2021.



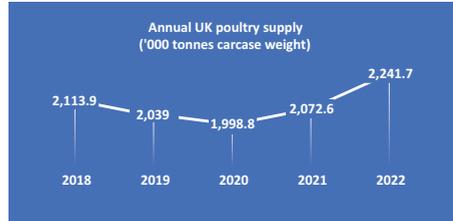
Source: Defra; HMRC; QMS calculations

Annual UK pigmeat supply balance sheet in 2022 ('000 tonnes carcass weight)



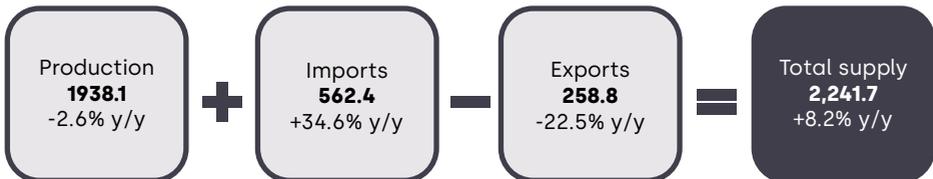
Poultry

New supply of poultry jumped to a new record high in 2022 as a surge in imports and sharp fall in exports more than offset reduced domestic output. This saw poultry increase its position as the most commonly available meat category for use in retail, catering and further processing in the UK. Poultry supply first overtook beef in 1987 and pigmeat in 1991.



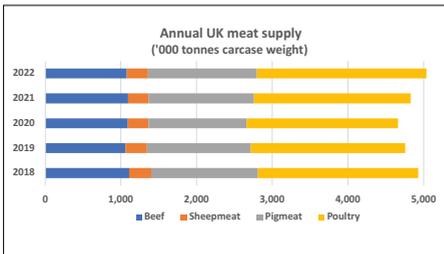
Source: Defra; HMRC; QMS calculations

Annual UK poultry supply balance sheet in 2022 ('000 tonnes carcass weight)



Structural change in UK meat supplies					
	2010-12 avg annual net supply	2020-22 avg annual net supply	Change over decade	% of total 2010-12	% of total 2020-22
Beef	1.06m	1.08m	+2.3%	23.6%	22.4%
Sheepmeat	0.30m	0.27m	-10.5%	6.6%	5.7%
Pigmeat	1.34m	1.39m	+3.8%	29.9%	28.7%
Poultry	1.79m	2.10m	+17.6%	39.9%	43.4%
Total	4.46m	4.77m	+6.9%	100%	100%

Source: Defra (UK home fed meat production, trade and supplies); QMS calculations

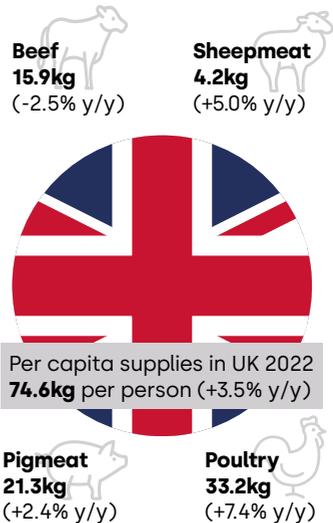


Source: Defra; HMRC; QMS calculations

Per Capita Supplies

In the year to mid-2022, migration to the UK jumped following the relaxation of Covid-19 restrictions and, with death rates also falling back from the highs of the pandemic, the population is estimated to have risen by around 0.8%¹².

As a result, an increased meat supply would have been required to maintain per capita supply at 2021 levels. Therefore, population growth exacerbated the fall in UK beef supply when viewed in per capita terms, while slightly softening the recovery in sheepmeat and further growth in pigmeat supply.



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

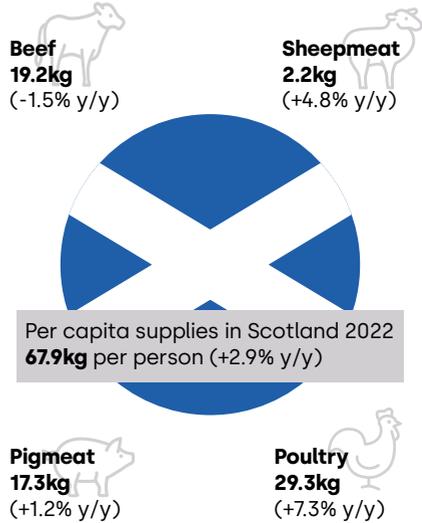
¹² QMS estimate based on taking the mid-2021 UK population and adding provisional net migration in the year to June 2022 to UK births in 2021 and then subtracting UK deaths in 2021.



➔ Red Meat Supply and Consumption (continued)

Scottish per capita supply can be estimated from population statistics, differences in sales levels reported by Kantar between Scotland and GB as a whole, and from differences in Defra's Family Food datasets for the nations and regions of the UK (though the latest regional Defra estimates are from 2018/19). These estimates are based mainly on consumption at home and it can be hard to separate processed products into the different component meats.

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



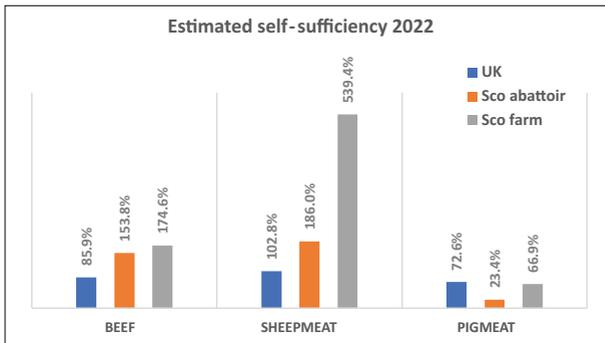
Note: Excludes adjustment for opening and closing inventory
Source: Defra, Kantar, ONS; Scottish Government; QMS calculations and estimates

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, with this gap widening in 2022.

However, self-sufficiency based on

farm production levels¹³ would be higher for beef and surge for sheepmeat, and would rise to close to 70% 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

¹³ Farm production estimates are based on the number of cattle, sheep and pigs born on Scottish farms.

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.

Retail Sales

The year 2022 commenced with a concerning cost of living crisis in the United Kingdom, marked by a record-low shopper confidence index¹⁴. It fell even further as food price inflation crystallised and a war broke out in Ukraine.

As a result, shopper spend on fresh red meat in Great Britain and Scotland declined by 5.4% and 5.2% in terms of value, respectively, according to estimates from Kantar¹⁵.

Shoppers' spend on fresh red meat at discounters grew faster in both GB and Scotland, as consumers were looking for value.



In Scotland, the volume of red meat purchased per buyer fell by 9.8% to 16.4kg, primarily driven by a decline of 6.4% in purchasing frequency and a decrease of 3.7% in volume per trip.



Source: Kantar; GMS calculations. 52w y/y comparison for week ending 25th December 2022; low sample sizes for lamb shoulder & lamb stewing; 'beef other' includes marinades; 'lamb other' for diced/cubed, marinades, mixed cuts pack and half lamb; 'pork other' includes: marinades, mince, other cut, diced/cubed

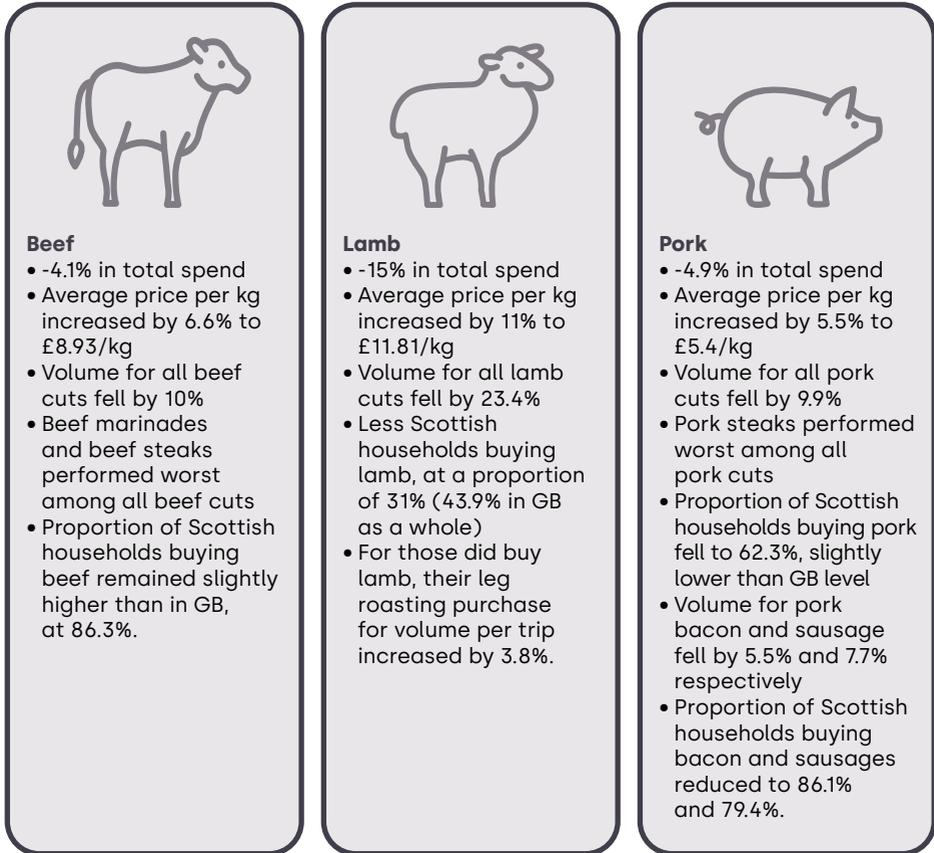
14 ShopperVista from IGD – shoppervista.igd.com

15 52 weeks ending 25 December 2022 compared with 52 weeks ending 26 December 2021.



➔ Red Meat Supply and Consumption (continued)

Figure 9 – Red meat retail performance in Scotland 2022



Source: Kantar. 52 weeks rolling average comparison (25th December 2022 v 26th December 2021)

Retail Prices

Consumer Prices Index (CPIH¹⁶)

After picking up in 2021 due to supply chain problems caused by the pandemic and its various supply and demand shocks, consumer price inflation surged in 2022.

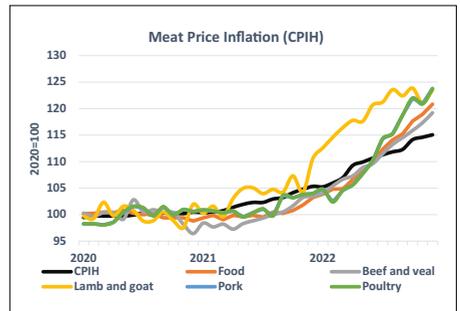
Goods price inflation accelerated strongly due to sharply rising energy and materials costs, driven by the impact of the war in Ukraine on energy, oil and arable crop markets, while rising material, energy and labour costs were passed through to service sector prices.

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 2022 underplay this pick-up which can be seen in the rates for the final month of the year.

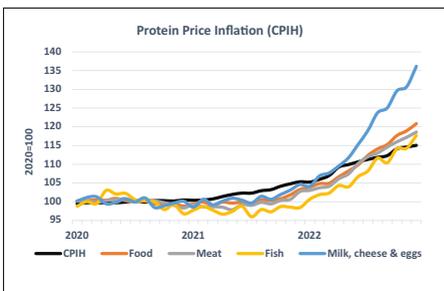
In the meat sector, rising farmgate prices were passed through to shop prices, finally taking pricing levels well beyond their 2015 levels. However, for lamb and goat meat, prices had already shown stronger inflation in recent years

and inflation slowed slightly in 2022, with retail prices beginning to stabilise in the second half of the year as farmgate prices fell back behind year earlier levels.

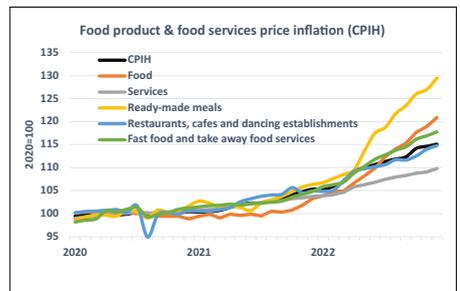
Costs of ready-meals and pricing in the foodservice sector tends to reflect wider economic forces such as the cost of labour more closely than the more volatile prices of their raw materials. However, rising food and energy costs will have factored significantly in the price rises seen in 2022.



Source: ONS; re-based to 2020 by QMS



Source: ONS; re-based to 2020 by QMS



Source: ONS; re-based to 2020 by QMS

¹⁶ CPIH is a measure of consumer price inflation which includes owner occupiers' housing costs.



➔ Retail Prices (continued)

Consumer price index and annual inflation rate for selected categories (CPIH)							
	Change from previous year (%)				Annual average index (2015 = 100)		Index in December 2022 (2015 = 100)
	2020	2021	2022	December 2022	2021	2022	
All prices	+1.0	+2.5	+7.9	+9.2	111.6	120.5	125.3
All goods	0.0	+2.8	+12.1	+13.4	108.3	121.4	128.1
All services	+1.7	+2.2	+4.6	+5.8	114.0	119.2	122.4
Food	+0.6	+0.3	+11.1	+17.0	104.0	115.5	125.2
Meat	+1.7	-0.5	+11.1	+15.5	99.6	110.6	118.7
Beef and veal	+0.6	-0.3	+11.4	+15.2	95.5	106.4	114.1
Lamb and goat	-2.4	+4.1	+14.9	+11.7	114.6	131.6	135.9
Pork	+4.5	+1.6	+10.9	+19.0	100.9	111.9	123.1
Poultry	-1.2	+0.3	+14.0	+18.7	89.7	102.3	109.6
Edible offal	+2.7	+3.2	+16.9	+36.8	105.6	123.3	149.2
Dried, salted or smoked meat	+4.2	-1.5	+8.1	+12.0	100.4	108.5	115.3
Fish	+1.3	-2.2	+10.5	+19.6	111.1	122.7	133.7
Milk, cheese and eggs	-0.3	+0.9	+17.2	+30.2	101.6	119.1	137.1
Ready-made meals	+1.1	+3.0	+14.1	+21.7	106.9	125.6	138.4
Restaurants, cafés and dancing establishments	+1.0	+3.0	+6.9	+9.4	111.7	123.0	128.2
Fast food and takeaway food	+4.2	+2.6	+9.0	+12.3	117.6	131.5	138.5

Source: ONS.

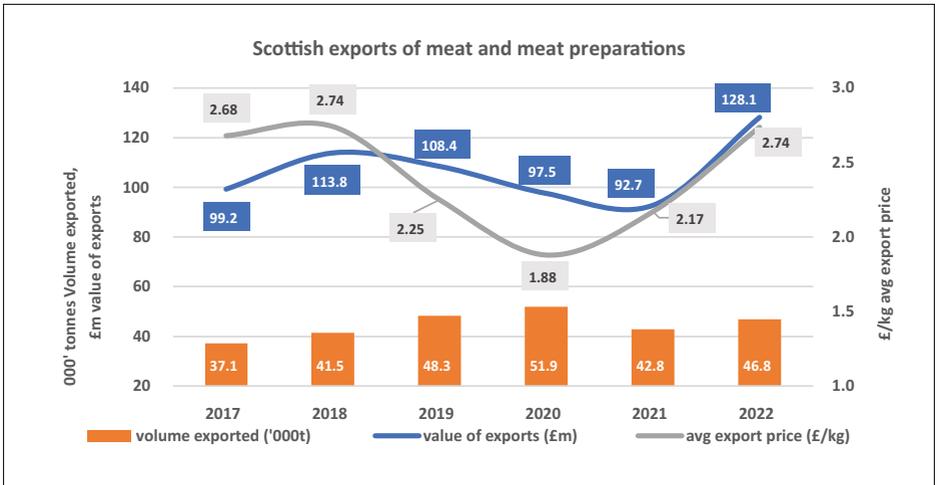
International Trade

Scottish Trade

HM Revenue and Customs publishes estimates of the level of exports from each of the devolved nations and English regions on a quarterly basis¹⁷. These trade figures are reported by Standard International Trade Classification (SITC) Division, rather than the more detailed Harmonised System (HS).

In 2022, Scottish exports of meat and meat preparations totalled £128.1 million and 46,804 tonnes. This represented year-on-year increases of 38% and 9% respectively, while being 25% and 6% above their averages from 2017 to 2021.

The variation in volume can be attributed to a significant surge during the first half of the year, particularly in Q1 (reflecting a 71% increase compared to the previous year). However, a decrease during the second half of the year constrained the potential for a larger overall increase for the year. It is noteworthy that the inflated price had a huge impact on revenue throughout 2022. This was evident by the upward trend in average export prices, which culminated in a five-year high of £3.19/kg by the end of the year.



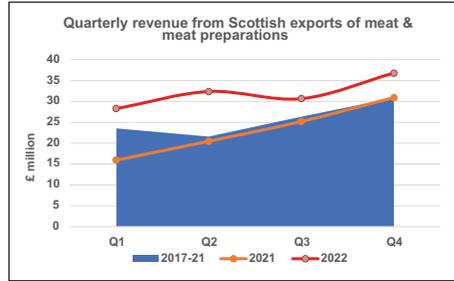
Source: HMRC; QMS calculations

¹⁷ 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/

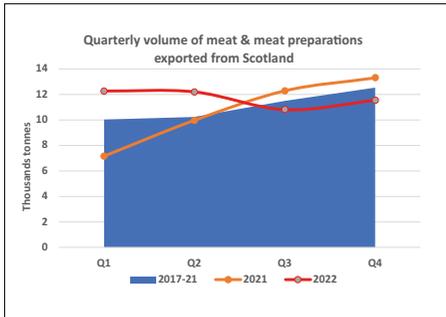


➔ International Trade (continued)

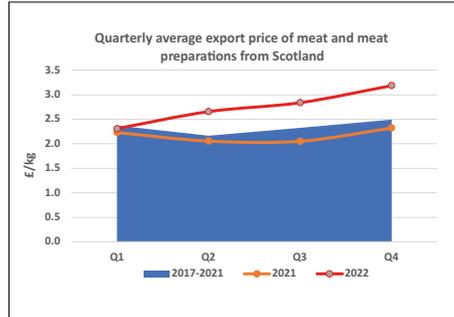
The category of meat and meat preparations represented 6.7% of Scottish food and live animal exports in 2022, which totalled £1.92bn. Fish and seafood continued to be the champion of the year, although this share reduced to 54.2%, which is a 5.7% decrease compared to the previous year.



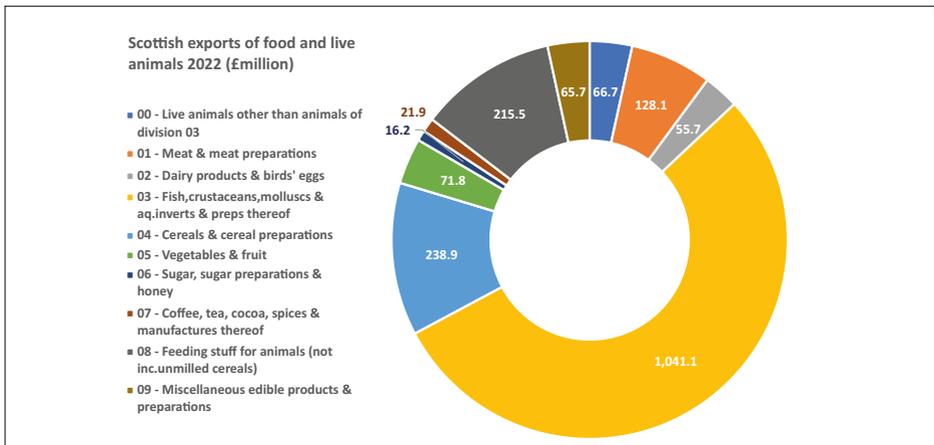
Source: HMRC; QMS calculations



Source: HMRC; QMS calculations



Source: HMRC; QMS calculations



Source: HMRC; QMS calculations



Scottish food and live
animal exports 2022

£1.92bn (+12.8% y/y)



1st Fish, crustaceans, molluscs,
and aq.inverts and preparations
thereof 54.2% (-5.7% y/y)



2nd Cereals and cereal preparations
12.4% (+2.3% y/y)



3rd Feeding stuff for animals
(not inc.unmilled cereals)
11.2% (+1.3% y/y)



4th Meat and meat preparations
6.7% (+1.2% y/y)



➔ International Trade (continued)

Scottish Exports to Non-EU Countries from Selected Ports

To obtain a more comprehensive understanding of Scottish meat exports, an analysis was conducted on the sales data from selected ports¹⁸ in Scotland, as presented below.

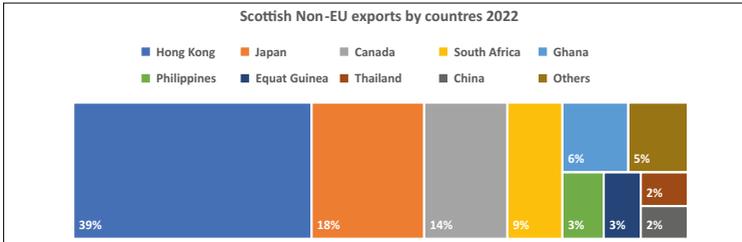
However, it is worth noting that due to the limited availability of data from HMRC, only a total revenue of £8.1m could be collected in this case. It is important to acknowledge that this figure accounts for a mere 6.3% of the total Scottish export value in the meat and meat preparations category in 2022.

Non-EU and EU exports accounted

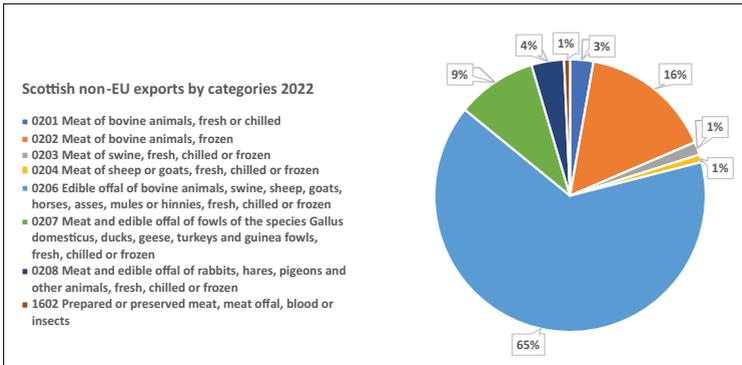
for 97% and 3% of export data available from Scottish ports respectively. Trade with EU countries has been excluded from the analysis of the ports data because it covers only a minimal share of Scottish exports to the EU, whereas non-EU trade is likely to be highly representative.

Of the total meat category exports to non-EU countries from Scottish ports, equal to £7.9m in 2022, Asia and Oceania represented 65% of the total value.

Edible offal contributed 65% of exports, followed by fresh and frozen beef (19%).



Source: HMRC; QMS calculations



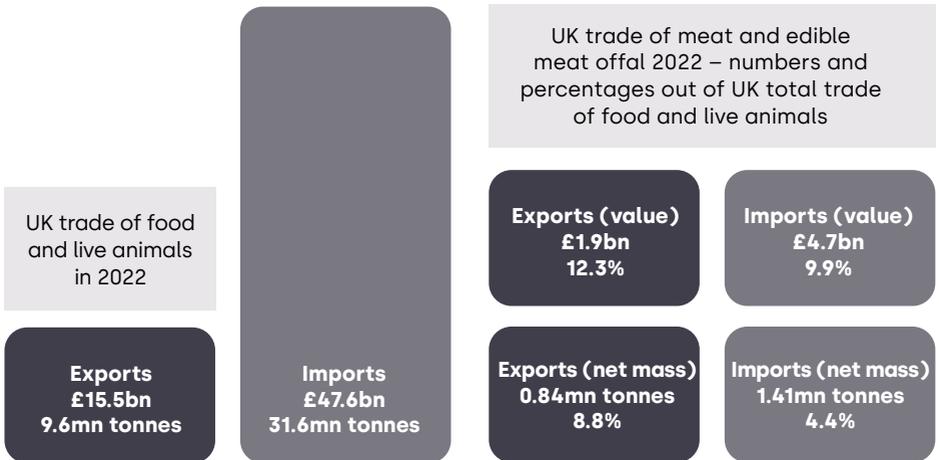
Source: HMRC; QMS calculations

¹⁸ List of selected ports: Aberdeen, Aberdeen Airport, Ayr, Glasgow, Glasgow Airport, Grangemouth, Greenock, Inverness (inc. Wick).

UK Overseas Trade

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 operate¹⁹.

In 2022, meat and edible meat offal exports lifted by 18% in value but slid down by 6% in net mass compared to 2021. As to imports, both value and net mass increased by 26% and 6% respectively.



Source: HMRC; QMS calculations

Source: HMRC; QMS calculations

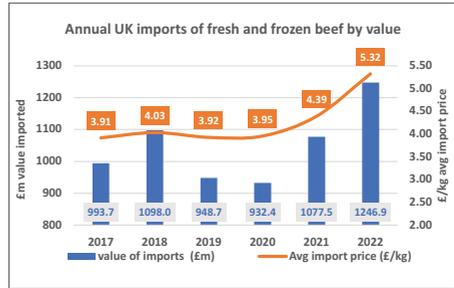
¹⁹ <https://www.uktradeinfo.com/trade-data/ots-custom-table>

International Trade (continued)

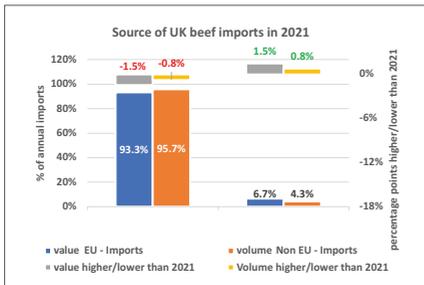
Beef

Imports

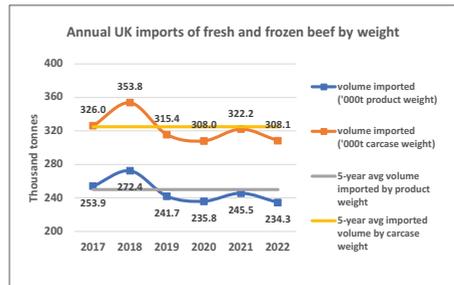
The beef imports in value increased sharply by 15.7% in 2022. However, the volume dipped by 4.6%, broadening the deficit below their five-year average. The imports of boneless cuts slid by 2.7% in 2022.



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



Source: HMRC; QMS calculations
HS 0201, 0202, 02061095 & 02062991, product weight



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

Imports continued to be primarily sourced from the European Union (EU) as a result of substantial tariffs imposed on non-EU meat, coupled with restricted access to reduced tariff quotas. Notably, there was a minor rise in both volume and value of imports from non-EU sources.

Frozen boneless meat²⁰ emerged as the victor in terms of imports from both channels, exhibiting a 36% surge in volume. Conversely, fresh boneless meat²¹ was the worst performing category for EU imports, experiencing a decline of 13,272 tonnes, followed by frozen boneless forequarters²².

²⁰ HS 02023090 Frozen bovine boneless meat (excl. forequarters, whole or cut into a maximum of five pieces, each quarter being in a single block 'compensated' quarters in two blocks, one of which contains the forequarter, whole or cut into a maximum of five pieces, and the other, the hindquarter, excl. the tenderloin, in one piece, crop, chuck and blade and brisket cuts).

²¹ HS 02013000 Fresh or chilled bovine meat, boneless.

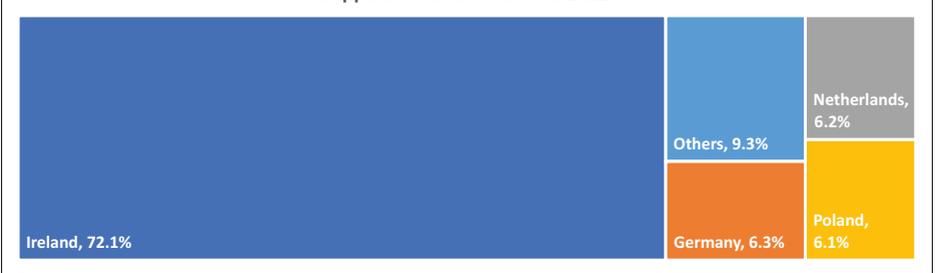
²² HS 02023010 Frozen bovine boneless forequarters, whole or cut in max. five pieces, each quarter in one block; 'compensated' quarters in two blocks, one containing the forequarter, whole or cut in max. five pieces, and the other the whole hindquarter, excl. the tenderloin, in one piece.

Composition of UK beef imports in 2022 – EU and non-EU comparison

Product category	Imports from the EU		Imports from non-EU countries	
	Share of imports	Average import price (£/kg)	Share of imports	Average import price (£/kg)
Fresh carcasses or half-carcasses	9.4%	3.5	0.0%	n/a
Fresh cuts, with bone in	2.7%	6.5	0.1%	n/a
Fresh boneless	50.7%	6.2	55.1%	10.5
Frozen bovine carcasses or half-carcasses	0.2%	4.4	0.0%	n/a
Frozen bovine cuts, with bone in	0.7%	2.7	0.5%	9.1
Frozen, boneless	35.9%	4.1	44.3%	5.6
Fresh or frozen skirt	0.5%	5.4	0.0%	n/a
Total	234,307t	5.19	10,006t	8.32

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

Suppliers of beef to the UK 2022



Source: HMRC; QMS calculations
HS 0201, 0202, 02061095 & 02062991, product weight

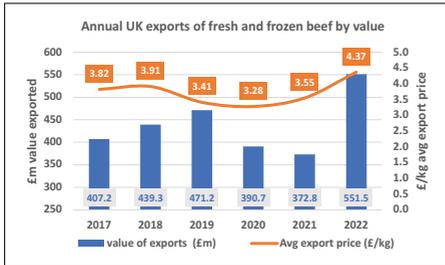


➔ International Trade (continued)

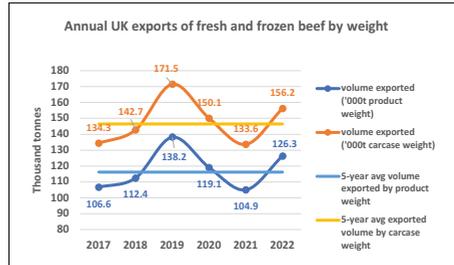
Exports

The UK's beef exports performed well given tight supply, Brexit and relaxation of pandemic restrictions in 2022. In total,

numbers jumped by 68.2% in value and 20.4% in product weight.



Source: HMRC; QMS calculations HS 0201, 0202, 02061095 & 02062991



Source: HMRC; QMS calculations HS 0201, 0202, 02061095 & 02062991
Boneless cuts converted from product weight to carcase weight using a factor of 1.56 (Source: USDA).

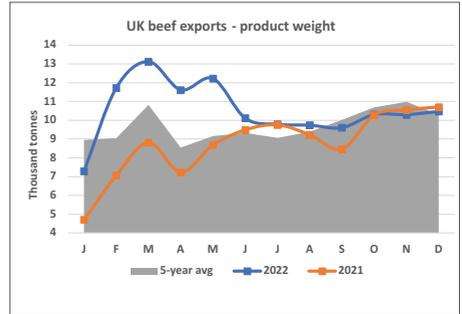
Composition of UK beef exports in 2022 – EU and non-EU comparison

Product category	Exports to the EU		Exports to non-EU countries	
	Share of exports	Average export price (£/kg)	Share of exports	Average export price (£/kg)
Fresh carcasses or half-carcasses	21.0%	3.06	0.2%	6.65
Fresh cuts, with bone in	13.8%	4.51	2.7%	3.34
Fresh boneless	44.4%	5.82	3.1%	5.01
Frozen bovine carcasses or half-carcasses	0.0%	36.72	10.2%	4.72
Frozen bovine cuts, with bone in	0.7%	3.54	13.9%	3.57
Frozen, boneless	18.7%	3.42	64.1%	2.69
Fresh or frozen skirt	1.3%	6.04	5.8%	2.09
Total	106,977t	4.60	19,291t	3.08

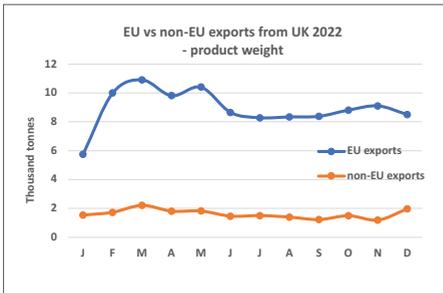
Source: HMRC; QMS calculations HS codes 0201, 0202, 02061095 and 02062991

It is worth noting that the volume growth was largely influenced by strong demand for beef from the EU, while a weakened non-EU export market limited the pass-through of a larger increase.

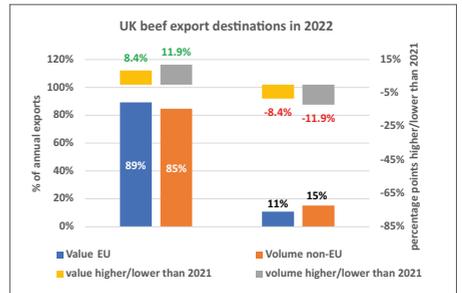
The Irish Republic remained the UK's largest beef export destination in 2022, supported by the existence of cross-border supply chains within the British Isles. The share of exports to France and Netherlands picked up quickly with an increase of 8% and 5% respectively.



Source: HMRC; QMS calculations HS 0201, 0202, 02061095 & 02062991



Source: HMRC; QMS calculations HS 0201, 0202, 02061095 & 02062991



Source: HMRC; QMS calculations HS 0201, 0202, 02061095 & 02062991



Source: HMRC; QMS calculations HS 0201, 0202, 02061095 & 02062991, product weight



International Trade (continued)

Sheepmeat

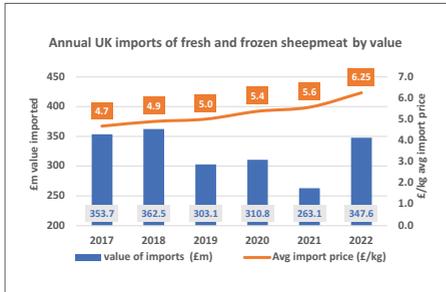
Imports

UK sheepmeat²³ imports rebounded strongly by 32% in value and 18% in volume during 2022. It is worth noting that this has reversed an eight-year consecutive downward trend in product weight, as imports increased from Ireland and the largest source of imported sheepmeat – New Zealand – despite a 11.6% lift in average import price.

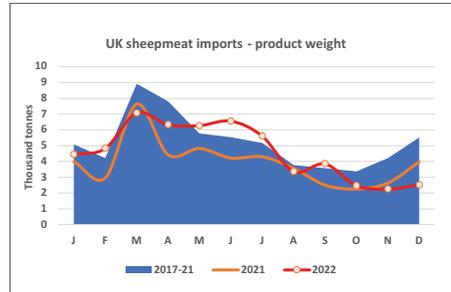
In 2022, there was a significant increase in the import of Irish sheepmeat, with a rise of almost 7,000 tonnes compared to 2021. This surge in import

volume exceeded pre-Covid-19 levels and was 62% higher than the five-year average. Notably, during the late-spring and summer months, exporters from New Zealand redirected their products from a weak Chinese market to Europe, resulting in a contribution of 58% to the total sheepmeat import to the UK. In product weight, it was 32,152t. This figure represents a 3.5% increase compared to the previous year, despite an overall long-term declining trend in the market.

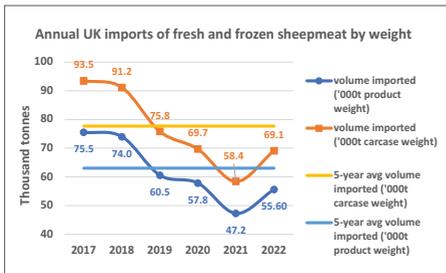
Imports from the EU doubled to 22.4% of the product weight total in 2022.



Source: HMRC; QMS calculations. HS code 0204



Source: HMRC; QMS calculations HS0204



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



Source: HMRC; QMS calculations HS0204, product weight

²³ HS code 0204 also includes goat meat but trade is minimal.

Composition of UK sheepmeat imports in 2022 – EU and non-EU comparison

Product category	Imports from the EU		Imports from non-EU countries	
	Share of imports	Average import price (£/kg)	Share of imports	Average import price (£/kg)
Fresh lamb carcasses or half-carcasses	9.0%	4.65	0.0%	23.45
Fresh sheep carcasses and half-carcasses (excl. lambs)	0.1%	2.46	0.0%	n/a
Fresh sheep legs	3.1%	4.18	8.3%	7.65
Other fresh cuts with bone in	16.8%	5.18	1.5%	8.30
Fresh boneless cuts	29.1%	4.09	4.2%	8.88
Frozen lamb carcasses or half-carcasses	0.6%	6.57	0.4%	5.61
Frozen sheep carcasses and half-carcasses (excl. lambs)	0.0%	10.92	0.0%	n/a
Frozen sheep legs	1.0%	5.76	47.4%	6.81
Other frozen cuts with bone in	5.1%	4.40	14.5%	5.94
Frozen boneless cuts	24.3%	4.97	23.7%	6.25
Fresh, chilled, or frozen meat of goats	10.8%	4.21	0.0%	n/a
Total	12,442t	4.60	43,166t	6.73

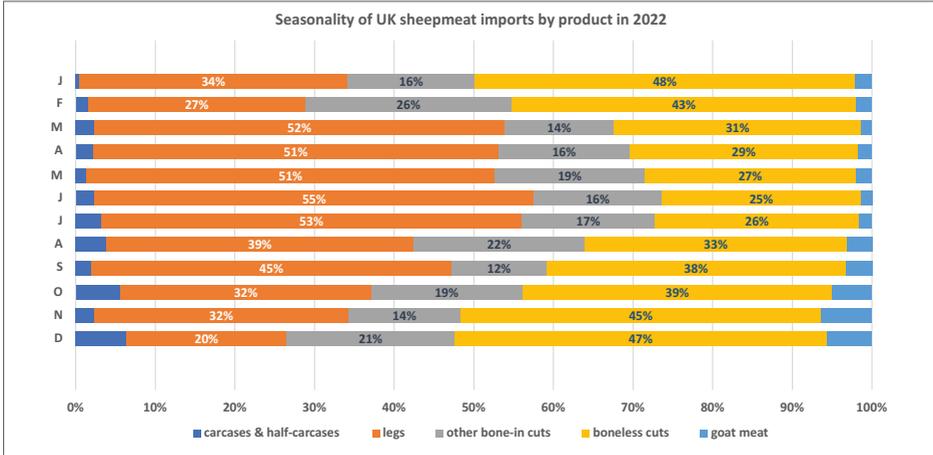
Source: HMRC; QMS calculations

Imports of frozen sheepmeat from non-EU countries have seen a significant increase, particularly in the case of frozen sheep legs. Sheepmeat imports to the UK tend to be seasonal, with trade reaching its peak during

the Easter and Christmas periods. During these times, there is a higher demand for leg roasts and boneless cuts, respectively. However, imports were unusually weak in the run up to Christmas in 2022.



➔ International Trade (continued)

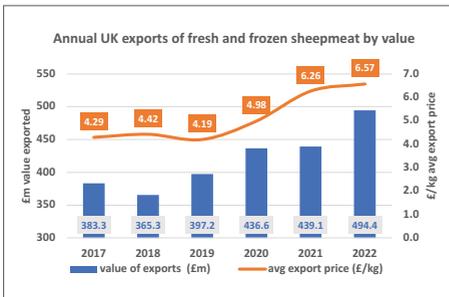


Source: HMRC; QMS calculations
HS0204, product weight

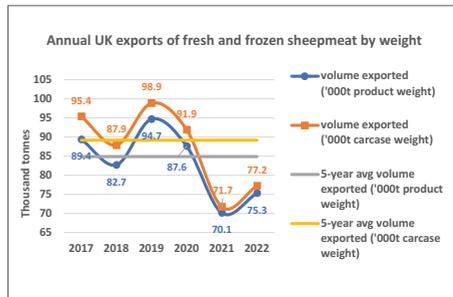
Exports

UK sheepmeat exports increased by 12.6% in value and 7.4% in volume in 2022, with the EU market remaining the primary destination.

In 2022, there was a notable shift in export trends, with a rebalancing towards fresh lamb carcase from fresh bone-in cuts. The total volume of fresh lamb carcase exports increased by 7,092t, despite an overall increase in the average export price for this category. However, bone-in cuts, excluding legs, experienced a decline of 3,106t in product weight.



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



Source: HMRC; QMS calculations
HS0204, Boneless cuts converted from product weight to carcase weight using coefficients in UK import quotas.

Composition of UK sheepmeat exports in 2022 – EU and non-EU comparison

Product category	Exports to the EU		Exports to non-EU countries	
	Share of exports	Avg export price (£/kg)	Share of exports	Avg export price (£/kg)
Fresh lamb carcasses or half-carcasses	80.3%	6.43	20.4%	8.54
Fresh sheep carcasses and half-carcasses (excl. lambs)	3.0%	4.14	0.2%	10.32
Fresh sheep legs	1.8%	8.75	0.6%	4.37
Other fresh cuts with bone in	10.1%	8.40	8.7%	11.67
Fresh boneless cuts	1.3%	9.77	4.8%	12.05
Frozen lamb carcasses or half-carcasses	0.1%	6.20	19.8%	2.85
Frozen sheep carcasses and half-carcasses (excl. lambs)	0.0%	2.35	0.9%	5.27
Frozen sheep legs	0.2%	8.54	0.2%	13.98
Other frozen cuts with bone in	1.7%	5.74	37.4%	2.91
Frozen boneless cuts	1.6%	5.95	6.2%	6.89
Fresh, chilled, or frozen meat of goats	0.0%	n/a	0.7%	4.40
Total	70,386t	6.63	4,954t	5.58

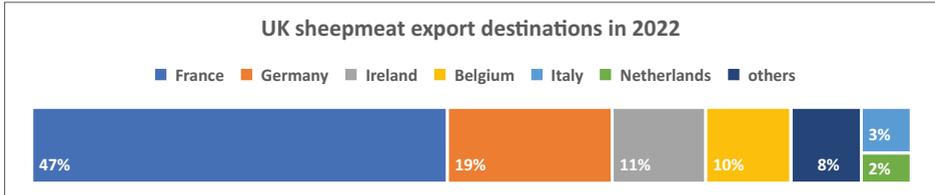
Source: HMRC; GMS calculations.

The most significant decline in exports in 2022 was observed in Hong Kong, with a notable decrease of 1,817 tons. This was followed by France and the Netherlands, which experienced declines

of 852 tons and 717 tons, respectively. On the other hand, the Irish market emerged as the top performer, registering a substantial gain of 3,930 tons in exports during the year.

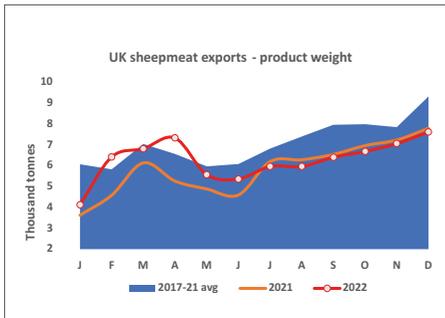


➔ International Trade (continued)

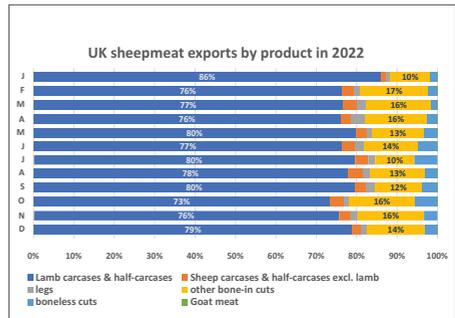


In 2022, UK sheepmeat exports reached their highest levels during the Easter and Christmas seasons, with

strong demand observed for bone-in cuts, particularly those other than legs, as compared to other months.



Source: HMRC; QMS calculations
HS0204



Source: HMRC; QMS calculations
HS0204, product weight

Pigmeat

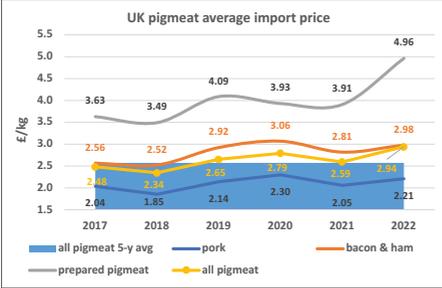
Imports

UK pigmeat imports²⁴ rebounded by 21.1% in value and 6.8% in product weight during 2022.

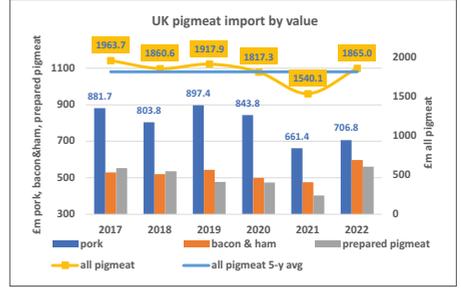
When categorised, imports of pork

underperformed and fell by 0.4%, while bacon and ham and prepared or preserved pigmeat increased by 18.8% and 9.5% respectively. However, despite the rebound, the overall import volume remained 11% below the five-year average.

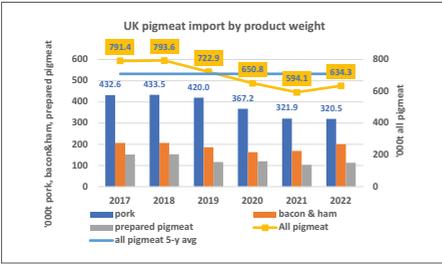
²⁴ Pigmeat imports are defined here as including fresh and frozen pork (HS 0203), bacon and ham (HS 0210), and prepared or preserved pigmeat (HS 1602). In HS 0203, bone-in cuts are converted from product weight to carcase weight using a factor of 1.11 and boneless cuts converted at 1.30. In HS 0210, 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). 1.30 (source: USDA – Livestock and Poultry World Markets and Trade).



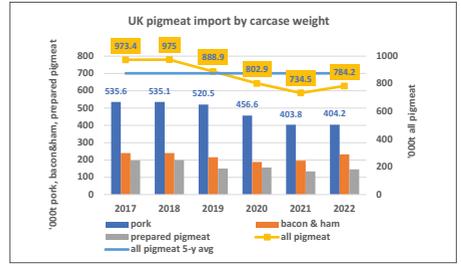
Source: HMRC; QMS calculations



Source: HMRC; QMS calculations

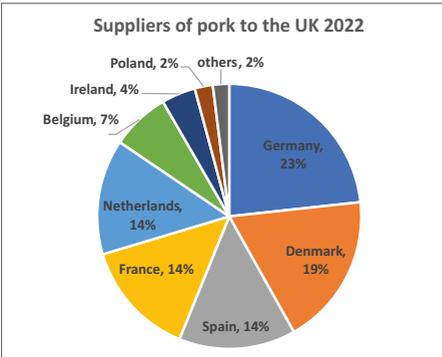


Source: HMRC; QMS calculations

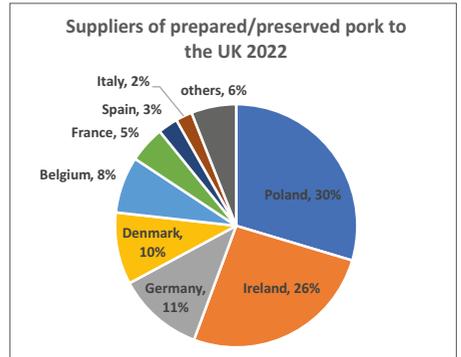


Source: HMRC; QMS calculations; USDA (carcass weight conversion coefficients)

When converted into carcass weight equivalent, the loss of pork import was mainly driven by fresh bone-in hams and shoulders, while an increase of frozen boneless cuts balanced out the overall volume. For the category of bacon and ham, the volume surge was from boneless cuts, salted, in brine, dried or smoked with an increase of 34,721t in carcass weight.

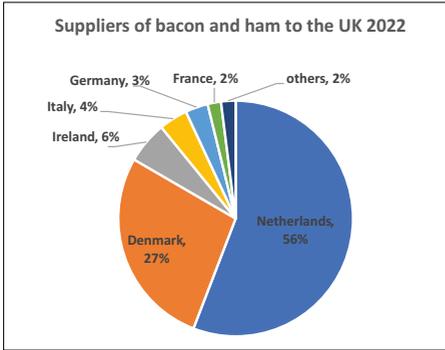


Source: HMRC; QMS calculations (HS0203, product weight)



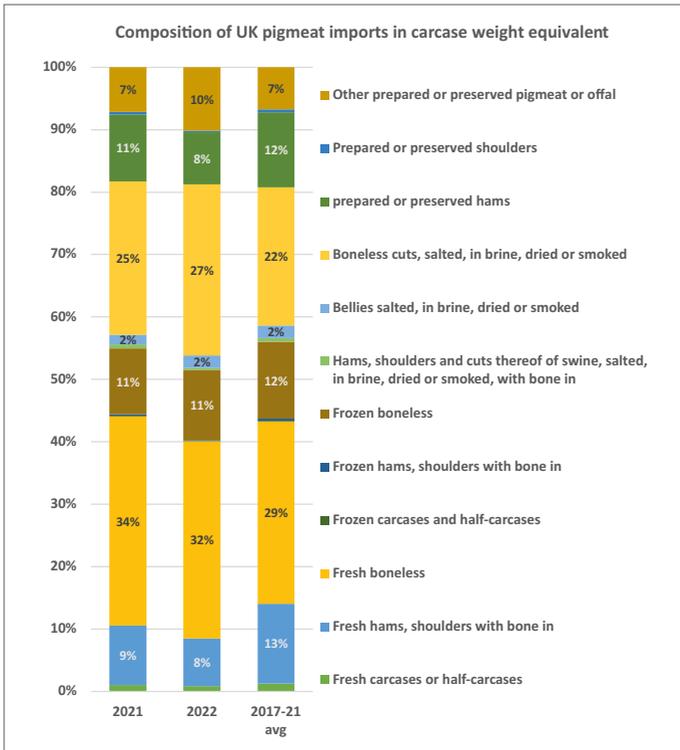
Source: HMRC; QMS calculations

➔ International Trade (continued)



Source: HMRC; QMS calculations

In 2022, Denmark lost its position as the top supplier of pork to the UK, being overtaken by Germany. The share of pork imports shifted from Denmark and Germany to France, Spain, and the Netherlands. In terms of bacon and ham imports, the Netherlands strengthened its leading position with an increase of 27,652t in product weight, while Germany was not as competitive as in the previous year. Despite recording a loss, Poland remained the primary source of the UK's prepared or preserved pork in 2022.



Source: HMRC; QMS calculations. USDA conversion rates

Exports of pigmeat from the UK showed a recovery in 2022, with a volume increase of 2.6% to reach 221,985t, accompanied by a 4.6% increase in value. However, the primary category of exported pork experienced a decline of 1.7% in product weight, following a significant slump in 2021.

In contrast to inflation in export prices of sheepmeat and beef, the average price of pork exported remained unchanged throughout 2022. The decline in the average pork export price to non-EU markets was offset by an increase in prices to EU destinations.

The share of total pork exports to non-EU markets decreased, accounting for

52% of the total. This decrease was largely driven by a loss of demand of 28,482t from China or Hong Kong in 2022, although China remained the primary destination for the UK's pork exports.

Pork 85.3%
(-3.8% y/y)

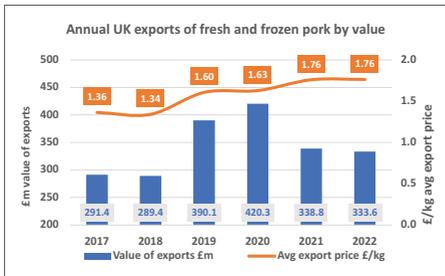


UK pigmeat export
221,985t
(+2.6%)

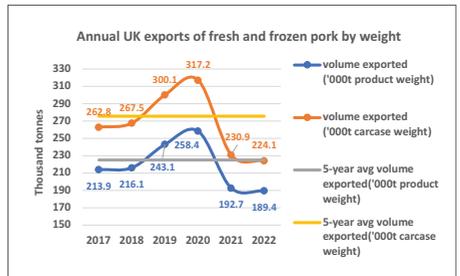
Bacon and ham 7.6% (+2.8% y/y)



Prepared or preserved pork 7.1% (+0.9% y/y)



Source: HMRC; QMS calculations. HS code 0203



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



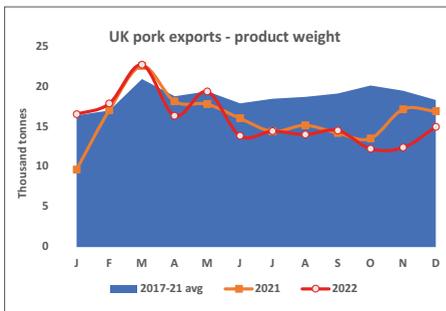
➔ International Trade (continued)

In 2022, there was a significant increase in the share of fresh carcasses exported to non-EU countries, as opposed to frozen categories such as bone-in ham and shoulder and boneless cuts. This shift was primarily driven by China's preference for fresh carcasses over frozen products, resulting in a notable increase of 12,857t in fresh carcass imports from the UK compared to 2021.

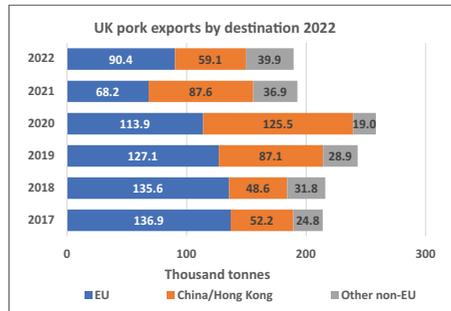
When it comes to the EU market, Ireland, Germany, and France remained the main destinations for UK pork in 2022. Ireland focused on importing fresh boneless cuts, which accounted for 72% of the trade. Germany continued to import more fresh carcasses, maintaining a share of 95%, while France significantly reduced its trade of fresh carcasses to 62%.

Composition of UK pork exports in 2022 – EU and Non-EU comparison				
Product category	Exports to the EU		Exports to non-EU countries	
	Share of exports	Avg export price (£/kg)	Share of exports	Avg export price (£/kg)
Fresh carcasses or half-carcasses	37.0%	1.09	20.0%	1.59
Fresh hams and shoulders, bone in	19.5%	1.41	1.3%	2.27
Fresh boneless	31.3%	2.50	3.6%	2.43
Frozen carcasses or half-carcasses	0.0%	6.76	2.0%	1.77
Frozen hams and shoulders, bone in	0.9%	1.60	9.4%	1.54
Frozen boneless	11.3%	1.90	63.6%	1.90
Total	90,416t	1.69	98,994t	1.83

Source: HMRC; QMS calculations
HS 0203



Source: HMRC; QMS calculations
HS 0203



Source: HMRC; QMS calculations. HS 0203, product weight

Exchange Rate Movements

Shifts in exchange rates affect the competitiveness of Scotland's red meat at home and abroad. A stronger Sterling tends to hinder exports because it reduces the Sterling revenue from an unchanged Euro price. At the same time, it reduces the relative price of imports, potentially reducing demand for domestic product in price sensitive market segments – most likely in foodservice and food manufacturing.

The Sterling spent the first eight months of 2022 at its strongest levels in a number of years against the Euro, but this position reversed after the financial market turmoil of September, following the announcement of a change in direction of UK fiscal policy. Nevertheless, it still closed the year stronger than it had been in the run up to Great Britain's exit from the EU single market at the start of 2021.

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
2013	↑ 84.9	4.25	5.89
2014	↓ 80.6	4.03	6.2
2015	↓ 72.6	3.63	6.89
2016	↑ 81.9	4.1	6.1
2017	↑ 87.7	4.38	5.7
2018	↑ 88.5	4.42	5.65
2019	↓ 87.8	4.39	5.7
2020	↑ 89	4.45	5.62
2021	↓ 86	4.3	5.82
2022	↓ 85.21	4.26	5.87

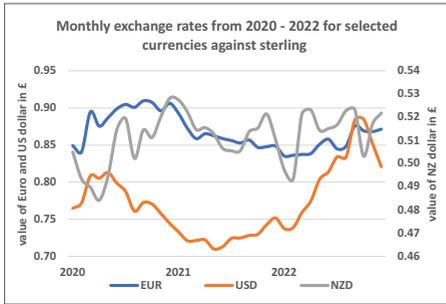
Source: ECB; QMS calculations.

Between March and September 2022, the Sterling was weaker against the New Zealand dollar than a year earlier, easing the competitiveness of lamb imports, with the reverse true for most of the early and latter part of the year.

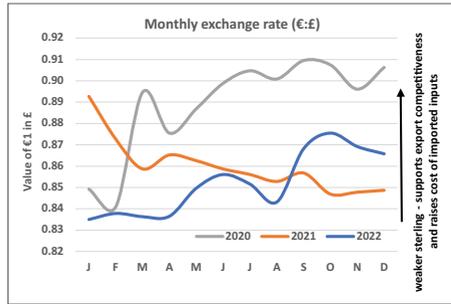
With the US dollar commonly used in international trade, its position

against Sterling can have significant influence on the competitiveness on UK red meat exports to markets outside the EU. A firm US dollar in 2022, due to global economic headwinds and rising US interest rates, will have supported returns on dollar-denominated UK exports to non-EU countries.

➔ Exchange Rate Movements (continued)



Source: Bank of England; European Central Bank; QMS calculations



Source: European Central Bank

QMS Current Programmes



Monitor Farm Programme 2022-2026

The aim of the programme is to help build resilient, dynamic farms focused on reaching full economic, social and environmental sustainability by optimising production.

The programme is led by QMS and AHDB. For more information, contact MonitorFarm@QMSScotland.co.uk or visit www.monitorfarms.co.uk



The Scotch Butchers Club

The Scotch Butchers Club positions butchers as the 'Champions of Scotch', promoting their skill, craftsmanship and knowledge to consumers via new social media channels and a website.

Please get in touch via phone: 0131 510 7920 or email: sbc@qmScotland.co.uk or visit makeitscotch.com/the-scotch-butchers-club



The Scotch Beef Club

QMS works closely with the food service sector to raise awareness and increase the understanding of Scotch Beef PGI, Scotch Lamb PGI and Specially Selected Pork.

Please get in touch via phone: 0131 510 7920 or email: info@qmScotland.co.uk



Farming Foodsteps

Farming Foodsteps is QMS's interactive educational , which explores the journey Scottish red meat makes from farm to fork and the role that red meat plays as part of a healthy, balanced diet and in the economy and environment.

Please start exploring at www.farmingfoodsteps.co.uk



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