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News in brief

July 2024

Ag & Rural Communities Bill passed – what next?

Headline news this month in the Scottish farming is that the Agricultural and Rural Communities Bill was passed into law on the 19th June, following final amendments in stage 3 of review. The Bill provides a framework of principles under which the details of agricultural and rural support will be developed going forward, and was accompanied by reassurance from the First Minister that support will not 'fall off a cliff edge'.

Now that the Bill has been passed, discussion as to what tiers of payments could and should look like ramped up at the Royal Highland Show, with a particular focus on what conditionality should be emphasised, and in which tiers and schemes. Last month's Sector Focus in Agribusiness News provided an overview of the outline for agricultural payment structures going forward. With the new 3-year Farm Advisory Service contract having been recently awarded, and upcoming consultations on Agricultural Knowledge and Innovation System design expected later this year, these are ideal opportunities for the industry to be flagging what areas of training and advice are most needed to help adapt to changing policy.

The Royal Highland Show attracted 220,000 people, a record number of visitors. Due to the pre-election period, the Show was quiet on policy announcements, although lively independent debates were held on the Land Reform Bill, and SRUC on the future of LFASS (Less Favoured Area Support Scheme – podcast forthcoming).

Briefly, June also saw the release of 2022 greenhouse gas emissions for Scotland, indicating that emissions reduced 0.1% overall from 2021 (and 50.1% reduction since 1990), with a 3.3% reduction in agriculture (12% since 1990). reductions between 2021 and 2022 have been attributed to reduced fertiliser use due to high prices, as well as reflecting long term decline in livestock numbers.

Next month:

- Plant extracts for enteric methane reduction
- Livestock marketing

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This month's editor:
Anna Sellars

New Agriculture Bill to become law

Deeming agriculture as being vital to our economy, MSPs have backed legislation that will change how the Scottish Government supports farming and food production as it seeks to become a global leader in sustainable and regenerative agriculture.

The new Agriculture and Rural Communities (Scotland) Bill aims to help farmers and crofters to produce more food more sustainably and to support their essential role in climate mitigation and nature restoration. This new legislation will also drive support for rural communities, the economy, and for land management and the environment.

As part of the Scottish Government's 'Vision for Agriculture', the new Bill will provide a framework of payments designed to support the agricultural sector to:

- play its part in reducing emissions,
- mitigating climate change,
- enhancing nature and biodiversity,
- continuing to support the sector in its critical role with regards providing Scotland with a sustainable and resilient food system.

As part of the new framework, it has already been announced that from 2025:

- New cross-compliance measures will be introduced for peatlands and wetlands.
- In order to qualify for Scottish Suckler Beef Support Scheme payments, suckler cows must have a maximum calving interval of 410 days.
- Whole Farm Plans will be introduced as a conditionality under the Basic Payment Scheme (BPS).

For a more in-depth look at the proposals for the new Whole Farm Plans, please see our Agri Business News Sector Focus article.

Natural Capital Market Framework

Scotland's economy relies heavily on natural assets, including renewable energy, tourism, agriculture and fisheries. Therefore, seeking to capitalise on natural assets in the form of geology, soils, air, water, plants and animals makes economic sense; and in the quest for Net Zero, carbon management sense too.

Scotland already has two established regulated natural capital markets, namely the Peatland Code and the Woodland Carbon Code which provide opportunities for carbon sequestration and storage, water management and recreation.

Supporting the creation of new markets could help to ensure healthy soils, improve biodiversity and air quality, reduce flood risk and enhance climate adaptation. As natural capital markets have the potential to enhance Scotland's wellbeing economy, it could be advocated that action is needed to boost the number, scale and variety of natural capital projects. However, moving away from straight economics, the Scottish Government is also keen that land based Natural Capital projects adopt integrated land use practices and that local communities have a share in any benefits.

To help facilitate this and to create a Natural Capital Market Framework, the Scottish Government have launched a survey, a link for which can be found here. The closing date for responses is the 12th July 2024.

Wide loads on public roads

With harvest just around the corner, farmers who wish to move vehicles or implements of over 3 meters combined width, or with a front or rear overhang exceeding 4 meters on public roads (i.e. combines and headers), are advised to apply for an annual dispensation from Police Scotland as this avoids the need to notify them in advance of each journey with a wide load. Once obtained, a copy should be carried in all the vehicles covered by it, as if stopped by Police Scotland, drivers will be required to provide proof that prior approval has been sought.

A copy of the application form is available online through this link. Completed application forms can be sent by:

Email:OSDAbnormalLoadsScotland@scotland.police.uk.

Post: Abnormal Loads Team at Detroit Road, Glenrothes, KY8 2RJ.

Please note that Police Scotland will respond in the same manner as the original application, so please apply in plenty of time if you send your application in by post, to allow for processing time and for the dispensation letter to be sent out.

Key dates

Date	Action
15 July 2024	End of management period for Ecological Focus Areas (EFA) fallow.
31 July 2024	AECS - Stand-alone Organic conversion and maintenance application period closes.
1 August 2024	End of management period for Ecological Focus Areas (EFA) nitrogen fixing crops.

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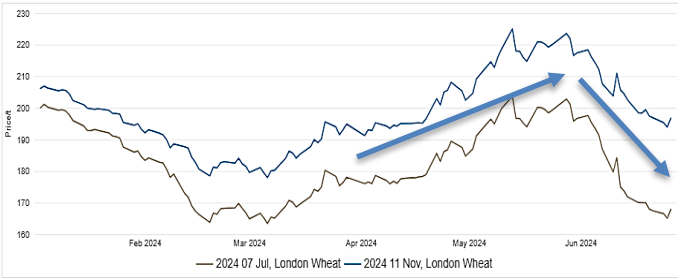
Easing markets undo Spring gains

Spring and Summer weather markets often bring additional volatility, and UK Nov '24 wheat futures values went up 15% through April and May, then back down again 12% through June. Most of the early price gain was initiated on the MATIF market, reacting to increasing European and eastern continental weather risks potentially creating a combined EU and Black Sea production downgrade of 15Mt. Significant if realised, it would represent more than half of the total EU export tonnage in 2023/24; this is why prices rose so strongly through April and May (Fig.1)

However, markets declined throughout June (Fig. 1) as the harvest began, bringing positive news regarding both yield and quality, which alleviated crop concerns. Initial results are indeed better than expected. In Russia, the core of the winter wheat region is harvesting at 6t/ha. Yields in Romania and Bulgaria are high, with quality rated as excellent. Consequently, traders are pricing in a better-than-anticipated harvest, leading to a logical decrease in prices. The first regions to harvest and export, located around the Black Sea, are currently pressuring global prices with aggressive offers in the initial Egyptian and Algerian tenders.



On the other side of the Atlantic, US winter wheat harvest has started too, with rapid progress (27% harvested vs 14% on a 5year average) and yields are on the upside (the highest since 2020). Spring wheat conditions are also excellent, above 70% graded as such. As a result, there will be more US wheat to export this season and with US export prices uncompetitive at the end of May, US wheat had to adjust very significantly in June (-18% in the last 2 weeks) to be competitive.

In the US, market pressures from the harvest typically diminish by the end of June. Meanwhile, in Europe and the Black Sea region, significant yield variations are expected across different areas. The most unexpected developments could occur in Western Europe, especially in France and Germany, where storms are affecting wheat potential again.

The wheat market story is therefore far from over. Real harvest results will be the trigger for price direction, first from Russia and then western Europe. Weather in July for US spring crops will also be highly important, especially for corn as South American production is certainly much lower than USDA estimates.

Wheat to import v Barley to export

New crop feed barley in the UK is significantly cheaper than feed wheat and is expected to stay that way. On one hand, the UK will need to import large quantities of wheat in 2024/25 to offset the anticipated lower production, necessitating high wheat prices to attract imports. On the other hand, with the largest ending stocks of feed barley in several years, the UK will continue to be a net exporter of feed barley. Therefore, UK barley prices must remain low enough to stay competitive in the export market, particularly to Spain and Portugal.

Oats conversely have a very tight balance sheet and fresh demand for July and August will put pressure on the arrival of new crop here in the UK. In Spain, oat harvest is well under way and an anticipated upward lift in production there will potentially limit import demand from the UK.

Paris rapeseed lost £20/t through June on the back of favourable soyabean growing conditions in the U.S and South America and although typically influenced by the sentiment in the soyabean market, the expected tighter global rapeseed availability out of the EU and Australia will partially offset the soyabean supply influence.

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Indicative grain prices week ending 28/06/2024 Source: SAC//United oilseeds/Farmers weekly/AHDB)

£ per tonne	**Basis**	July '24	Harvest '24	**Nov'24**	**Mar'25**
Wheat	Ex farm scotland	180	185	198	203
Feed Barley	Ex farm scotland	155	158	168	173
Oats	Ex farm scotland	257			
Oilseed Rape	Delivered Dundee	361	370	378	369
Beans	Ex farm scotland	286	291		

Marginal lift in finished price

Sluggish retail demand and higher than expected throughputs in April and May coupled with the availability of young bulls has done nothing to install confidence in finishers over the past six weeks as finished beef prices have fallen and remained low. For week ending 22nd June prices for Scottish steers hitting the R4L spec were sitting at 484p/kg/dwt. Prices have increased 2p from the first week in June – is this a sign that as reports suggest, beef prices are set to lift as cattle numbers coming forward look to tighten? There are concerns however that instead of lifting prices, processors will simply reduce slaughter days, unless beef sales increase. How much retail demand there will be is yet to be seen as demand generally drops throughout the summer, as with school holidays and the Covid bubble now burst, there looks to be more consumers holidaying abroad.

The current beef price is undoubtedly seeing finisher margins squeezed. The drop in fat price has come at a bad time for those short-keep finishers, starting to sell off their more expensive stores bought in the spring, which at the current beef price, will not have covered feed costs.

Price rows

Beef cattle prices have come under scrutiny recently, with reports highlighting price differentials in Scotland as much as 15p+ per kg between prices quoted to individual farmers and those given to levy boards. With concerns over future supplies (beef calf registrations in GB for the first three months of 2024 are back 2.3% compared to 2023), what the industry needs is a system that ensures everyone receives a fair price, allowing prices not to fall below a certain level which will help build confidence in the marketplace when purchasing stores.

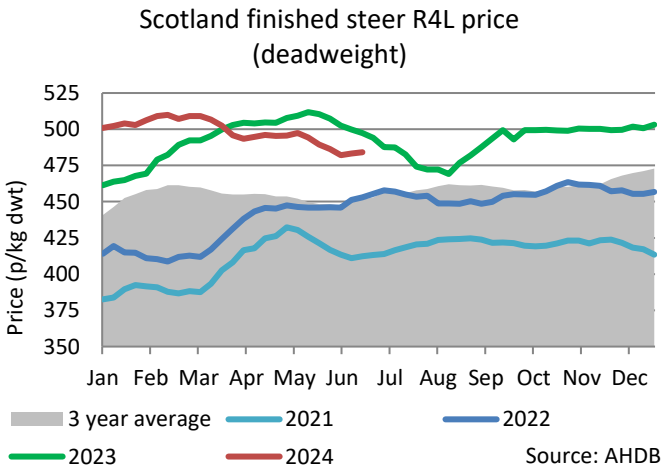
Store cattle

Trade for store cattle remains strong, in line with the time of year numbers forward are less, which is contributing to the price of stores. With some bigger stores sales scheduled for July, what is needed now is for the finished price to jump back up or finishers could look to pay less for stores and or not restock at the same level to restore some of the margins lost on the back of trading those dearer March and April bought cattle.

Cull cow remains strong

Cull cow trade continues to sit around 400p/kg deadweight. The weather has not helped lift prices, however going forward it is hoped that the Euro football tournament and improved summer weather will see consumers get the BBQ going. Those sitting with cows to sell should be getting these away at current prices, as the price tends to drop as we head into autumn.

In most years, the cow availability starts to increase as we head into the autumn, with scanning and housing, with this increase in numbers the price tends to dip so if there are still cows out there ready to kill, get them away at this high trade.



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Scotland prime cattle prices (p/kg dwt) (Source: drawn from AHDB and IAAS data)

Week Ending	R4L Steers (p/kg dwt)			-U4L Steers			Young Bulls -U3L		Cull cows	
		Change on week	Diff over North Eng.		Change on week	Diff over North Eng.		Diff over North Eng.	R4L	-O3L
08-Jun-24	**482.1**	-4.3		**482.8**	-4.7		475.2		400.6	383.2
15-Jun-24	**483.2**			**484.0**			478.2		398.5	372.6
22-Jun-24	**484.2**			**484.9**			476.3		400.5	378.3

Wool trade

As shearing gets well under way across the country, it is always interesting to follow the global wool trade. Wool is currently trading similar to last year, with Merino remaining the premium in the market. The Australian price has shown the greatest increase; however, this had fallen -10ac/kg in the month.

Figure 1: Global wool prices

	Avg. price end June 23	Avg. price end July 24	% difference
Australia	1139 ac/kg	1160 ac/kg	+1.8%
United States	773 usc/kg	774 usc/kg	+0.1%
China	55.58 ¥/kg	56.15 ¥/kg	+1.0%
Europe	7.08 €/kg	7.21 €/kg	+1.8%

Source: Australian Wool Innovation Ltd

Numbers on the ground

The highs of trading 2023 hoggs and 2024 early season lambs has been exceptional. Revised statistics, using slaughter figures have shown the 2023 lambs carried over to 2024 was 280,000 head or 6.5% less than the previous year. This carry over will contain an element of breeding hoggs that were cashed in on the premium prime market, showing the decline of lambs could have been more severe.

Looking towards the current 2024 crop of lambs, DEFRA has estimated the crop to stand at 15.9 million head, a reduction of 185,000 or 1.2% on 2023. The reason for this decline has been due to the reduced national flock, disease such as bluetongue and Schmallenburg, poor weather in April and the potential sale of ewe hoggs.

With less lambs on the ground, and early lambing flocks being impacted by bluetongue (see Management Matters article) and Schmallenburg, AHDB have predicted there to be 235,000 head fewer lambs forward for slaughter in the first 6 months of the year (Jan-June) at 1.42 million head. For July to December it is predicted an increase of 1% (48,000 head), to a total of 6.4 million forward for slaughter.

Festival demand

The key religious festivals have driven great demand for lamb and mutton over the last months. With these now passed, it is predicted the typical seasonal slip in price will occur. This will be combined with supply increasing over the summer. However, with fewer lambs on the ground, it is thought the price will remain above previous years. The export market remains strong into our largest market – Europe. However, our price point remains above France and Spain and over double the Australian and New Zealand price.

Figure 2: Deadweight prices across Europe

Country	Euros/kg DW
Great Britian	€9.60/kg DW
France	€9.51/kg DW
Spain	€8.35/kg DW
Australia	€4.42/kg DW
New Zealand	€3.66/kg DW

Source: BordBia for week ending 15/06/2024

In quarter 1 (Jan-March) we have had an increase in imports from Australia and NZ due to low domestic production, Easter and a competitive market. It is unlikely that this will be sustained for the rest of the year, with the NZ flock decreasing and Australia aiming for markets closer to home e.g. USA, China and Middle East.

Lamb is seen as a premium choice for the shopper but it does prove as a popular option when dining out e.g. curries, kebabs, etc. Supermarket offers and deals have shown great success for lamb over the year. One example of this is leg roasting joints show a price decrease in the shops over the last year of -5.8% but the year-on-year volume shows a 19.8% increase. Cheaper cuts such as mince (average £9.58/kg May 23-24) have shown an increased volume of 3.5%, while increasing in value by 2.6%. Ensuring the consumer knows how to make tasty mid-week cost effective meals will be a real driver for lamb sales going forward.

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Week ending	GB deadweight (p/kg) 16.5 – 21.5kg				Scottish auction (p/kg)				Ewes (£/hd) Scottish
	R3L	Change on week	Diff over R2	Diff over R3H	Med.	Change on week	Diff over stan.	Diff over heavy	All
08-Jun-24	**807.4**	-42.6	-0.2	6.00	**397.50**	-9.9	9.20	1.02	117.63
15-Jun-24	**810.4**	3.00	-2.3	4.00	**402.70**	4.20	12.40	6.80	116.39
22-Jun-24	**782.0**	-28.4	0.2	5.40	**377.00**	-25.7	15.40	7.60	116.47

Deadweight prices may be provisional. Auction price reporting week is slightly different to the deadweight week. Source: AHDB and IAAS
Standard weight 32.1 - 39.0kg; Medium weight 39.1 - 45.5kg; Heavy 45.6 - 52.0kg
Note: From 11th May, prices transition to new season lambs

Sector Focus: Local Food

To promote sustainable food production and consumption while boosting the Scottish economy, the Scottish Government has been championing local food and short supply chains in its policies, like in the Sustainable and Regenerative Farming, National Good Food Nation Plan, Local Food for Everyone strategy report, and Scotland Food & Drink's Industry Strategy.

The concepts of 'local' and 'short supply chains' are often conflated, and while there is often overlap, they are not inherently the same. While 'local' typically refers to the distance from market, 'short supply chains' emphasize minimizing intermediaries. Organizations like Nourish Scotland advocate for the term 'short supply chains' because local food can still involve lengthy supply routes, and short supply chains can include products sourced from afar. Additionally, the environmental impact of food depends significantly on production and processing methods. Shopping locally is frequently promoted as sustainable, yet this is nuanced; supporting local businesses and the rural economy is beneficial but must be coupled with regulations and science to ensure optimal soil use and environmental health. Moreover, not all crops are suitable for the Scottish climate, and locally manufactured products may not always use locally sourced ingredients.

What are local food supply chains?

In the Local food for everyone consultation report (2021) Scottish Government recognise local food as having some of each of the following features:

- It is produced locally (in your town, region, or elsewhere in Scotland);
- It has short supply chains (there are fewer steps between the primary producer of the food and the person who eats the food);
- It is sustainably produced (in a way that is better for the natural environment than industrial scale production);
- It is produced in a way that emphasizes building better relationships of trust, information, fairness and support between local food producers and the people buying and eating their food.

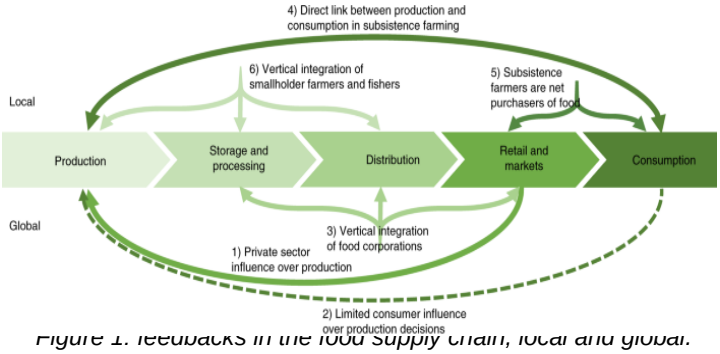

Figure 1: feedbacks in the food supply chain, local and global. (Davis et al., 2020)

To enhance Scotland's self-sufficiency in food production, it is essential not only to develop local and short supply chains through domestic production capacities but also to match this supply with appropriate consumer demand. If Scottish consumers continue to prefer imported products, the demand for locally grown produce will remain low. For this reason, food sovereignty encompasses empowering local agricultural production techniques and enabling consumers to make informed consumption decisions in a combined fashion.

Barriers and opportunities

Local food supply chains have gained renewed interest in Scotland due to recent global economic and environmental disruptions, shedding light on vulnerabilities in supply chains to food security. Like the rest of the UK, Scotland imports a substantial amount of food, with the UK importing about 40% of its food supply.

Some opportunities that come with localising supply chains might include a multiplicity of actors coming together to coordinate logistics, share costs, and reduce environmental footprint, producers retaining a higher percentage of final product sale price, the implementation of value-added agriculture through diversification of on-farm and post-farm gate processing facilities, a push back to large retail sectors' price setting capacity, increased opportunities for public procurement, the ability to implement renewable and innovative energy technologies, and fostering social bonds and a positive sense of place.

Some barriers might include burdening consumers with higher prices as opposed to cost-efficient industrialised supply chains, a shortfall of key intermediaries in rural areas, smaller production volumes and dependencies on seasonal supply, a reliance on a specialist skill set and community networks, a lack of consumer awareness and overarching food culture, and extensive food safety and labelling regulations.

Example initiatives

The Scottish Agricultural Organisation Society (SAOS) has been instrumental in coordinating cross-supply chain initiatives, such as the Milk Suppliers Association. Under the commitment to sourcing locally and complying to high ethical and sustainability standards, they have helped drive democratic decision-making in the sector.

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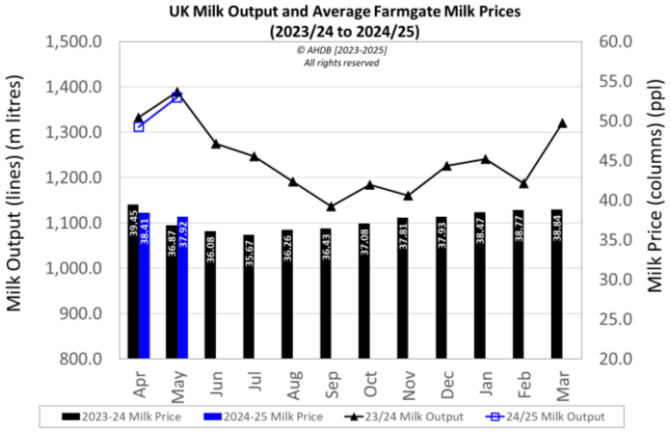
Milk production data

The latest GB monthly milk production data from AHDB is estimated at 1,129m litres for May, 12m litres less than May '23 and the lowest volume recorded for May since 2016. According to BCMS dairy cow numbers in the GB milking herd are the same as last year, indicating that the drop in milk volume is due to lower yield per cow. Daily deliveries were 34.95m litres for the w/e 15th June, 1.6% below the previous week and 0.3% down on the same week last year. The UK milk volume for May was 1,377m litres, 5% more than the previous month and 0.9% less than May 2023.



Farmgate prices

The Defra average farmgate milk price for May was 37.92ppl, 0.49ppl down on the April price. The most up to date milk prices from the main Scottish milk buyers available at the time of writing are shown below.

Milk Prices for June/July 2024 Scotland	Standard Ltr ppl	
First Milk[2]	July	40.30
Müller - Müller Direct - Scotland [1, 3]	July	39.00
Grahams[1]	July	37.00
Arla Farmers[2]	June	40.89
Lactalis / Fresh Milk Co.[2]	June	39.53

1 *Liquid standard litre – annual av. milk price based on supplying 1m litres at 4.0% butterfat, 3.3% protein, bactoscan = 30, SCC = 200 unless stated otherwise.*

2 *Manufacturing standard litre - annual av. milk price based on supplying 1m litres at 4.2% butterfat, 3.4% protein, bactoscan = 30, SCC = 200 unless stated otherwise.*

3 *Includes 1.00ppl Müller Direct Premium. Haulage deducted depending on band for 2023 vs 2021 litres, ranging from -0.25 to -0.85ppl.*

Dairy commodities & market indicators

There was a big jump in the latest UK wholesale prices for dairy commodities in June. Butter and cream were up 11% and 9% respectively from May. The lower-than-normal milk volumes around the time of the spring flush, coupled with the seasonal fall in butterfat raised concerns about product availability, with butter stocks now especially low. Cheese stocks are also of concern, with sellers more interested in maturing cheddar stocks to increase value, rather than undersell. As a result, market indicators also rose, with AMPE up 3.42ppl on the back of the significant rise in the butter component. On another positive note, the Milk Market Value was up 2.11pl to 38.65ppl for June, the biggest rise so far this year and this indicator often closely mirrors trends in farm-gate prices in three months' time.

UK dairy commodity prices (£/tonne)	Jun 2024	May 2024	Dec 2023
Butter	5,660	5,080	4,740
Skim Milk Powder (SMP)	2,060	2,010	2,230
Bulk Cream	2,292	2,104	2,054
Mild Cheddar	3,670	3,540	3,510
UK milk price equivalents (ppl)	**Jun 2024**	**May 2024**	**Dec 2023**
AMPE	40.50	37.08	37.96
MCVE	38.19	36.40	38.07

The latest GDT auction held on 18th June returned a slightly negative change of -0.5% in the GDT price index, with the average price down to US $3,893. The previous five auctions all returned positive results. At the latest auction, butter rose 6.2% although whole milk powder and cheddar fell 2.5% and 1.0% respectively.

Cost of production and benchmarking

Recent reports still put the cost of production above 40ppl and for the 2023/24 milk year, a cost of 43.4ppl was published by The Dairy Group. It is increasingly challenging to control costs without impacting on cow health, milk output and fertility. With feed being the biggest variable cost, it is worth pricing around and getting three quotes for high volume feeds to see if savings can be made. However, make sure you are comparing like-for-like products by looking at feed labels to assess quality of raw materials used. If in doubt seek independent advice. There are many sources of information to benchmark your own costs and feed usage. The latest data from Promar for April 2024 had yield from all forage at 8.1 litres/day, with a yield per cow in milk of 28 litres. Concentrate use was 0.34kg/litre, with a total feed cost of 11.33ppl and a margin over purchased feeds of 27.28ppl.

US bird flu cases

As of mid-June, there were 94 dairy herds confirmed with cases of bird flu (H5N1) across 12 US states. Michigan has the highest number of affected herds, which stands at 25. However, only three human cases have been confirmed, as a result of direct contact with infected cows. It is thought that the disease is being spread from movement of animals, personnel and vehicles and equipment that travel between farms. Several animal health companies are currently developing an avian flu vaccine for cattle. Although Defra is closely monitoring the US situation, there is no evidence that bird flu is present in the UK cattle population and with no recent cases in poultry, the risk from wild birds is low.

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Inputs: AI – servant or master?

Tempting as it was, Bing was not instructed to write 700 words on how "AI will affect Scottish agriculture". Well, it was asked but the output was somewhat disappointing so what follows is written by a human. So, what is AI (artificial intelligence)?

AI is the science of teaching machines to think for themselves. It is a general-purpose technology. Think of electricity: when invented electricity alone was of little use. But over the following 20 years it spawned many applied technologies that dramatically changed the way we lived and worked.

Already AI can outthink humans in some ways. The potential is exciting and almost boundless. Yet so too is the fear that we are letting loose something that may be uncontrollable. Below is a snapshot of how AI is already impacting agriculture and how this may develop in the longer term.

Helping us farm better

Farmers are already using AI chatbots like Bing to find information. Ask it, for instance, to locate the cheapest price for a specific product and you will in moments get a list. It may include errors, but it is a good way to get the buying process moving.

More exciting, is how AI is helping farmers make better decisions that can cuts costs and/or raise output with knock-on benefits for the environment and animal welfare. Precision farming includes many examples of AI at work. John Deere is capturing data on soil moisture, nutrient levels and plant health to optimise input usage. Blue Rivers Technology, a startup Californian tech company, used deep learning to develop the weed control system called See & Spray™. John Deere bought the company in 2017.

Here, Scottish company Soil Essentials has collaborated to develop a machine (called SKAi) that identifies, and controls weeds in grassland using AI technology. The technology was recently demonstrated at the Ayrshire monitor farm.

For livestock systems, AI is already helping farmers make better decisions. Techion's FECPAK^{G2} faecal egg counting system is currently moving to machine counting, resulting in instant reporting and thereby better targeted use of wormers.

Wearable technologies are providing a wealth of data that allows feeding, breeding and health management at the individual animal rather than herd level. While an obvious development for intensive, housed dairying systems, wearables are also revolutionising extensive grazing systems. Several Scottish beef farmers are reporting promising results from virtual fencing tech that controls where cattle graze on an open hill. Environmental organisations are also exploring the habitat management benefits of this technology.

Synthetic biology and AI

Cutting edge as the above examples are, AI is often simply adding speed, accuracy and robots to currently known technologies. The big potential of AI is to be truly transformational: to create things we humans haven't even thought of. This involves AI exploiting a second revolutionary technology – synthetic biology.

Selective breeding for productive traits like growth is the cornerstone of crop and livestock systems. The decoding of DNA gave scientists access to the building blocks of life and consequently the opportunity to greatly accelerate genetic improvement. CRISPr gene editing allows these building blocks to be modified like computer code, thereby offering the opportunity to add highly beneficial traits to animal or crops genetics.

Combining AI machine learning with raw DNA information increases scientific discovery exponentially. Food production without the need for farming as we know it becomes a distinct possibility.

Challenges and downsides

Exciting as AI is, there are hurdles to its adoption in agriculture. First, as explained it is the technologies that AI underpins that must attract farmers. Many of these are still quite new and expensive, so cost will be a factor. For instance, wearable cattle collars and faecal egg counting involve an upfront capital cost plus an annual subscription thereafter.

Then, because of the digital nature of AI, connectivity (and battery strength) can be an issue. Then there is the question of data management and ownership. A more fundamental barrier to uptake is the level of skills and knowledge in the industry. Some farmers are keen users of information to help make better decisions, but many are not. Of course, AI may well take the farmer completely out of the decision-making loop in many instances.

Many farmers, however, may point to the unreliability of such systems when digital connectivity breaks down. Or the potential for bad actors to manipulate or steal data as an increasing number of ransom cases highlight.

Yet the ultimate concern is fear of developing something far more intelligent than us humans and letting it loose in the genetics toolbox. The jury is out as to whether fail safes can be built into AI technology. The rise of the machines therefore offers great opportunities but also significant threats.

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Update on Bluetongue Virus Serotype 3 (BTV-3)

There is a very high probability of a new introduction of bluetongue virus serotype 3 (BTV-3) in livestock across Great Britian this year. The disease is spread through infected biting midges, with a high risk of them being blown over from badly affected countries in Northern Europe. They can travel long distances, up to 200km by wind. As midges are most active between April and November, we are now in the middle of the risk period. While all ruminant animals including camelids can be affected by the disease, there is no risk to food safety or evidence of the virus infecting humans.

It only takes one bite from an infected midge to transmit the disease and the animal will be infectious 2 to 4 days after being bitten. Another route of infection is for an infected animal to be bitten by an uninfected midge. The virus then replicates in the midge, moving to the salivary glands where it can then affect other livestock that they subsequently bite.

Symptoms

Sheep tend to be more affected by the disease than cattle, with more severe clinical signs and higher mortality rates. Mortality rates in sheep can be as high as 70%, even though only a small percentage may show clinical signs. Symptoms includes changes in appearance to the mucous membranes of the nose and mouth and reddening of the coronary band of the foot, causing lameness. Nasal and eye discharges may be evident, as well as excessive salivation (due to mouth ulcers) and high rectal temperatures. The following table details the common symptoms seen in cattle and sheep/goats:

Cattle	Sheep/goats
Lethargy	Mouth ulcers
Poor appetite	Nasal discharge
Milk drop	Salivation
Fever	Facial swelling
Nasal discharge	Swelling of the coronary band
Reddening of the coronary band	Lameness
Reddening and erosions on the teats	Fever
Reddening of the mouth, eyes and nose	Laboured breathing
Crusty erosions around the muzzle and nostrils	Subcutaneous haemorrhage (bleeding under the skin)

Unborn offspring can contract the disease if the dam is infected, causing abortion and foetal deformities similar to Schmallenberg.

Prevention

Prevention is very difficult – there is no evidence that insecticides or repellent products are effective. Airflow in sheds is important as midges cannot fly in high winds. They do not like rain and for the virus to replicate in midges, the average daily temperature has to be higher than 15°C. The risk of infection is therefore perhaps lower when livestock are grazing high, windy and colder fields.

The risk to livestock in GB will be dependent on the extent of the disease in Northern Europe, the timing and extent of an influx of infected midges from Northern Europe, as well as wind patterns and temperatures. However, the greatest risk will be to the south and east coast of England. The disease could also spread via importing infected animals, as well as genetic material e.g. semen and embryos.

Currently there is no vaccine authorised for use against BTV-3 in the UK or Europe, although Dutch authorities have approved a vaccine which has emergency use approval (but not market authorisation).

Farmers should be aware of the clinical signs and be extra vigilant for any of these signs in their livestock. If sourcing animals (or genetic material) from Europe, know the current disease status of exporting countries and collection centres. It is worth asking for a PCR test for Bluetongue before importing animals and ensure that imported animals have the appropriate paperwork and are compliant with the conditions in the export health certificate. All imported, susceptible animals should be housed separately from other animals in the herd or flock during the time they are under restriction.

Further information

As bluetongue is a notifiable disease, any suspected case must be reported ASAP to Animal and Plant Health Agency (APHA). The latest news updates on the virus, along with additional resources with information can be found at: https://ruminanthw.org.uk/bluetongue-virus/

The following article published in In Practice also contains useful reading on clinical signs and differential diagnoses: https://bvajournals.onlinelibrary.wiley.com/doi/epdf/10.1136/inpract.30.5.242

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Sector Focus: Whole Farm Plans

Whole Farm Plans

Under the new Agricultural Route Map for Scotland, farmers and crofters will be required to undertake a series of initiatives as part of a Whole Farm Plan if they wish to apply for support payments through the Basic Payment Scheme (BPS) from 2025 onwards. The initiative has been designed to help farmers and crofters take a holistic view of their farm/croft in terms of efficiency, sustainability, carbon emissions and biodiversity. The idea behind the Whole Farm Plan is to help businesses identify areas for improvement, and to subsequently allow them to assess the effectiveness of the improvements they carried out.

Timescales

By 15th of May 2025

Farmers and crofters who intend to claim under the Basic Payment Scheme (BPS) will have to demonstrate that by the 15th of May 2025 they:

- have started to review and baseline their current and livestock management practices and,
- are considering any changes required to ensure that their future agricultural activities are sustainable, efficient and resilient.

By the 15th of May 2025, in order to qualify for a Basic Payment, farmers and crofters will have to have in place at least **two** out of the five baselines. The five baselines and their review periods are:

Audit/Plan Name	Reviewed
Animal Health and Welfare Plan	Annually
Integrated Pest Management Plan	
Biodiversity Audit	Five Yearly*
Carbon Audits	
Soil Sampling and Analysis (Region 1 land)	

Please note with regards Soil Sampling and Analysis - every Region 1 field must be sampled once over a 5 year period and from 1 July 2024 must include analysis for soil carbon

Where businesses are required to have an animal health and welfare plan and/or a carbon audit as part of their Quality Assurance membership and/or a production contract e.g. a supermarket or a milk company contract; these plans will qualify as one of the two baselines requirements as long as they meet the validation criteria in terms of quality and timescale.

Farmers and crofters who intend to claim Basic Payment Scheme (BPS) in 2025 must check what audits and plans are required for their business.

- By the 15th of May 2025 ensure that they have at least two of the audits and plans relevant to their business in place completed.
- Ensure that the audits/plans meet the minimum standard for the Whole Farm Plan.
- Ensure individual audits/plans meet the validity period (see table on the previous page).
- Indicate on their 2025 Single Application Form (SAF) what audits/plans they have.
- Ensure copies of audits/plans can be shared with SGRIPD if required e.g. a biodiversity (audit) habitat map.
- Keep a record of any actions taken based on the information from the audits/plans.

From 2025, as part of the on-farm inspection regime, SGRIPD will check that farmers and crofters have the audits and plans that they have indicated that they have on their 2025 SAF and that there are deemed valid (i.e. they meet the minimum standard and validity period).

By 15th of May 2028

Businesses need to have completed all the audits and plans relevant to their land classification and the agricultural activity carried out the holding, which translates as:

- All businesses will need to have a Biodiversity and a Carbon audit.
- Business with Region 1 land that apply artificial fertilisers and/or organic manures to it, will need to have a soil analysis plan.
- All cattle, sheep, pig and poultry (350+) keepers will need an Animal Health and Welfare Plan.
- All businesses that use pesticides (plant protection products) will need to have an Integrated Pest Management Plan.

There are also plans to introduce a Nutrient Management Plan which will provide recommendations for crop and grassland. For further details of the Whole Farm Plan and the five baseline initiatives, please see online at: www.ruralpayments.org/topics/all-chemes/whole-farm-plan

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Key Economic Data

General Indicators	
Base interest rate	5.25% (5.25% June 23)
ECB interest rate	3.75% (4.00% Sept 23)
UK (CPI) inflation rate	2% (target 2%)
UK GDP growth rate	0.6% (Q1 2024)
FTSE 100	8,179.68(27/06/2024)

Price indices for February 2024 (Defra 2020 = 100)			
Output Prices		**Input Prices**	
Wheat	118.2	Seeds (all)	108.6
Barley	130.8	Energy	156.3
Oats	163.8	Fertiliser	155.2
Potatoes	266.5	Agro chemicals (all)	115.7
Cattle and Calves	140.6	Feedstuffs	128.2
Pigs	132.0	Machinery R&M	125.3
Sheep and Lambs	177.6	Building R&M	136.9
Milk	132.4	Veterinary services	109.8

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