ANDERSONS Seminars Spring2022

Prospects for UK Agriculture



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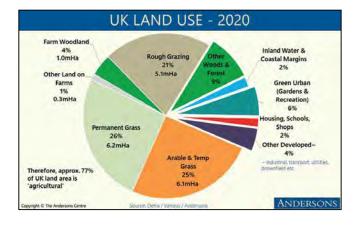
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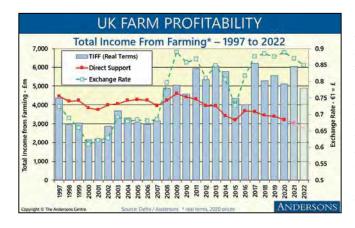
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PROSPECTS FOR UK AGRICULTURE

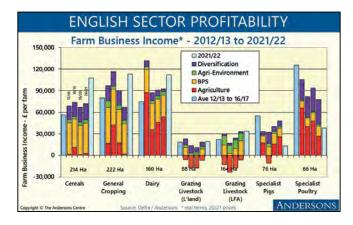
FARM PROFITABILITY AND PERFORMANCE



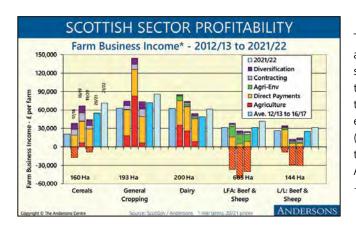
This chart shows an approximate split of all land use in the UK. The rough grazing category includes all 'natural' land use so areas such as heath, bogs, marshes etc. are included. It shows that over threequarters of the land area of the UK is in agricultural use. In the future there will be more competing demands for land use. This presents both opportunities and threats for UK farming.



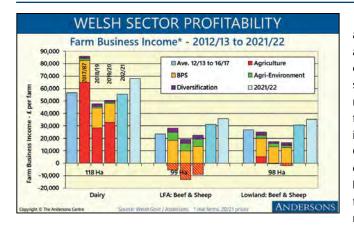
Defra's 'Total Income from Farming' (TIFF) measures the aggregate profit of the UK farming sector. In technical terms, TIFF shows the return to all the farmers in UK agriculture and horticulture for their management, labour and their own capital in their businesses. Defra's latest figures relate to the 2020 year and only show a modest drop on 2019 – despite a decline in crop output caused by the difficult growing season for harvest 2020 (and the effect of Covid on farm diversifications). Our estimates for the 2021 calendar year indicate higher total profits – possibly above £6bn. Output prices have generally been strong whilst cost increases will not have a great impact. For the 2022 year the cost increases will be felt far more and this is likely to reduce overall profitability.



This slide gives a breakdown of profitability by sector. It shows data for England, taken from the Farm Business Survey. It shows farm-level profits -averages for part and full-time farms (any business with over half a Standard Labour Unit requirement). Farm Business Income (FBI) represents the financial return to the farmers' (and spouse') unpaid labour and on the capital invested in the farm business (a rent on owned land is not imputed). It can, therefore, be seen as a measure of Net Profit of a farm business. An average is first given for the five years 2012/13 to 2016/17. The data for the years thereafter has been split into the contribution from each of four profit centres. It shows how important subsidy income (BPS and agri-environmental income) is to the profitability of English farming. This is especially true of some sectors such as (hill) grazing livestock farming. The final sets of columns are Defra's first estimates of FBI for 2021/22 (the year just ended). Included is the average farm size in each of the categories (for the 2020/21 year) so that it is possible to see what an 'average' farm in each sector looks like.



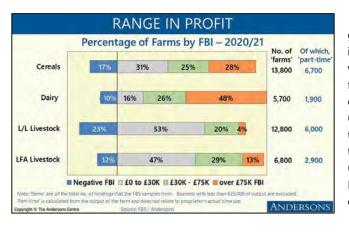
This chart shows the split of farm incomes for Scottish farms. The measure is Farm Business Income (FBI) and they cover part and full-time farms. The average farm size for each category is shown (and relates to the 2019/20 year). The first column shows the average for the five years 2012/13 to 2016/17. For the next three years the FBI has been split into the profit contribution from each of five profit centres. It shows how important subsidy income (BPS and agri-environmental income (which includes LFASS)) is to the profitability of Scottish farming. The final two columns show Andersons' estimates for FBI for 2020/21 and 2021/22 respectively – the Scottish Government has not yet released this data.



The performance of the main sectors within Welsh agriculture are shown on this slide. The measure is Farm Business Income (FBI), and covers part and full-time farms. The average farm size for each category is shown (and relates to the 2019/20 year). The first column shows the average for the five years 2012/13 to 2016/17. For the next three years the FBI has been split into the profit contribution from each of four profit centres. It shows how important subsidy income (mainly the BPS) is to the profitability of Welsh farming. Generally, Welsh farms receive less diversification income than, for example, English farms – this is primarily due to their more remote locations. The final two columns show Andersons' estimates for FBI for 2020/21 and 2021/22 respectively – the Welsh Government has not yet released this data.



Here is a breakdown of profitability by sector in Northern Ireland, based on data from the DAERA Farm Business Survey. The figures are farm-level profits – they are averages for part and full-time farms (any business with over half a Standard Labour Unit requirement). The measure is Farm Business Income (FBI). The average farm size for each category is shown (and relates to the 2019/20 year). An average is first given for the five years 2012/13 to 2016/17. The data for the years thereafter has been split into the contribution from two profit centres i.e. direct payments and other farm income (including income from agriculture). It shows how important direct payments are to the profitability of NI farming. The final two columns show Andersons' estimates for FBI for 2020/21 and 2021/22 respectively – the Northern Irish Government has not yet released this data.

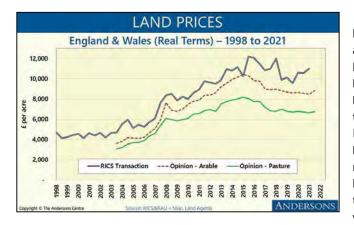


The averages shown by the Farm Business Survey do not look good for a number a sectors. Averages can hide as much as they illuminate. This graphic shows the percentages of farms that fall within certain bands of profit (FBI). They relate to England, but figures for Scotland and Wales are similar. In all of the sectors, it can be seen that a proportion of businesses generate a negative FBI (i.e. a loss). For lowland livestock farms this is almost a quarter of them. There is a large cohort of 'part-time' businesses which bring the averages down. These generally are those farms that have a (calculated) labour requirement of half to one full-time-equivalent. In many cases though, the farm will be the proprietors' full-time occupation.

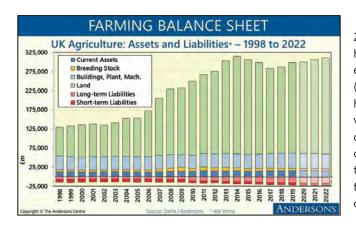
PRODUCTIVITY

- A key policy goal for Defra (and devolved administrations) - statistics show stagnation over the last 20 years
- · Frees-up land for other uses
 - National Food Strategy (Dimbleby Report) states 20% of English farmland produces 3% of calories
 - likely to be more 'no-land', high productivity farming in future substrate farms, vertical farms, insect protein, cultured meat, etc.
- Plus, benefits on GHG, higher GVA, reduced support for ag. etc.
 Gov't focus is often on investment grants for 'stuff'
- More important are skills and structures
- Traditional measures of productivity tend to ignore environment
- looks at output versus purchased inputs not soils, biodiversity etc.
- natural capital approach better, but complex to implement

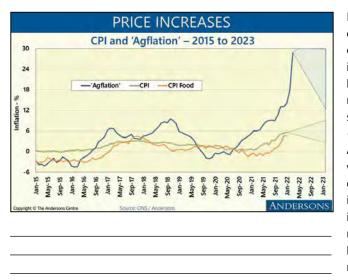
Increasing agricultural productivity is one of key aims of Governments across the UK. It has benefits of generating greater economic prosperity (in rural areas). A more productive industry should also have less need for public support. Whilst it may seem counter-intuitive, a productive industry can be good for the environment – it will use fewer inputs for each unit of output and it should need less (land) resource – freeing up space for other uses. This links into the topic of land use discussed later in the presentation. The measures of productivity show only slow improvements in the UK. However, the measures themselves are quite 'narrow' and do not incorporate the contribution from the natural environment. Much productivity support is focused at providing grants for equipment. We argue that skills and management are more important factors than infrastructure.



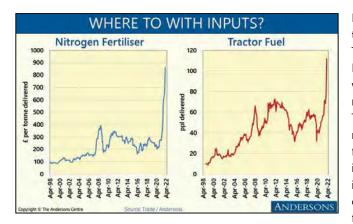
Recent changes in land prices in England and Wales are shown here (there is little independent data for Scotland). The RICS figures are a weighted average of actual transactions they record. These are higher as they incorporate dwellings and buildings. The other two lines are a sample of surveyors' opinions on bare arable and pasture land. After moving downwards for around five years, land price ticked-up in 2021. There is currently strong demand for farmland. Not just from the traditional sources of farmers, investors and those looking for the rural idyll, but also now from new sources such as rewilders, foresters and carbon traders. Despite interest rate rises, borrowing costs remain low. There are almost constant concerns that reliefs under Inheritance Tax (IHT) and Capital Gains Tax (CGT) will be amended to the detriment of landowners. However, we would be surprised if there are any significant changes. All this suggests that prices may continue to rise.



This chart presents the aggregated balance sheet for UK farming. 2020 to 2022 figures are Andersons' estimates. Long-term liabilities have grown whilst short-term liabilities have decreased. This is evidence of more lending on term-loans rather than overdrafts (or trade credit etc.). All liabilities are dwarfed by the various assets held by farm businesses. The stand-out change is the rise in the valuation of land. This has been flat for five or six years but is now climbing again. This makes land-owning farmers richer – if only on paper. It is one of the reasons structural change may be slower than suggested by the profit figures shown earlier. Poor performing farmers can borrow against their rising asset base or sell off an occasional field to top-up their cash position.



Inflation is currently a hot topic. This is true both in the general economy and in farming. The Government's preferred measure of inflation, CPI, has been relatively close to the Bank of England's inflation target of 2% for many years. In recent (Covid) times it has been nearer 0%. However, prices for many goods and services rose dramatically through 2021. The Office of Budget Responsibility's (OBR) current central forecast of inflation for 2022 is 4% - double the target. The 'agflation' figure has been calculated by Andersons based on Defra price indices for agricultural inputs, weighted for their overall value. It is much more variable than general inflation. This is largely due to the linkages to commodity prices for such things as fuel, fertiliser and animal feed (feed is almost a quarter of the index). Agflation in March surged to nearly 30% comparing with the same month a year previously. It had been at 10% even before the invasion of Ukraine. It may well remain high for the rest of 2022 at least.



Echoing the figures for 'agflation', this slide shows the increases in the value of fuel and fertiliser as a result of the conflict in Ukraine. The fertiliser is 34.5% Ammonium Nitrate (AN) – home produced. Both prices have seen exponential increases since the breakout of war due to the importance of Russia in both the oil and natural gas markets (natural gas being the key feedstock for nitrogen fertiliser). The impact on farm business as a result of these commodity price rises will not be proportional. The amount spent on fertiliser per farm is greater than that spent on fuel. Further, the timing of the impact on different farm types will vary. For arable farmers, the impact will be felt in the 2023 crop, with fertiliser already purchased for many for the 2022 crop. For livestock farmers, buying fertiliser for grass, the impact is likely to be more immediate, with key buying windows in the spring.

SUPPLY CHAIN - WHEN JUST-IN-TIME ISN'T

Availability of Trained Staff at 40-Year Low

- Surge in demand for goods post lockdown
- Company stock replenishments
- · Early retirements accelerated by Covid
- · Self-isolations, and parents looking after children
- · No training lorry driver tests, meat cutters, etc
- · Brexit; some workers returned to Europe, with lorries/skills
- Other sectors more desirable when staff demand is high
- Additional qualifications required for agri-bulk deliveries
- Switching drivers between logistic sectors is not easy
- Surge in demand for other deliveries (e.g. Amazon / Tesco)

Other input shortages too (e.g. CO₂)

Since the Lockdown-1 panic, consumers have hardly noticed our industry working to ensure food is still available to everybody. The industry has succeeded remarkably well. Yet so many sectors hit upon problems to do with labour supply. This might not necessarily be on the farm but could be to do with the supply chain. Sourcing skilled cutters in abattoirs to process pig carcasses, qualified lorry drivers to collect grain, experienced and fast pickers and graders in the vegetable fields, fruit orchards, and packing houses has slowed the farming cycle. This has been primarily Covid-related issues as the list suggests but Brexit has also played a small part.

THE WIDER ECONOMY AND FOOD CHAIN

- Growth to rebound from Covid in 2022
 some sectors benefitted from Covid UK red meat, local food, 'staycations' etc. – how does this unwind?
- Wage pressure and availability problems from tight labour market
 issues in related sectors such as transport and processing
- Interest rates likely to rise further still low in historic terms
 only a minority of farm businesses to be pressured by this
- Carbon pricing in the economy probably still some way off
- Exchange rates remain a big influence on UK farm profitability
- direction of Sterling always unknowable, but higher interest rates and economic recovery may strengthen £, unless EU/US does the same
 \$ rate to become more important; € rate less?
- strong £ generally bad for UK farming profits

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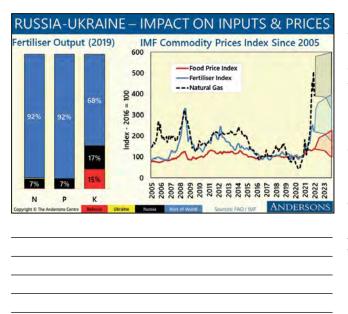
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The OBR believes the UK economy will grow by 6% in 2022 as it bounces back from Covid. A strong economy is good for businesses in most sectors, although farming tends to be mostly divorced from the wider economic cycle. Agriculture has had a relatively 'good' pandemic with increased demand for many farm products and a boost for rural domestic tourism. It remains to be seen how these trends develop as the country emerges from Covid. Farming and the wider food chain is facing labour shortages as well as higher costs. Interest rates will rise further in 2022 to counteract inflation. Even base rate rises to 1% would still leave borrowing costs at historically low levels. Exchange rates remain crucial to a largely commodity industry like farming.

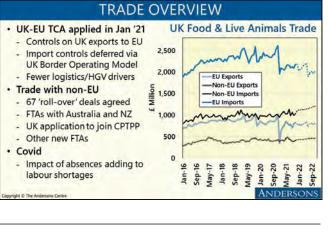
TRADE UPDATE



Tensions between Russia and the Ukraine emerged in late 2021 and, by late February 2022, a full-scale war has broken out. Most of the attacks are in the East and South of Ukraine – the main wheat production regions – but the conflict is increasingly engulfing the country as a whole. As the data from the USDA estimates show for the 2021 marketing year, Ukraine is a major player in global grain trade. Its main wheat production areas are close to the conflict areas. The conflict is already having major repercussions for the UK and global grain and oilseeds industries. Whilst being a significant player in terms of oilseed rape exports, Ukraine is even more important in the sunflower seeds sector, as it is the No. 1 producer globally and accounts for half of global sunflower oil exports. Russia's importance is also notable, particularly for wheat and its major winter wheat production region is also in the Black Sea region, close to the border with Ukraine.



The influence of the Russia-Ukraine war is also significant in terms of inputs, especially fertiliser. As Belarus is allied with Russia, it is also included on the breakdown of fertiliser production chart on the left. Belarus and Russia together account for almost one-third of global potash production (the raw material for potassium (K)). Russia is also a notable producer of nitrogen fertiliser and had banned the export of ammonium nitrate until April, even before the Ukrainian conflict started. The chart on the right shows the extent to which input costs, particularly natural and gas and fertiliser are likely to rise in the months ahead, due to the conflict. This will inevitably have repercussions for the Food Price Index which, in January, was already at its highest level since 2011. At that time, higher food prices caused instability in the Middle East and North Africa in particular and there is concern that future food price rises will give rise to geopolitical instability elsewhere.



UK exports to the EU have faced border controls (non-tariff barriers) since January 2021, but imports from the EU have thus far only had limited controls. The UK Border Operating Model is being phased in over 2022. Full customs declarations and prenotifications are required for agri-food products subject to Sanitary and Phytosanitary (SPS) regulations, from January 2022. Full physical checks for SPS goods will start for most products from July, with SPS checks for dairy products from September and composite products (e.g. pizzas) from November. Accordingly, more disruption to trade with the EU is anticipated. Whilst these are not anticipated to be as disruptive as January 2021, this will slow UK-EU agri-food trade in the years ahead. UK trade with non-EU countries is anticipated to increase. FTAs have been agreed with Australia and New Zealand. UK is also negotiating new FTAs and significant progress is being made with the likes of India and the Gulf Cooperation Council (GCC) states which include Saudi Arabia, UAE, Qatar, Bahrain, Oman and Kuwait. The rise of trade-related competitive pressures will present inflationary pressures on UK agri-food.

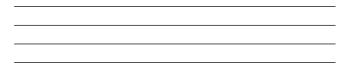
Sector	Scottish Production (Kt)	% Sold in Scotland	% to England & Wales	% to NI	% to EU27	% to Non-EU
Wheat	856	~95%	<5%	<1%	Neg.	Neg.
Malting barley	932	~90%	<10%	Neg.	Neg.	Neg.
Other Barley	895	~90%	<5%	3%	3%	Neg.
Beef	167	27%	~64%	≤1%	8%	Neg.
Sheepmeat	61	17.5%	53%	Neg.	29.5%	Neg.
Liquid Milk	1,328	~83%	~17%	Neg.	Neg.	Neg.
Seed Potatoes	284	~12%	~48%	~2%	5%	29%
Other Potatoes	807	10-11%	86-88%	~1%	1-2%	Neg.

There is relatively little Scotland-specific data on sales of agri-food produce by geographic market as most data are aggregated at the UK level. This Table provides estimated breakdowns of Scottish agrifood production based on a 2020 study that Andersons undertook for the Scottish Government.. Furthermore, whilst agri-food companies are able to provide insights on their own businesses, at a sectoral level, particularly barley, dairying and sheep, a significant proportion of Scottish produce is processed in England and there is limited visibility of where that product ends up.

For most sectors, the internal UK market is by far the most important, particularly England & Wales. Barley is the exception as most Scottish produce is used to make Scotch whisky which is sold worldwide. The EU features most prominently for sheepmeat where nearly 30% of (direct) sales are to the continent. Non-EU markets (incl. Canary Islands) account for nearly 30% of seed potatoes' output. Egypt is also another major market for seed potatoes.

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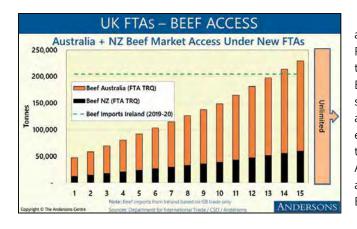
TRQ Acce	ess for S	elected A	Agri Prod	ucts Und	er UK-A	ustralia FTA
Product	Year 1	Year 5	Year 10	Year 15	Unlimited Access	2018-20 Imports (Global)
Beef*	35,000	68,333	110,000	170,000	Year 16	333,000
Lamb*	25,000	47,222	75,000	125,000	Year 16	85,000
Cheese	24,000	48,000	Unlimited	Unlimited	Year 6	505,800
Butter	5,500	11,500	Unlimited	Unlimited	Year 6	78,200
Other dairy	20,000	20,000	Unlimited	Unlimited	Year 6	754,500
Sugar	80,000	160,000	Unlimited	Unlimited	Year 9	895,800
Wheat^	80,000	Unlimited	Unlimited	Unlimited	Year 5	1,937,000
Barley^	7,000	Unlimited	Unlimited	Unlimited	Year 5	87,100



The UK-Australia Free Trade Agreement (FTA) was signed in December, following the agreement-in-principle in June 2021. It is the first FTA that the UK has negotiated from 'scratch' since its departure from the EU. For agri-food, much of what was agreed will now be laid before Parliament for scrutiny. There will be an immediate elimination of 99% of tariffs on goods imported from Australia to the UK upon entry into force (potentially sometime in 2022). Pork, poultry and eggs are not included so the UK Global Tariff will continue to apply. However, restrictions, in the form of Tariff Rate Quotas (TRQs) will remain for other sensitive agricultural products as specified in the slide. Almost all tariffs on UK agri-food exports will be eliminated upon entry into force. The UK farming sector, particularly grazing livestock and sugar beet will be more exposed to Australian competition. However, Australia is focused on the Asia-Pacific region and having generous quota access with eventual full liberalisation does not necessarily mean Australian imports will reach these levels. That said, for Australia, the UK market is important, particularly given its recent tensions with China.



The UK/New Zealand trade deal was agreed in principle in 2021. At the time of writing, the final agreement has not yet been published. Its structure is like the Australian FTA. Tariffs will be removed for most products on application. For sensitive products such as beef, lamb and dairy (cheese, butter), there will be TRQ limits initially. For beef, in Years 1-10, there would be TRQ limits starting at 12Kt and increasing annually. Any imports above this volume, would be subject to the UKGT. The TRQs will continue to increase to Year 15 with a 20% tariff applied for imports above the TRQ volume. For lamb, the 35Kt TRQ will remain the same for the first 4 years, increasing to 50Kt, from Years 5-15. This access is additional to the 114Kt WTO TRQ that NZ already has access to. For both beef and lamb, there would be unlimited access from Year 16. For dairy, similar structures will also operate with unlimited access being phased in over 5 years. Butter will have an initial duty-free TRQ of 7,000 tonnes rising to 15,000 tonnes in Year 5. For cheese, there will be an initial duty-free TRQ of 24,000 tonnes in Year 1, increasing incrementally to 48,000 tonnes in Year 5.



This chart examines the combined access for beef that Australia and New Zealand would have to the UK in the coming years via their FTAs. The TRQ access appears modest initially, but will increase in the subsequent 10-15 years, with unlimited access from Year 16. By Year 14, the combined Australian-NZ access (circa 214 Kt) will surpass beef imports from Ireland (into GB) for 2019-20. Ireland accounts for more than two-thirds of beef imports into the UK. The enhanced market access for Australia and NZ presents an obvious threat to Irish producers. It will also put competition on UK farmers. At present, with high global prices, British producers are competitive and both antipodean countries are focusing on Asia-Pacific markets. But this could change in the future, given recent geopolitical events.

NORTHERN IRELAND PROTOCOL



Trying to avoid a hard border on the island of Ireland bedevilled the Brexit talks. The eventual 'solution' was to give Northern Ireland a special status - essentially creating a border down the Irish Sea. The Northern Ireland (NI) Protocol means that since January 2021, Great Britain (GB) is outside the Single Market and Customs Union but Northern Ireland is not. The EU Customs Code is, therefore, enforced at NI ports and airports for imports. However, NI remains part of the UK Customs Territory. For imported goods, NI continues to follow the EU rules in areas such as Sanitary and Phytosanitary (SPS) regulations and customs whilst creating scope for GB to diverge in future. The arrangements have a consent mechanism for the Stormont Assembly. Since its introduction, the NI Protocol has been politically very problematic. Businesses, especially retailers, have faced challenges and have needed temporary suspensions to aspects of the Protocol. An effective solution is needed that is acceptable politically for the Protocol to be durable long-term. Talks are ongoing, but significant differences remain, especially on SPS regulation and on determining whether goods imported from GB to NI pose a threat to the EU Single Market.

TRADE OUTLOOK

- · The TCA is a 'hard Brexit'; but Brexit is not finished
- ongoing negotiations on NI Protocol, fish access and other issues
- more challenges as rules diverge Level Playing Field
- UK Border Operating Model being phased in greater friction for imports · Short-term: Limited competition from Australia & NZ but this will increase for dairy, beef & sheepmeat
- Medium-term:
- Trade talks with US stalled, will resume at some point
- Talks with Gulf Cooperation Council & India may create opportunities
- Long-term: Cumulative impacts of FTAs with possible further deals (e.g. Mercosur) will heighten competitive pressure

Meanwhile, UK migration policy curtailing UK agri-food; price inflation will be a concern for UK Government

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Those who hoped the fall-out from Brexit would dissipate once the Transition Period ended have been disappointed. Ongoing negotiations with the EU will regularly feature in the years ahead. This happens elsewhere (e.g. the US and Canada regularly renegotiate their trading arrangements). The UK is set to become more exposed to trade from elsewhere as it finalises 'new' trade deals. UK agri-food will have to meet increased competition and may need to do this with reduced labour. Trade deals will limit the scope for the price increases necessary to attract indigenous labour. This will create an added impetus for automation and the businesses that can do this successfully have significant opportunities, particularly if coupled with a lower carbon footprint. Yet for many sectors, the scope for automation is limited. A challenging period awaits in dealing with a changed trading environment, post-pandemic growth and the overhaul of agricultural policy.

FARM POLICY

Budget for 'farm support' maintained until 2024 New scheme, Thereafter, Treasury funding from 2024; set just like other Ministries continued - Barnett formula for devolveds (lower) direct à top-ups possible (unlikely?) payments. 'Policy' covers all Govt Focus on productivity interaction with farming not just support New scheme regulation (technology), from 2025; taxation, tenancy law, market public goods structures, etc. but with ag Divergence in policy focus

UK FARM POLICY

New scheme from ?: continued (lower) direct ayments? Focus on GHGs Ag. Trans. began in 2021 Payments on ublic goods basis. ANDERSO

This section focuses on the support arrangements across the UK. Remember 'policy' is wider than this and other matters that the Government controls are also important to a healthy farming sector. The 'systems' of support are key and the amount of money available is also relevant. The budget for farm support has been fixed by the UK Government at the same levels as it was under the Common Agricultural Policy (CAP). With no change in the distribution, all parts of the UK are getting the same funding through to 2024. After that, we would expect to see a reduction in 'farm' support - simply due to competing demands. This might be gradual as the sums involved are relatively small compared to total Government spending (circa £3bn out of a normal total of around £850bn). With agriculture (and the environment) a devolved matter, there is divergence between the parts of the UK.

SCOTLAND - FUTURE POLICY

- · Scottish Agriculture Bill requires new legislation by May 2026 must report to Parliament on progress by 31st Dec 2024
- · BPS continues, LFASS returns to full (2018) levels (to 2024)
- · Previous policy of mirroring the CAP has been dropped
 - policy framed around climate change (+ biodiversity & productivity)
 - only broad principles at present vision set out Feb 2022 Scot Gov has a habit of setting up groups and committees as an
 - alternative to making decisions (FFFPG, FLG, ARIOB, etc. etc.)
- Full consultation on proposals in summer 2022; legislation 2023
- · No Scottish Environment Act Continuity Act rolls over EU legislation Environmental Standards Scotland (ESS) established Oct 2021 to regulate on environmental matters

Quieter on land policy – right to buy etc.

The Agriculture (Retained EU Law and Data) (Scotland) Bill has a 'sunset' clause in it which requires new legislation on farm support to be in place by May 2026 at the latest. There also has to be a report on progress towards this by the end of 2024. The Scottish Government was initially keen on mirroring the CAP as much as possible. In recent months there has been an acceptance that this would be a wasted opportunity. The main driver of farm policy is now meeting the Government's climate change commitments. Only broad principles are available at the moment - we expect more details during the course of this year. Unlike in England, no specific Environment Act is planned, although most EU law has been 'rolled over' and a new Regulator is in place. Land policy has been a big issue over the past few years but seems lower down the political agenda – possibly because the focus is now on producing a new farm policy. There has been little change since the 2016 Land Reform Act. The amount of tenanted land in Scotland continues to fall – now down to 22% - a drop of 5% in a decade.

SHORT-TERM SCOTTISH POLICY

- Current 'legacy' CAP structures continue until 2025 (BPS/Rural Dev.) but with amendments
- · By 2025 at least half of all direct aid subject to 'conditionality
- covers both BPS and headage payments may be on SSBSS first?
- greenhouse gas (GHG) emission reductions (not 'per unit')
- biodiversity audits (and then improvements)
- soil testing
- forage and nutrient plans
- animal health and welfare plans
- · National Test Programme from this spring
- Track 1: 'baselining' current farms level of compulsion? Track 2: develop tools, processes and support to deliver the policy (testand-trials). Recruitment to commence soon

In the short-term, little will change in terms of Scottish Farm support. The two key schemes of the BPS and LFASS will continue. The Scottish Government published a 'vision' for Scottish agriculture in early March (see https://www.gov.scot/publications/nextstep-delivering-vision-scotland-leader-sustainable-regenerativefarming/documents/). This still left plenty of un-answered questions, but the key new information was the application of 'conditionality' to existing payment schemes - notably BPS and coupled payments. This means farmers complying with 'conditions' in order to receive full funding. The slide sets out some of the conditions. By 2025 at least 50% of direct payments will be subject to conditionality.

LONGER-TERM POLICY

· Unlikely to be a radical shift in 2026

- changes will have already been made under existing framework - Scot Gov keen to continue to 'shadow' CAP if possible
- · Retention of direct (area) payments but at a lower level down to 50%? - depends on overall Treasury/SG funding
- more 'conditionality' on receipt 'earning' support 'full' conditionality? - collecting (and providing) data; soil water & air quality; biodiversity(?)
- Boosted headage payments
- but, again, with conditionality genetics, animal health, etc. · A more ambitious AECS? - improved funding to cover greater area
- · More training, knowledge and skills CPD a requirement for support?
- Capital grants but limited to equipment with positive GHG effect

shift in 2026 as much of the change may well have already been made by 'tweaking' the present support system - for example by introducing 'conditionality'. Unlike England (but as is proposed in Northern Ireland) some kind of retained direct area-based payments looks probable. However, these are likely to be at lower level than current payments (certainly in real terms). This is partly because the overall budget for farm support will be lower and also because some of that budget will be going to other uses.

The final shape of future farm support in Scotland is very uncertain

at present. It seems increasingly unlikely that there will be a radical

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WALES - FUTURE POLICY

- BPS continues to 2023. Glastir agreements extended to Dec 2023 and Farming Connect to Mar 2023
- Then, 'Sustainable Farming Scheme' (SFS) to pay for public goods
 2022: Agriculture Bill + SFS outline in spring. Then 'co-design'
- plus, 'interventions' to prepare farming for SFS
 2023: final version of SFS in spring + transition plan
- 2023: Inal version of SFS in spring + transition plan
 2024: 'outrooch' on SFS including start of Form Sustain
- 2024: 'outreach' on SFS including start of Farm Sustainability Reviews
- 2025: 1st Jan start for SFS
- Also, business support advice, skills, training & capital grants
- Regulatory reform National Minimum Standards for Agriculture
 Industry and Supply Chain Support. Also, forestry and woodlands

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The Sustainable Farming Scheme (SFS) will replace the BPS and Glastir; a Sustainable Farming Payment (SFP) will be made. Although this will potentially be available to all farms in Wales, it will be different from the BPS as it will not be paid 'as of right' – land managers will have to provide 'public goods' to be able to access it. The provision of food is not a public good as there is a functioning market for food. Transition to the new scheme is expected to commence in 2025. It may be phased-in over a number of years. There has been a clear desire under recent Welsh administrations to try and improve the competitiveness of agriculture. Business support programmes will run alongside the SFP. There will also be support for the wider food chain.

NORTHERN IRELAND – POLICY REFORM

Key Mechanisms

- Resilience: simplified area-based payment; replaces BPS; reduces over time
- Headage Sustainability: for suckler cows & finished cattle criteria based
 Farming for Nature (and Carbon): incentives to improve biodiversity,
- ecological connectivity and carbon reduction. Will be central plank in future.
- Investment & Knowledge: support innovation, new technologies, and CPD
 Generational Renewal: capacity building, assistance for retiring farmers.
- Supply-Chain: information flow & transparency, tackle fragmented structure
 Other Aspects
- Soil Testing & LIDAR: improve soil health, environmental & nutrients' use.
 Investment & Knowledge: improve genetic gain, animal heal<u>th & welfare</u>

The CAP framework is rolled-over in NI. In December, DAERA launched a consultation on future agricultural policy which is expected to be implemented from 2024. Area-based payments will continue and are positioned as a Resilience mechanism. Payments will be lower than now and will decrease over time as other policy mechanisms become established. Payments above £60,000 will be capped. A Crisis Framework to deal with periods of very low prices would feature, but detail still has to be worked out. NI also plans to introduce coupled payments using 17% of the current support budget. These will be aimed at suckler cows (limited by quotas), finished clean cattle (and possibly ewes), subject to meeting certain criteria aimed at both improving productivity and sustainability. Farming for Nature and Farming for Carbon schemes will replace current agri-environment schemes. These will eventually become the core of NI policy. The other mechanisms are also aimed at bolstering skills, driving productivity and sustainability as well as addressing key structural problems in NI farming.

AGRICULTURAL TRANSITION - ENGLAND

- BPS phases out from 2021 to 2027 no payment in 2028
 bands of deductions so the largest farms face sharper cuts sooner
- deductions set out until 2024 budget unknown thereafter
- 'Lump Sum' option in 2022; 'Delinking' in 2024
- Funding released by declining BPS to be redirected to 'public goods' payments
 - mainly Environmental Land Management Scheme (ELM)
 - but also 'productivity' measures

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This is a brief summary of the Agricultural Transition in England. More detail is provided in the following slides.

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Deductions:	2021	2022	2023	2024	2025	2026	2027	2028
Up to £30K	5%	20%	35%	50%	65%	80%	95%	100%
£30K-£50K	10%	25%	40%	55%	70%	85%	100%	100%
£50K to £150K	20%	35%	50%	65%	80%	95%	100%	100%
Over £150K	25%	40%	55%	70%	85%	100%	100%	100%
 Bands work lil 	ke Inco	me tax:						
160 Ha farm:	35.0	29.5	23.9	18.3	12.7	7.1	1.5	-
£37.3K in 2020	-6%	-21%	-36%	-51%	-66%	-81%	-96%	100%
1,000 Ha farm:	188.9	153.9	118.9	84.0	49.0	14.0	1.5	-
£231.8K in 2020	-18%	-34%	-49%	-64%	-79%	-94%	-99%	100%

The current system of direct support in England (the BPS) will be phased-out during the 'Agricultural Transition' from 2021 to 2027. The BPS will be gradually phased-down, so that by 2028 there will not be any area aid in England. Larger businesses face higher deductions first. The deductions work in bands like Income Tax, so the total drop for larger businesses is less than it first appears. The deductions for 2021-2024 have been confirmed by Defra. Those from 2025 onwards are Andersons' estimates. The bottom half of the table shows the payments (£000's) that a typical Lowland England farm received in 2020 compared to future receipts. The document setting out the plans for the Agricultural Transition is at - https://www.gov.uk/government/publications/agriculturaltransition-plan-2021-to-2024

LUMP SUM & DELINKING

- 'Lump Sum' capitalises future stream of BPS income through to 2027 into one single payment
 - will be offered only in 2022 as a 'retirement option' business
 - principals must stop farming (can keep 5 Ha and non-ag property) - £100K cap on lump-sum. Reference years 2019-2021 Claim in 2018
- open April, closes 30th Sept 2022 (land 'disposed' by 31st May 2024)
- Lump Sum to be taxed as capital not income (CGT)
- · 'Delinking' breaks link between land occupation and support
- won't happen until 2024 will just happen no need to opt for it
- a personal right to support for previous claimant (business)
- reference years 2020-2022; must claim in 2023
- potential effects where land occupation changes but £s quite small Once delinking occurs, entitlements and cross-compliance end

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Lump-sum payments would allow the future stream of income during the remainder of the Transition Period to be rolled-up into one single payment. It is seen as a retirement scheme and will only be available in 2022. Delinking of support is a key element of the Agricultural Transition. The idea is that the right to future support payments would no longer be conditional on occupying agricultural land (as it is under the BPS). This frees-up farmers to make decisions about land occupation without affecting their future support payments (through to 2027). Delinking was expected to happen in 2022 but will not take place before 2024.

ENVIRONMENTAL LAND MANAGEMENT



- Three components;
- 1. Sustainable Farming Incentive (SFI) 2. Local Nature Recovery (LNR)
- 3. Landscape Recovery (LR) Scheme
- Schemes launched in stages Capital and revenue grants in all
- components (no paid advice) multi-annual commitment
- A payment for 'public goods' needs to be worthwhile to sell them Eventually 60% of funds to LNR/ LR; 30% to SFI and 10% to 'productivity'

The detailed design of the ELM scheme is being worked on (Defra is devoting a lot of personnel to it). The top-level objectives of the scheme have been set, and it is these that will drive the detailed design and rules. Many of the objectives are familiar from previous agri-environment schemes, but new (or more highly prioritised) elements such as climate change, air quality and hazard protection come more to the fore. ELM will be a three-part scheme. It will be introduced gradually in the years to 2027, with an 'ambitious' target for participation. It aims to pay farmers to provide public goods (those things that cannot be delivered by the market). The payment rates set will be key as to whether it is an attractive proposition for farmers.

FUTURE SFI

	ar agreements, paid quarterly in arrears -monthly review but 'upwards' only adjustment in areas or options
	t be BPS claimants (initially) and have 'management control'
	years on tenancies, but no need for L/L approval
• Stan	dards chosen on a parcel-by-parcel basis (not whole-farm)
- la	nd under existing CS can be entered if no overlap
• 10 w	eek application window in 2022 (summer?); year-round in future
2022	Arable & Horticulture Soils; Improved Grassland Soils; Moorland & Rough Grazing; Animal Health and Welfare
2023	Nutrient Management; Hedgerows; Integrated Pest Management
2024	Agroforestry; Low/No Input Grassland; Moorland (more levels); Waterbody Buffering; Farmland Biodiversity
2025	Organic; Farm Woodlands; Orchards & Horticulture; Heritage; Dry
	Stone Walls ANDERSON

The Sustainable Farming Incentive (SFI) will be the offer for the majority of English farmers. It may look like the previous Entry Level under the Environmental Stewardship (ES) Scheme (but without the points-based approach). There will be three different ambition levels, with higher payments offered for the higher levels. At the base level it is intended to be a scheme that is relatively easy to get into and thus replaces (some of) farmers' BPS income. Defra clearly wants the administration carried out online. However, a Whole Farm Plan might be a requirement. The scheme will focus on reducing the 'negative externalities' produced by land management, particularly around air, soil, and water pollution. It may only be a temporary scheme as the plan is to raise the regulatory baseline to a polluter pays system over the long-term (perhaps a decade).

SFI 2022 ~ 1

Arable and I	Horti	cultural Soils Standard
Introductory	£22	Test soil organic matter
		Produce a Soil Assessment and Management Plan 70% of land in the Standard to have winter cover Increase soil organic content on a third of land per year
Intermediate	£40	As above, but 20% of winter cover (Dec-Feb) must be in multi-species green cover
Advanced	tbc	From 2023, but min/no till likely to be a requirement
Improved G	rassla	and Soils Standard
Introductory	£28	Test soil organic matter
		Produce a Soil Assessment and Management Plan 95% of land in the Standard to have winter cover
Intermediate	£58	As above, but 15% of land in Standard to herbal leys
Advanced		From 2023 ANDERSONS

The two main SFI Standards that are being launched in 2022 are the Soils ones for both Arable and Grassland. They are not yet complete as the Advanced Level for both has not been set out. Both Standards are compatible with existing Countryside Stewardship Schemes (i.e. the same land can be entered in both). It is thought that applications to the 2022 SFI are unlikely to open until the summer.

SFI 2022 ~ 2

Moorlan	d and R	ough Grazing Standard (still being finalised)
Introd.		Verify and record soil types (inc. peat) and associated
		vegetation
		Evaluate public goods potential annually
	per Ha	Identify opportunities to enhance public goods
Intermed	liate and	Advanced coming in 2024
Animal H	Health an	nd Welfare Review
Pigs	£684	Annual payment for three years
Sheep	£436	Visit from a vet to discuss animal health, use of
Beef	£522	veterinary medicines and undertake diagnostic tests
Dairy	£372	the same states are the second states and
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The other two Standards that should be available in 2022 are set out on this slide. The Moorland and Rough Grazing one which is still being finalised.

	Loam Farm	Small Loam	Friesian Farm	Small Friesian	Meadow Farm	Small Meadow	Uplands Farm
	600 Ha	200 Ha	200 cows	80 cows	200 Ha	90 Ha	300 Ha
Net SFI Incom	e~:						
Arable Soils	£10,965	£3,459	£214		£549	1	
Grassland S.			£1,453	£802	£3,025	£1,731	£3,250
Total SFI 22	£10,965	£3,459	£1,667	£802	£3,574	£1,731	£3,250
BPS Loss*	-£63,465	-£17,155	-£10,162	-£4,049	-£17,232	-£7,347	-£18,686
Net Loss	-£52,498	-£13,696	-£8,495	-£3,246	-£13,658	-£5,616	-£15,397
In CSS?	*	*	*	*	~	1	×
- farms assumed to ent * BPS loss in 2023 year	the first of the damage		andard over enti	ire tarm. Mooria	nd and Animal W	elfare Standards	nat includea

Here is an analysis of the SFI which Andersons undertook for the NFU late last year. It focuses on the two Soil Standards available in 2022 (the Moorland and Animal Health Standards had not been fully developed at the time). The **Net** SFI income is shown. This is the SFI payment plus any costs saved, minus the costs of complying with the Standard and the loss of any income. The two Soils Standards generally produce a positive outcome, although the sums of money involved are not high. It is assumed that the whole farm is put into the Introductory Level. The lost BPS in 2023 compared to 2020 is shown – 2023 is used as it will be that year before a full 12-months of SFI will be received. Some additional Standards should be available in 2023 but payment will not be for the whole year. Some farms not in CS may be able to recover their 'lost' BPS by going into Countryside Stewardship, but this will not be the case if the farm already takes part.

LOCAL NATURE RECOVERY

Builds on existing Countryside Stewardship

- range of options which farmers choose from
- rewards land managers for more intensive & positive management than SFI - biodiversity, flood management, carbon storage, heritage etc
- collaboration encouraged through facilitation funding
- tailored to local priorities (link to Local Nature Recovery Strategies)
- whole-farm Land Management Plans likely
- Possible to enter both LNR and SFI (single digital portal from 2024)
 Define also loss to interact a NR with private funding (details available)
- Defra also keen to integrate LNR with private funding (details awaited)
 More details on options, payment rates etc. by the end of this year
- Pilots in 2022 with 500 participants
 'early version' available in 2023 to a limited number of participants
 - full roll-out by the end of 2024

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The Local Nature Recovery (LNR) scheme will require more intensive management from farmers than the SFI. It is highly likely that a Whole-Farm Plan will have to be drawn up (possibly by accredited advisors). The focus will be on rewarding farmers for positive externalities such as biodiversity, flood management, carbon storage, landscape heritage etc. This will be the 'core' of ELM over the long-term and can be seen as a turbo-charged CS or ES scheme. It will include options which have been successful under CS but also new ones as well. More details on the full list of options are expected later this year, alongside more details on scheme rules and the proposed payment rates.

CS AND LANDSCAPE RECOVERY

- Countryside Stewardship remains open until 2023 (Jan 24 start)
 agreements from 2021 onwards can be ended early to enter LNR/LR
- Payment rates have been revised for 2022 (over 100 \uparrow , some (<10) \downarrow)
 - agreements from 2023 onwards simply have new rates
 - for 2022 and earlier the *higher* of either old or new rates are paid
- Landscape Recovery (LR) scheme
 - more 'radical and large-scale change' 500 to 5,000 Ha; 20 years
 biodiversity (rewilding?), river management, afforestation, peat restoration, salt marshes etc.
 - no fixed payment rates bespoke schemes drawn up. Defra will fully fund a 2-year 'development phase' but part-private funds thereafter
- 15 Pilot projects in 2022 with a second round of Pilots in 2023

- full scheme launched in 2024

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The Countryside Stewardship scheme will continue until 2023 (i.e. application within the 2023 year with agreements starting in January 2024). With the LNR scheme planned to start in 2024 the CS will cease (although existing agreements will continue). It will be possible to swap from the CS to LNR if the land manager wishes. Payment rates for CS have generally been revised upwards - this applies both to new agreements and those already in the scheme. The final element of ELM is the Landscape Recovery (LR) scheme. This scheme is for landowners and managers who want to take a more 'radical and large-scale approach' to producing environmental and climate goods on their land. The scheme will initially focus on biodiversity, water quality and net zero. Agreements are expected to be long term, 20-years plus, with safeguards, such as Conservation Covenants in place to protect them in the future. There will be no set list of options with payment rates, instead Defra will work with project managers to negotiate bespoke agreements. Applications for the LR Pilot is now open.

OTHER SCHEMES ~ 1

- Farming Investment Fund: 40% capital grants for equipment
- similar to previous Countryside Productivity Scheme; runs to 2026
 Farming Equipment and Technology Fund fixed payments for 120 specified items; online application; min grant £2,000, max grant £25,000;
- scheme limit of £50,000; various 'rounds' planned
 Farming Transformation Fund larger grants £35k-£500K; 3 'themes' Water Management', 'Productivity' & 'Adding Value'; 2-stage application
- Farming In Protected Landscapes (FiPL): National Parks and Areas of Outstanding Natural Beauty (AONBs)
- runs to Mar 2024; variable grant rates: up to 100% if no commercial gain
- climate change; nature recovery; public enjoyment; landscape preserv.
- Slurry Investment Scheme: slurry stores and covers
- open autumn 2022(?) to 2025; grant rates and rules unknown

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The Government wishes to see the productivity of English (UK) agriculture improve. To that end, it has launched some capital grants - similar in scope to the past Countryside Productivity Scheme. There is a small scale, online, grant with set payments for small items of equipment. A larger capital grant scheme is also available. A support scheme for protected landscapes is also available. Whilst this is often thought of as being for hill areas it is available in both National Parks and Areas of Outstanding Natural Beauty (AONBs). Some of the latter are in the lowlands. Grants tend to be for non-commercial projects. Lastly, a capital grant for slurry stores is also planned. There are few details on this at present.

OTHER SCHEMES ~ 2

- Future Farm Resilience Fund: free business advice to farmers
 final phase to run from autumn 2022 to Mar 2025
- Skills and Training:
- The Institute for Agriculture and Horticulture (TIAH) set up as the professional body for farming (CPD in future?)
- standardised KPIs for each sector to be drawn up by AHDB
- New Entrants Scheme:
- from 2022 to 2024, few details but likely to be support for 'programmes' rather than direct aid to entrants
- Animal Welfare:
- from 2022 onwards, details still being worked on
- disease eradication programmes, capital grants, payment-by-results
- scheme (to be piloted in 2023)
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As well as capital grants, part of the 'productivity' funding will go to improving the skills of farmers. There is an ongoing farm advice scheme. The final phase of this should open in the autumn and last to March 2024. A number of providers are offering business advice through this 'Farm Resilience' scheme (including Andersons under the Ricardo consortium). Different providers give a different level of service so it pays for farmers to 'shop around'. A new professional body is being set up for farming. Not immediately, but over time, it may be a requirement for farmers to have completed a certain amount of CPD in order to get public funding (this is proposed in NI). Other elements where details are still awaited are a New Entrants scheme and Animal Welfare.

THE ENVIRONMENT ACT

- Became law in Nov 21 (mostly for England, but some UK scope)
- * Targets: legally binding for air, water, biodiversity GHG etc.
- Environmental Improvement Plans: takes over from 25 Year EP
- 5 Environmental Principles: including polluter pays
- Office of Environmental Protection: the new regulator
- Local Nature Recovery Strategies: 'local plans' for nature
- Biodiversity Net Gain: 10% BNG required of developers opportunities in the 'offset' market
- Conservation Covenants: new legal instrument for land man.
- Water Use: reform of abstraction regime
- Many provisions will only be enacted with secondary legislation
 e.g. BNG from spring 2023

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The Environment Bill implements the ambitions of the 25-Year Environment plan of leaving the environment in a better state than we found it. It could bring more regulation (and cost) in areas such as ammonia emissions, soil health, pesticides and fertilisers. But equally there may be opportunities for the sector in terms of selling environmental services through mechanism like conservation covenants. The effects of the legislation are likely to take a number of years to be fully felt.

SO WHAT?

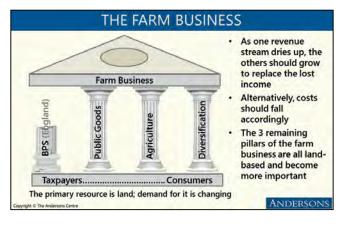
- BPS at least halves for English farmers by 2024 a simple sum
- What is the ability to 'recover' lost BPS?
 - timing gap between reduction in BPS and availability of new schemes (especially if farm is already in CS etc.)
- even if <u>revenue</u> under new schemes is the same as BPS, <u>profit</u> will be lower – 'public goods' need to deliver something – has a cost
 Other ways to make up the shortfall?
- improved farming efficiency? Including a change in costs (rents + others)
- 2. other income sources?
- is there any sort of 'plan' to do this?
- Some businesses will need an 'exit strategy'
- Opportunities for the best businesses expansion and growth

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The next 5 years will be a period of significant change for English farming. (The devolved nations are likely to go through the same process at some point later). The funds granted to farmers will probably fall and, claimants will have to do more to access the money that is available, meaning there is less *profit* available. The key question for farm businesses is 'do they have a plan to prosper through this period of change'?

FUTURE FOOD AND LAND USE



Over the transition period in England, the direct support is tapering away. But much of that money will become available to farming in other ways, albeit with increased effort required to achieve it. Of the remaining pillars of income, the environmental pillar is swelling with much of the Government support being channelled through it. However, farm managers should consider the other components of the farm business too (farming and diversification) and how they might be strengthened, either by working on raising the income from them or trimming costs. The alternative would be a reduced farm business. This image also recognises the income streams are underwritten by either government or the consumer. Arguably, the taxpayer and voter underwrites the government support, and with that in mind, the provision of public goods is a far more sustainable payment mechanism for (rich) farmers than almost as-of-right payments for the privilege of occupying land.

LAND USE DEMANDS

- Global food demand continues to rise plus climate change effects
- Little change in UK food needs no drive for ↑ self-sufficiency
 change in types of food more important e.g. 85% of land devoted to livestock production once feed grain accounted for (NFS)
- Ongoing development (houses, transport etc.), but this has a relatively small effect on overall UK land use

 although very noticeable in specific localities (S.E. England)
- Climate change agenda (carbon) woodland, solar, peatland
- CCC (2020) states 22% of current agricultural land should be released for other uses
- UK Gov commitment to have 30% of land 'protected' by 2030
- Biodiversity (Public + Private), re-wilding, public access and more...
- Policy and innovation to 'free-up' land

We know global population is still rising and food consumption per head is too. Overall food requirements will continue to increase and therefore the requirement for land for many years. But will that also be the case in the UK? Agricultural policy is centred around non-food goods as the market pays for the food. This means that as policy becomes more focussed on public money for public goods, rather than what has historically been largely social payments, some land is likely to be drawn away from farming for food. Does this matter? Perhaps the rise of non-land based farming will match the decline, perhaps only the poorest land will be used for environmental features. Historically, policy change has not led to considerable land use changes, but this time, policy is being far more focussed on non-farming issues and land use, perhaps with more visible impacts.

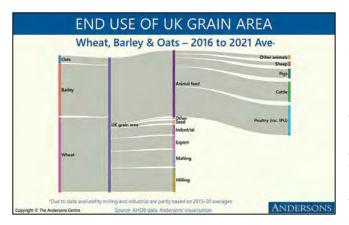


This chart, taken from the National Food Strategy report, shows (on the left) the different ways that UK land is used - not geographically, but as proportions of the whole. On the right, and based on the same scale, the overseas agricultural land that is used to cater for the UK market is also depicted. It includes not only the plant and animal products that are imported to eat directly, but also the land used to grow animal feed for UK livestock. Agriculture accounts for over 70% of the UK landmass with the majority used for beef, lamb and dairy farming and associated feed (i.e. feed crops). It must be acknowledged that much of this land would be of limited use for other food (i.e. cereals and vegetables). It is also striking that golf courses use five times as much UK land as orchards. When overseas land is also considered, beef, lamb and dairy farming account for an area that is larger than the British landmass. There is roughly a 50:50 split, between the UK and overseas, of the overall area of land that is used to satisfy UK diets.

NATIONAL FOOD STRATEGY (NFS)

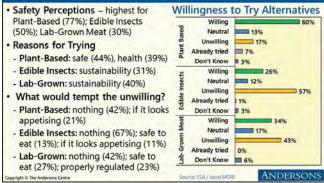
- Chaired by Henry Dimbleby; independent study; England focused
 Reported in 2 parts
- Part 1 (Aug '20): urgent recommendations arising from Covid and Brexit
 Part 2 (Jul '21): contained 14 recommendations on how food systems should evolve to meet future societal needs
- Key Recommendations and potential Government response:
 Sugar/salt tax: dismissed almost immediately
- 30% reduction in meat consumption: not ruled out, but scope for innovative approaches to achieve the required emissions reductions
- Guaranteeing agricultural support to 2029: looks unlikely
- Trade minimum food standards: watering-down likely
- Land Use Framework: more openness to this. It aligns with environmental agenda. NFS calls for 10% of English farmland to convert to woodland, restored peat etc. by 2030, rising to >20% by 2050
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The National Food Strategy focuses on England. Part 2 analysed the whole food chain and made 14 recommendations on how systems should evolve to meet four strategic objectives: (1) escape the junk food cycle to make us healthier; (2) reduce diet-related inequality; (3) make what the NFS perceives to be the best use of British land; and (4) create a long-term shift in Britain's food culture. In addition to the key recommendations, other proposals centred on promoting healthy eating amongst children and lowincome families, making better use of data, mandatory reporting for large companies (>250 employees) on food sales and waste, the introduction of Government buying standards for procuring health and sustainable food, £1 billion investment in food systems innovation, and the introduction of a Good Food Bill in 2023/24. The Government is supposed to respond with a White Paper within 6 months (i.e. by end February) but appears to be dragging its heels. It is more likely to implement the less contentious aspects and shy away from the controversial recommendations such as a sugar and salt tax.



This flow (Sankey) diagram shows the breakdown of demand for UK grain area. It accumulates the area of wheat, barley and oats grown in the UK before splitting that area down into end markets. Industrial usage, particularly for wheat is likely to increase from this picture. In September 2021, E10 was introduced. E10 is a higher bioethanol blend petrol. The UK has two plants (Ensus and Vivergo) which produce bioethanol. Due to low margins either one or both plants were offline during some of the period used for this chart. Assuming more ethanol is produced in the UK, we would expect to see the share of domestic crops into industrial markets increase. Of course, the supply of UK grain is finite, any increase in demand without a change in domestic supply will drive increased imports. One area that could see change over time is the split of grain area used for each animal feed sector if we see a change in domestic protein consumption. However, this is likely to occur over a very long-time frame.

ALT. PROTEINS – UK CONSUMER ATTITUDES



In January 2022, the Food Standards Agency (FSA) published a study on consumers' attitudes to alternative proteins. Willingness to try alternative proteins is highest for plant based (60%), as it is deemed safe to eat and healthy. Willingness to try is much lower for laboratory-grown meat and edible insects as there are challenges around safety, visual appeal and regulation. Whilst willingness to try insects is lowest (26% on average), it does increase (to 37%) if they are ground into food for added protein (e.g. bread, burgers, etc.). Whilst there are significant barriers to the uptake of alternative proteins, suppliers will be addressing the issues. The alternatives will need to compete with meat on taste, texture, healthiness and price. Further innovation (and marketing) will change perceptions in future. There is significant scope for alternative proteins to increase its share in the years ahead.

GLOBAL PROTEIN MARKET TRENDS **Global Protein Consumption** >55% of 2035 alternatives demand will be milk/dairy substitutes 1,000 - Poultry (chicken/egg) - 20% 800 - Pork & beef (~6% each). Asia-Pacific (67% share) to dominate Tonne 600 Europe (~15%); N. America (~10%) Million 644 Expected cost parity timings 400 590 555 481 - Plant-based: ~2023 - Microorganism based: ~2025 200 Animal-cell-based: ~2032 131 93 109 118 0 · Thereafter, relative costs could fall 2020 2025 2030 2035 further; more price pressure mative roteins Upside scenario: alternatives could Addressable con ional pro have 22% share (195 Mt) in 2035 Non-addressable conventional proteins ANDERSON C The Ar BOGR

In 2021, the Boston Consulting Group (BCG) and Blue Horizon examined trends in the alternative proteins market and their potential to displace conventional proteins towards 2035. Alternative proteins encompass laboratory-grown meat, plant-based and edible insects. Addressable proteins include ground meat, fillet, milk, eggs, and other forms of animal protein for which like-for-like alternatives can be created by building on current technology. Non-addressable proteins include highly structured meat such as large cuts with bones. Whilst alternative protein will grow by 14% per annum and is projected to account for 11% of global proteins consumption (base case scenario) by 2035, the conventional proteins segments will also grow, albeit much more slowly (by 2% annually). This growth will be driven by rising incomes and consumption in developing countries. Conventional proteins consumption in Europe is forecast to stagnate at best creating another headwind for the farming industry.

SCOTTISH LAND USE

- · Land use has probably been a topic of interest in Scotland for much longer than rest of UK
 - politics/history concentration of land ownership
 - geography large areas of relatively unproductive land
- Land Use Strategies produced by Government since 2011 - requirement under Climate Change Act (2009). Current one 2021 links to National Planning Frameworks and Regional Land Use Frameworks
- not prescriptive overall objectives (vague)
- some targets; woodland cover to be 21% by 2032 (currently 19%), 20,000 Ha of peatland restoration per year
- Food policy set out in 'Good Food Nation Plan' (2014)
- Good Food Bill before Parliament to put this on a Statutory footing ANDERSON

As a nation, Scotland has shown more interest in land-use issues than the rest of the UK (certainly England) did until just the past few years. This is likely to be a legacy of its geography and, to some extent, its history. Scotland is also more 'agricultural' than England with 80% of its land area on farms. Although Government has produced a number of Land Use Strategies for Scotland since 2011, these have tended to be rather 'woolly' documents. They contain broad goals but often little concrete strategy to achieve them. There also tends to be no over-arching plan for land use - how much of Scotland should be devoted to different uses and where certain activities should take place. This level of prescription seems too bureaucratic at present. Scotland is pressing ahead with policy to improve diets across the nation.

LAND MANAGEMENT CHANGE

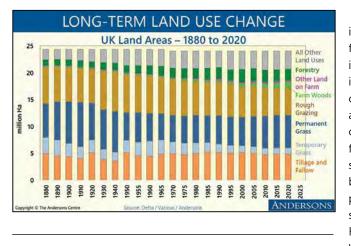
What Can be Sold?

- Carbon Reduction: received the most publicity, but perhaps the least attractive market
 - permanence, additionality and verification issues
- and the fact that agriculture might need the reductions itself Net Zero
- Biodiversity Improvements:
- 'regulated' market 10% Biodiversity net gain (BNG) for developers
- other markets companies wanting to be seen to be 'doing good'
- Nutrients: nitrates & esp. phosphates to enable development
- Others: water management (flooding), water quality, access etc.
 Government will be a buyer (of last resort?) through ELM/AECS etc but private funding may offer more ££s

ANDERSO

Unclear how different elements can be 'stacked'

As we have seen, farmers control over three quarters of the UK land area. If the demands on the use of that land are going to change then there are likely to be opportunities to 'monetise' such land use change. Carbon issues have gathered the most attention over the past few years but, for mainstream lowland agriculture this may be one of the less attractive options – not least because farming will need any carbon reductions itself on its journey to 'net zero' and should not be selling them elsewhere. Whilst Government will be the buyer of many of these services for a majority of farmers, the private sector may offer better deals. It will be an important new area for farmers (and their advisors) to negotiate.



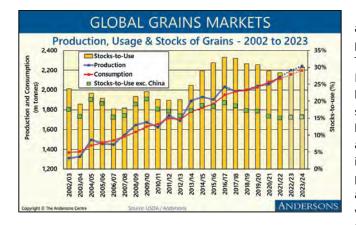
This chart adds an historical context to the broad split of land use in the UK shown in the first slide of the presentation. It is difficult to find data on what land is being used for in the UK - other than if it is being farmed. This perhaps shows past indifference to land use in the UK. As such, the data from before WW2 is less accurate. It can be seen how the tillage area has ebbed and flowed (especially around the World Wars) as imports of food rose and declined. The overall amount of farmed area has been falling in the UK. With a fixed overall land area (although the UK does seem to be shrinking slightly), other uses have made up the shortfall. This has primarily been an increase in woodland (both on-farm and in commercial plantations) and 'Other Uses' - which is developed land. On this scale it seems changes happen slowly (which they usually do). However, between 1940 and 1950 the tillage area increased by 32%. Whilst that could be considered an exceptional period, the amount of farm woodland trebled between 1990 and 2020 - showing big changes can occur at any time.

LAND USE CHANGE - 2030

Land Use	Direction	Comments
Cereals (animal feed)	+	Less meat, more grass-based regimes
(human and industrial)	Ť	Biofuels
Oilseeds	-	Little change
Proteins (peas, beans)	1	More demand for plant protein
Horticulture/Root Crops	5 =	Should rise, but labour constraining factor
Temporary Grass	1	More grass in arable rotations
Permanent Grass	4	To 'environmental' uses
Rough Grazing	+	To 'environmental' uses
Biodiversity Uses	Ť	ELM, BNG, rewilding etc.
Diversification (inc. energy	(V)	Solar PV and also leisure uses
Woodland (farm & other)	11	Plantings for carbon + timber & amenity
Wetlands (peat)	11	Restoration
		ANIDEDSONIS

The use of land in the UK will shift in the years to 2030 and beyond. This slide gives some high-level thoughts on how this might look. Although the arrows are only indicative, it hopefully provides some 'food for thought' for farmers and those that advise them. For an individual landowner, it might be a useful exercise to look at their land and think 'what is the best use of each area' irrespective of what it has been used for up to now.

ARABLE SECTOR



This slide shows the supply and demand of grains (maize, wheat and barley) over the last 20 years. We've come from a period of persistent stock growth (yellow columns) through the early 2010s. Through that period, we had comparatively low grain prices. However, since 2017/18 production of wheat, maize and barley has balanced closely with consumption. This has led to any supply shocks causing significant volatility. In the past couple of years, we have had supply shocks in both wheat (2021/22 - Canada, Russia and United States) and maize (2020/21 - South America). It is also important to look at China. China has gone from being a relatively passive stock builder to a major influencer of prices. Extreme buying and stock accumulation has combined with global supply shocks to vastly elevate prices. The green squares show that when China is taken out of the picture the market tightens considerably. Looking ahead at the next two seasons, even if production, consumption and trade follow the trend from 2002/03 onwards, we can still expect the supply and demand picture, excluding China, to remain tight. This will keep prices supported.

South America has become the top exporting region of maize

crops in the world, overtaking the United States. As this has

happened, there has been an increasing influence of Brazilian

and Argentinian weather on crop prices. This year has been no

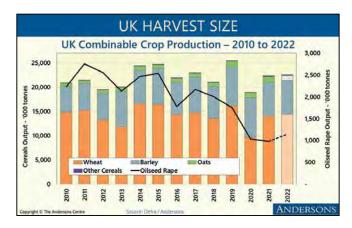
exception; there has been a second consecutive La Niña, which has

WHAT DRIVES GRAIN FROM HERE?

Northern Hemisphere

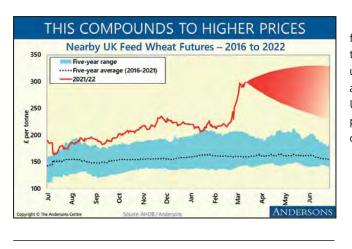
- Conditions of Northern Hemisphere crops
- dry conditions in continental Europe and the US Wheat Belt
 will we see increased spring acreage?
- The fight for dirt in the US soyabeans vs maize
- Chinese demand
- Ability of Black Sea farmers to plant/ harvest grain
- Southern Hemisphere
- Estimates for big maize and soyabean crops in South American
- La Nina still a big watch factor

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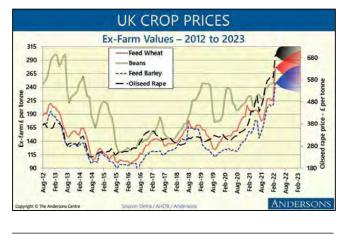


 American
 brought dry weather to Argentina and Southern Brazil. The impact of this dry weather is already being seen in supply estimates for South American crops which have seen large reductions. Beyond that, attention will turn to Northern Hemisphere crops. Wheat has overwintered well in most regions, notably Russia and the EU. However weather conditions through the first three months of the year have been dry in Southern Europe and the US. The grain direction isn't just driven by wheat though, and the price dynamics of maize and soyabeans in the US, and their impact on planted area of both crops will be vital to price direction. Finally, global geopolitics could be a defining feature of the end of 2021/22 and 2022/23, particularly Black Sea tensions.

This graph shows the production of cereals and oilseed rape in the UK. Harvest 2021 was decidedly average for cereals, however, the UK market remained incredibly tight. The production of neither wheat nor barley was sufficient to account for the tight situation in both crops coming out of 2020. The graph shows projections for harvest in 2022 based on our crop area forecasts, multiplied by five-year average yields. The projections for production of wheat and barley suggest that we are not going to have sudden increases in cereals stocks. The domestic market would stay comparatively tight with average yields, and domestic prices probably remain high relative to the world market. For oilseed rape, there has not been such a sharp rise in planted area as we may have expected, given the very high price of oilseeds. But rapeseed planting will have happened before much of the price rally. Looking ahead to the likely picture for 2023, as we've mentioned input costs are probably going to remain high. As such, we see a shift in cropping for 2023 to lower input crops, either spring crops or pulses, where flexibility in rotations allows.



This graph shows the average and range of nearby UK wheat futures prices over the past five years. This season, prices had been trading at the top end/ mostly above the five-year range. This is unsurprising given the tight nature of wheat markets both globally and domestically. However, following the breakout of war in Ukraine the value of feed wheat has increased exponentially. Under present circumstances estimating the direction of prices to the end of the week is just as challenging as over a longer period.



This slide shows a 10-year trend of UK crop prices. For many
crops, except beans, we currently have historically strong prices.
UK ex-farm wheat prices, follow the trends in UK wheat futures.
This season, barley prices have tracked much closer to wheat than
recent years - this is owing to a tighter market. Given the crop area
of barley is set to decline slightly this year, we expect to see this
continue. For oilseed rape, global shortages have driven a surge in
values. This has, in turn, pushed up cropped areas, both in the UK
and EU. It is also likely to drive an area reaction in other parts of the
oilseed complex. For that reason, we do not expect oilseed rape
prices to reach the same heights they set this year. Bean prices have
historically been volatile. This is often the case with smaller tonnage
crops. Higher prices lead to higher area which in turn reduces
prices. This cyclical pattern is evident at points on the graph. For
2022/23 we are not expecting a huge shift in bean acreage and as
such the price may well track at a similar premium to wheat as we
have seen this year. For 2023/24 however, with high input prices
we expect more of a switch into nitrogen fixing crops which could
erode the bean premium.

600 Ha of combinable cro				
owner plus 1 FT worker & I	harvest casu	ial		
£ per Ha	2020	2021 [®]	2022	2023
Output	1,165	1,523	1,576	1,468
Variable Costs	370	390	452	616
Gross Margin	795	1,133	1,123	852
Overheads	436	437	477	500
Rent and Finance	238	242	242	241
Drawings	75	78	80	81
Margin From Production	46	376	325	30
Basic Payment (+ SFI)	233	197	163	128+40
Business Surplus	279	573	488	198

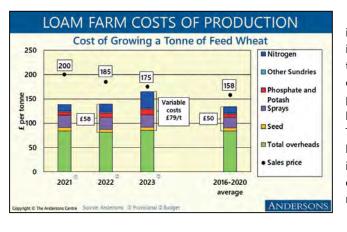
To illustrate trends in cereals farm profitability, we use our 'Loam Farm' model. This is a notional business which has been running for 30 years and tracks the fortunes of combinable cropping farms. It has historically been a 600-hectare, simple rotation of milling wheat, oilseed rape, feed wheat and spring beans. It is based on real-life data. In 2020, Loam Farm had challenges establishing winter crops, but had lower variable costs as a result with a shift in the rotation. Whilst prices were high in 2020 Loam Farm couldn't capture all of this gain due to forward sales. In 2021, Loam Farm performed well. A change in cropping resulted in lower variable costs, versus pre-2020. This was a shift away from OSR and into oats. The business surplus for 2021 is a record, despite declining BPS payments. In 2022, there is an increase in overheads through higher machinery investment. Variable costs are also increasing, but many of the inputs had been purchased early for 2022, so exposure to recent input rises is limited. For 2023, the significant increase in variable costs can be seen, owing to the input cost inflation at present. The fall in BPS is mitigated by involvement in SFI (Intermediate level across the whole farm).

LOAM FARM MODEL - SCOTLAND

. 600 Ha (S. Barley, Winter Wheat, Winter OSR, Winter Oats/Barley) · 240 owned 360 CEA's: owner plus 1 ET worker & harvest casual

Copyright © The Andersons Centre Source: Anderson		onal @ Budget:	Ar	DERSONS
Business Surplus	352	597	510	180
Basic Payment	231	223	223	223
Margin From Production	121	374	287	(43)
Drawings	75	78	80	81
Rent and Finance	229	236	236	235
Overheads	440	429	475	494
Gross Margin	866	1,167	1,077	767
Variable Costs	365	384	439	600
Output	1,230	1,500	1,516	1,367
£ per Ha	2020	2021°	2022°	2023
 240 owned, 360 CPAS; own 	ner plus i r i	worker & n	arvest casual	A

To illustrate trends in cereal farm profitability in Scotland we use our 'Loam Farm - Scotland' model. This is a notional business which operates across 600 hectares. Loam Farm Scotland runs a rotation of winter wheat, spring malting barley, winter barley/ oats and winter OSR. Throughout 2020 and 2021, Loam Farm Scotland performed well. Unlike the English model, Loam Farm Scotland had fewer challenges establishing crops. This resulted in strong output figures in 2021. Loam Farm is expected to make a profit from production in 2022, although costs are rising, in response to increased variable costs and higher machinery investment. In 2023, these high costs of production are set to drive a £43 per hectare loss from production. The farm is shielded from this loss by the continued direct support. While direct support is tapering in England (before income from public goods), that is not the case for Scotland. The future policy framework for Scottish agricultural payments is uncertain but is expected to align more closely with the situation in the EU than England.



While output prices are favourable, we highlight that the surge in prices of the past two seasons has been accompanied by a rise in input costs. This graph shows the cost of production of one tonne of first feed wheat on Loam Farm. In the 2022 budget, prices of inputs are not rising considerably. This is due to inputs being purchased before significant price rises. At present, Loam Farm is budgeted to have a much less profitable year in 2023 than usual. The cost of nitrogen per tonne of grain produced is £17 per tonne higher than in the 2016 to 2020 average. This, combined with other input cost increases and perhaps declining grain prices could drive either a change in behavior of the "typical farmer" i.e., reduced nitrogen, or a change in cropping patterns.

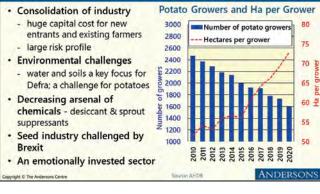
CEREAL ISSUES 2022 ONWARDS

- · High cost of inputs, whilst linked to global price for outputs
- · Increased focus on delivering for the environment
- the target of subsidy payments, what is the cost of receiving your subsidy?
- · Structure of industry is changing beyond the farmgate
- fewer, bigger grain buyers
- ongoing haulage challenge lack of drivers
- end-user focus moving to down stream (Scope 3) emissions i.e. emissions from suppliers
- Land rental values
- when will they respond to subsidy change?

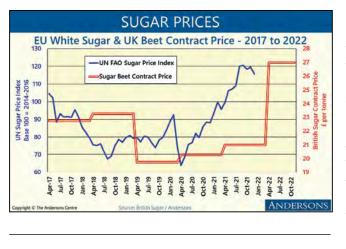
The next couple of years will be challenging for arable farming. We are coming out what have been historically high profit years and into a period probably defined by high costs, while outputs are dictated by the global supply and demand. Profitability from production may be challenged as we learn to deliver more for the environment. 'Environment' is the overwhelming direction of farm support. However, we need to be wary of the cost of receiving subsidies. The structure of the cereals industry is also going through a significant period of change. In the last decade a number of historically big grain buyers went out of business, this trend is likely to continue, and farmers will be left with fewer options, increasingly becoming price takers. Haulage is a significant driver of the current challenge buyers are facing. Furthermore, expect them to be increasingly focussed on emissions further down the supply chain. For example, flour millers will need to start thinking about 'Scope 3' emissions, the emissions from producing the crop. Finally, it should be highlighted that arable farming has been fundamentally unprofitable before BPS. The defining challenge of the current generation of farmers will be becoming more profitable.

[·] Arable farming has been fundamentally unprofitable before BPS - how do you become more profitable? ANDERSON





As with much of farming, the potato sector is facing some significant long-term challenges. The risk profile of the crop has increased considerably as the cost and size of equipment has increased. Equipment is very specific and used over a small part of the year and its capital cost poses a growing issue. The number of potato farmers has fallen by a third over ten years. Becoming a potato farmer is likely to be an insurmountable cost for most. The reduced access to active ingredients is also a problem for the sector. This is particularly true for in store chemicals in a heavily contracted sector, where crops may be required to be stored for many months. Finally, the environmental focus of government policy is likely to pose significant challenge for the root crop sector. Water and soil are key focuses of environmental policy, and the potato sector uses a lot of water (irrigation) and moves a lot of soil.



The value of the UN Food and Agriculture Organisation sugar index is shown against the British Sugar beet contract price, adjusted to the new no-crown-tare deduction. There has been significant food price inflation over the last 12 months. Since 2020, sugar beet prices have not matched the increased consumer prices of sugar. For the 2022/23 season, the new contract price, represents a marked increase on recent years. This will improve the prospects for beet growers and perhaps draw more acres into the crop. However, the crop has its challenges. One of late has been the prevalence of Yellow Virus. There have been derogations for neonicotinoid use to control it, but this is dependent on certain conditions being met including the presence of a 'significant threat'. Also, the last date for its use is 1st March 2022, with the ideal planting window being before the end of March. There are other challenges for sugar beet growers in the longer-term. As with potatoes, the environment is a key risk for the sugar beet area, with the crop involving a high degree of soil disturbance and irrigation.

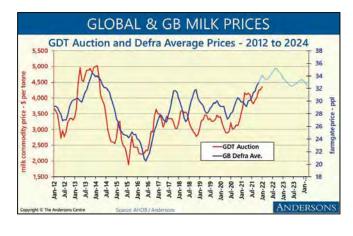
HORTICULTURE

- · Access to & cost of labour a challenge
- Seasonal Agricultural Workers Scheme (SAWS) extended to the end of 2024
- 30,000 visas available for 2022 (plus another 10,000 if required) but due to taper. Shortfall in seasonal labour will drive labour costs
- Likely to remain at the forefront of a drive for innovation
 how achievable is that for most businesses? And at what cost? Capital intensive...
- · Environment challenges and opportunities
- soils and water potential for increases in hydroponics, indoor and vertical farming. Opportunities in urban spaces. Challenges for peatlands
- food waste
- crop protection predator use
 healthy diet

ANDERSONS

Labour availability remains one of the defining challenges for the UK horticulture sector. In December Defra extended the Seasonal Workers Scheme to 30,000 workers (+10,000 if required) for 2022. The number of visas will begin tapering in 2023. When last included in the Defra 'Agriculture in the UK' dataset (2015) the number of seasonal, casual or gang workers in UK agriculture and horticulture was given as more than 67,000. Horticulture is affected less by the change in subsidy payments, the biggest threat to many agricultural businesses, due to comparatively low acreage and high output per hectare. Horticulture is likely to benefit from any focus on technology and investment as highlighted in the National Food Strategy, as one of the more technologically advanced sectors. However, this will not benefit all businesses due to high capital costs. Horticultural businesses have some of the highest gearing ratios of food producers. These higher liabilities to net worth ratios may cause problems as interest rates (i.e., the cost of debt) rise. Finally, as with all sectors the environment is an important focus. As for other cropping sectors, soils and water will be the most impacted elements of the environment. However, horticulture also has to contend with high food waste.

DAIRY



The 'world price' for milk is taken to be the Global Dairy Trade (GDT) auction price (dominated by the large New Zealand co-op, Fonterra). From 2012 to 2016, the milk market was very volatile – with a large surge in prices then a sharp slump. From 2017 to 2020 there was considerably less price volatility globally and nationally. Since late 2020, world prices have moved sharply upwards. GB prices (i.e. excluding Northern Ireland) have moved up as a result with the typical delay. Our forecast is for domestic farmgate prices to remain firm through the rest of the year. The following slides provide some of the reasons why.



In the past, periods of rapid milk price increases have been followed fairly shortly afterwards by an increase in milk production. Farmers observe extra profit to be made at the higher prices and strive to produce more milk. The extra output then tends to push prices down – this is the nature of commodity markets. Something different is happening at the moment though. Although commodity prices are very strong, production is actually decreasing around the world. This gives some indication that higher milk prices may be seen for some time yet. As a caution, we note that high prices are bearish, and the longer they remain high, the more bearish they become. This lesson was learned in 2014-15 as the chart illustrates.

ENVIRONMENT: THE NEW QUOTAS?

 High costs (feed, fertiliser, fuel) constraining 	output in all regions
 marginal litres not profitable even at high prices 	

Country	% World Milk	% Milk Trade	Annual Growth 2010-19	Annual Growth 20 & 21*	Growth Constraints
UK	2%	5%	1.6%	0.2%	Labour, nitrates, capital cost
Ireland	1%	~12%	5.2%	4.9%	Input costs, environmental policy
All EU~	20%	36%	1.8%	0.3%	Water quality, farm structures
Argentina	1%	3%	0.9%	4.8%	Economic climate, weather
Australia	1%	5%	-0.2%	-2.4%	Drought, Cost of production
NZ	3%	26%	2.6%	-0.1%	Water quality, land availability
US	13%	17%	1.5%	1.7%	Water (California), labour, input costs
Copyright © The Ande	ersons Centre			tor 2021 – EU Incl CAL/CSO / Anders	udes Ireland figures ANDERSONS

The reasons why output is not responding to high prices are various. In all parts of the world higher costs, especially of feed, have made it uneconomic to feed for extra output. The six largest dairy exporting nations are listed on the slide. It can be seen that their share of total world milk production is relatively small, but their share of exports is large. It is the milk (products) traded that set the global price. Ireland is also shown as it is so important to the UK market (the Irish figures are included in the EU totals). Most countries' output growth in the last two years has been slower than over the previous decade. Different constraints (beyond cost increases) are present in each country, but the 'environment' is a key theme. Based on USDA data for 2020, approximately 11% of global milk production is traded. This is up on previous years where the average was in the region of 8-10%. Due to cross-border trade flows of milk on the island of Ireland the figures for Ireland (i.e. Republic of Ireland) are an approximation. What is clear is that Ireland accounts for a major proportion of EU trade and is a significant global player in its own right.

DAIRY SUPPLY CHAIN

- Global demand is strong post-Covid recovery, commodity boom, etc.
- Domestic demand also good
 - shift back to food-service may favour (lower-cost) imports; but new checks on EU→UK trade coming
- growth of dairy alternative markets not impacting 'milk' dairy yet
 Trade deals to have little effect in short-term
- Trade deals to have little effect in short-term
- Strengthening £ could give a boost to imports and vice versa
 Processors now chasing volumes opportunity to switch for some?
- Continued move to block-calving systems
- liquid market not offering adequate returns for some high-cost systems
- more acceptance of a seasonal profile from processors
- high-cost systems will be hit harder by cost increases (high feed cost)

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ANDERSON

Dairy demand is strong in the main importing nations (e.g. China). Many commodities are experiencing a boom and milk products are included. Here in the UK demand has also been robust (despite lots of 'hype' around the growth of dairy alternatives). There is likely to be little immediate effect from trade deals and market prospects look firm for the remainder of 2022. A strengthening of Sterling will make UK milk products less competitive by making imports comparatively cheaper. The opposite could also happen of course. The majority of dairy producers in the UK continues to operate an all-year-round calving system, but this is probably down to around two-thirds of the total number of farms (and falling). High-cost systems will be more tested by the increase in input prices.

LABOUR AND CAPITAL

Labour

- Dairy businesses have grown from family to employed labour
- Recruiting, training and retaining good labour is difficult
 Costs rising Dairy Manager salary £42,000*; Herdsperson £28,000*
- Some large, profitable, dairy enterprises have quit as the proprietors failed to employ a team
- good time to retire at present as the market is buoyant

Capital

- Cost of concrete, steel, timber and labour has risen massively
- Preventing the creation of 'greenfield' units or significant expansion
- Only a 'cash' cost to ongoing businesses when investment due
 often the trigger for business change (slurry storage)

denors Centre * plus house (add £6.000 if ng house provided) ANDERSON

Labour has risen up the agenda on many dairy farms over the past decade. Traditionally, most dairy farms would rely heavily on family labour. With a stake in the business (financially or emotionally) people would often work long hours in poor conditions. As dairy farms have grown, more employed labour has been necessary. Employees are (rightly) unwilling to accept terms and conditions that compared badly with other parts of the economy. The cost of labour on dairy farms is now high due to a shortage of people and skills. Some farms have found the challenge of trying to maintain a good team too much and have decided to leave the sector. The capital cost in the dairy sector is another key driver of change – especially when it is time for investment in a large item of infrastructure.

FRIESIAN FARM MODEL

Year-round calving, const	ituent contr	act. Owner	and worker	
ppl	19/200	20/210	21/22®	22/23
Milk	28.0	28.5	31.6	34.0
Total Output	29.8	30.8	34.5	36.7
Variable Costs	12.4	13.3	14.2	16.9
Overheads	9.9	10.0	10.5	11.5
Rent, Fin. & Drawings	6.3	6.4	6.5	6.6
Total Costs of Production	28.6	29.7	31.1	35.0
Production Margin	1.2	1.1	3.4	1.7
Basic Payment	1.9	1.9	1.8	1.5
Business Surplus	3.1	3.0	5.2	3.2

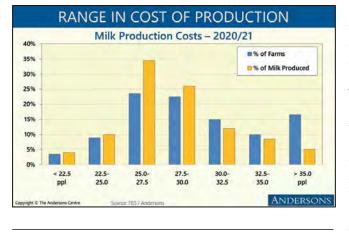
Profitability figures from our Friesian Farm model are shown. This is a notional 200+ cow business in the Midlands with a milk contract on a constituent basis. It has a year-round calving system, like much of the UK industry, but it is trying to maximise yield from forage. The figures are shown for milk years – April to March. 2019/20 profitability rose after the drought-hit 2018/19, even though the milk price was lower. For both 2020/21 and 2021/22 years milk prices rose, but so too did costs. The year just ending (21/22) looks like being a very profitable one for dairy farms – although costs have risen milk prices have increased by more. The higher margin from production has more than offset the falling BPS without SFI. Looking to 2022/23 the average milk price for the year is forecast to be up again. The real effect of recent cost increases will be seen though, meaning the margin from production declines. Profitability is back to the levels seen in 19/20 and 20/21.

FRIESIAN FARM MODEL - SCOTLAND

• 1	200+	cows	plus	followers	on	130	Ha	(part rented)	
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 Year-round calving, const 	ituent contr	act. Owner	and worker		
ppl	19/200	20/210	21/22®	22/23®	
Milk	27.7	28.2	31.3	33.8	
Total Output	30.0	31.0	34.7	37.0	
Variable Costs	13.0	13.8	14.8	17.6	
Overheads	10.0	10.1	10.6	11.6	
Rent, Fin. & Drawings	6.2	6.3	6.4	6.5	
Total Costs of Production	29.2	30.2	31.8	35.7	
Production Margin	0.8	0.8	2.9	1.3	
Basic Payment	1.9	1.9	1.8	1.8	
Business Surplus	2.7	2.7	4.7	3.1	
Copyright © The Andersons Centre Source: And	tersons @ Result @	Estimated @ Budget	A	NDERSONS	5

Our Scottish version of Friesian Farm is a notional 130 hectare holding in central Scotland with 200 milking cows. The figures differ from the English model in that milk prices are slightly lower, beef prices are higher, the farm does not grow maize, and some costs are higher due to the longer winters. The profitability story is much the same over the years shown as for the English dairy farm. The 2021/22 milk year will deliver good profits for a well-run dairy farm. Profits decline in our forecast for the coming year, but good milk prices look likely to offset a lot of the cost increases. One point of contrast with the English Friesian Farm is the unchanging contribution of the Basic Payment. The BPS in 2019/20 includes the convergence uplift.



Models like Friesian Farm only produce one set of profit and loss figures for the year. There is a wide range of performance in UK agriculture. This is true in dairying even though it is seen as quite an advanced and progressive sector. These figures come from the English Farm Business Survey and relate to the 2020/21 milk year. The wide range in cost of production is evident. The average cost of production for all farms was 28.3ppl whilst the average selling price was 29.5ppl. Those farms in the three right-hand categories would have been losing money from milk production. The production costs shown include any unpaid labour (including that of the farmer and spouse), herd depreciation and an estimated rental equivalent for land that is owned. An allowance is also made for non-milk revenue, most of which is from the sale of dairy calves, which is applied as a reduction to cost. As a result, the production costs here represent the price that would have to be paid on all milk produced for dairy enterprises to break even.

DAIRY ISSUES 2022 ONWARDS

- Farmgate prices very strong but enough to cover extra costs?
 milk prices may stay high for a while
- are dairy businesses robust to cope with price/cost volatility?
- Direct support disappearing in England difficult for intensive grassbased businesses to get £s from environmental schemes
- Focus on emissions for dairy farming supply chain as much as consumers soon GHG data just a 'cost of doing business'
- · Local environmental factors nitrates, phosphates, ammonia, biodiver.
- Long-term investment in people and infrastructure
- UK dairying can compete on cost (and quality) globally
- opportunities to grow our market

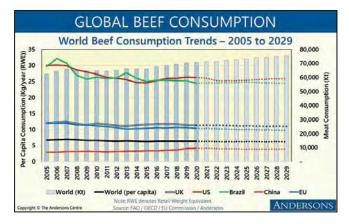
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    Good returns to be made - for the best businesses
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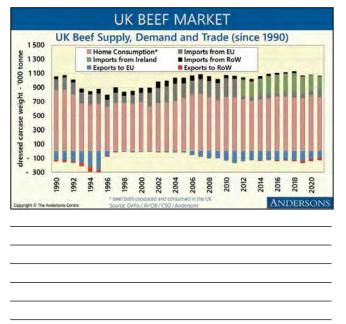
Many dairy farmers will have made good profits in the last 12-months, and may also do so in the years ahead. However, business should use the current favourable conditions to make themselves robust. Like other sectors of UK agriculture, dairying is facing a decade of change. The sector will be affected by the loss of the BPS less than others as it forms a smaller proportion of current output. Yet, environmental schemes have tended to offer little to dairy farms in the past - ELM may change this. The whole sector must demonstrate 'best practice' in many areas in order to keep wider society on board - these include animal welfare (especially male calves), ammonia, nitrates, phosphates, GHG emissions and food safety. It could even be extended to offering pleasant, wellpaid jobs! The sector is capital-intensive and ongoing investment for the future is key (whilst at the same time keeping costs under control). The best businesses will have a vision of where they want to be at the end of the decade.

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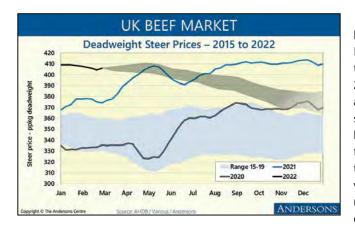
GRAZING LIVESTOCK



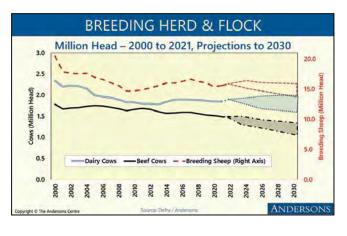
In advanced economies such as the EU and UK, per capita consumption of beef has been falling, albeit slightly, and this trend looks set to continue towards 2030. Individual consumption has also been stagnant in the US and Brazil, whilst China has had some increases, especially during 2018 and 2019 due to the African Swine Fever crisis in pigs. In the years ahead, global per capita consumption, as with China, will be largely stagnant. However, these trends hide the growth in global consumption that is projected to take place this decade, driven primarily by population growth and rising incomes in developing countries. This presents both challenges and opportunities for the UK. Challenges with respect to declining consumption in the UK and greater competition from imports. However, there is scope to grow in maturing export markets in Asia-Pacific, provided the UK's products are price and value competitive.



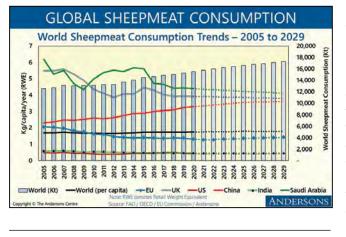
UK beef consumption has risen since the BSE crisis, aided by population growth. In recent years, consumption has been declining nationally as beef has struggled to compete with cheaper meats (poultry and pig meat) and is subject to growing environmental concerns. In 2020, prices rose due to retailers' and consumers' support of British beef during Covid. Supply expanded in response, meaning supplies were tight in 2021. Some recovery is anticipated in 2022, but a tight supply will remain a feature of the market. Exports to the EU have been subject to non-tariff measures (regulatory checks) since January 2021 which have had a negative impact on trade. Imports coming in, have not been as impeded although this is anticipated to change during 2022 as the UK Border Operating Model gets implemented. As the chart shows, Ireland will be most exposed as it accounts for 75% of EU imports. However, Ireland potentially will have a further reprieve from regulatory checks as the UK Border Operating Model provisions will not apply for Ireland to GB shipments whilst the Protocol is being negotiated. From 2022, imports from RoW may rise as the UK's trade deals with the likes of Australia and New Zealand start to be implemented.



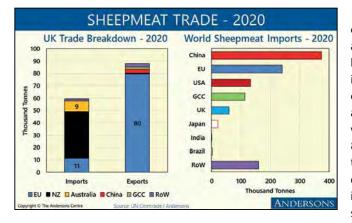
Since the start of summer 2020 there has been a strong rise in beef values (following a dip punctuating the first weeks of Covid-19). Production volumes have been lower both domestically and from the key import supplier of Ireland. Demand has also been strong. In 2020, retail beef sales were up 11%, with big growth in mince burgers and steak - partly helped by promotions. Foodservice demand slumped with the lockdowns of 2020 and 2021, but the switch to home consumption may have helped domestic producers - a lot of foodservice product is imported whilst that on supermarket shelves tends to be GB-sourced. Accordingly, 2021 prices remained strong with tight supplies also supporting prices. Prices are anticipated to remain relatively strong in 2022, although the market may not be quite as buoyant as 2021, with the food services trade recovering and the prospect of increased competition from Australia (and NZ) towards the end of the year. However, prices are still anticipated to be better than the historic range.



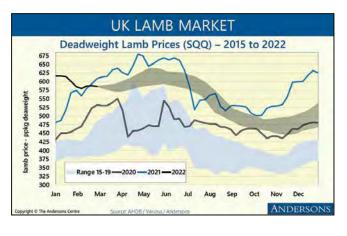
Generally, cattle and sheep populations have declined since 2000, particularly for beef cows. Dairy cow numbers have plateaued since 2016 and with strong milk prices and tight supply, are expected to rise in 2022. The UK breeding sheep flock has also increased since 2020, again driven by high prices. The trend towards regenerative farming and mixed farming systems may also help sheep numbers. Longer term, beef cow numbers look set to continue their downward trend due to the combined impacts of policy reform and their emissions challenge. Declines may not be as pronounced in Scotland and NI, where headage-based payments look set to be a feature of future support. Dairy cow numbers may also come under some pressure due to environmental challenges (including ammonia) and ongoing productivity (yield) increases are also likely to lead to some downward pressure on numbers, but the trend will be much less pronounced than in the suckler herd as demand for milk remains strong. There may also be some downward pressure on sheep numbers in the long-term, particularly if competition from Australia and NZ increases. The UK's ability to continue to serve the EU market will remain crucial. If the UK value proposition remains competitive on the continent, this will support sheep numbers.



The UK needs to look beyond Europe to grow new markets for its sheepmeat. Global demand for sheepmeat is rising, driven primarily by growth in China, where per capita consumption has risen from just over 2.5kg/head/year in 2010 to 3.3kg in 2020 and is projected to surpass 3.6kg/head/year in 2029. This presents an obvious opportunity for the UK. Other opportunities could include the Gulf Cooperation Council (GCC) – an Arabian customs union that includes Saudi Arabia, UAE, Qatar, Bahrain, Kuwait and Oman as members. Opportunities in the US and India should not be discounted either, but per capita consumption is currently low in both countries. However, building such markets will take time and the UK will have to focus on select niches, at least initially. Per capita consumption might be plateauing/falling both globally and within individual countries, but overall consumption continues to grow.



Traditionally, the EU has been the key market for UK sheepmeat exports and in 2020 (before the Transition Period ended), it accounted for 90% of UK exports. In the past, exports to the EU have accounted for 25-40% of the UK's annual lamb crop. With the imposition of trade barriers on UK-EU trade, the competitiveness of UK exports will be eroded somewhat, but it will still remain a major market. At the same time, trade deals have been struck with NZ and Australia which together already account for nearly 80% of UK sheepmeat imports. Much of these imports are due to the seasonal nature of UK lamb production and British consumers' demand for spring lamb all year round. With new FTAs, the volumes imported could rise in future. The UK therefore needs to start seeking opportunities elsewhere. As alluded to previously, China is an obvious market with growing consumption and nearly 400Kt of imports annually. The GCC is also a major importer (113Kt), and it imports almost as much as the US (133Kt).



The sheep sector has a very seasonal price pattern. In early 2020, the 'Covid dip' can be seen, as the continental food service sector is an important segment - but relatively few UK sheep were being sold in this period. Since then, prices have been buoyant, reaching record levels during 2021 due to tight supplies. Covid has had some, perhaps surprising, effects on lamb demand. Although the foodservice sector was largely lost during the lockdowns, the takeaway sector (curries and kebabs) seems to have more than compensated. Retail sales of lamb also increased - possibly consumers experimenting with new recipes at home or 'treating' themselves. Prices have remained strong into 2022 although there have been some declines recently. Easter should support prices until late April. Thereafter, the traditional seasonal trend is likely to resume as UK spring lambs reach the market. Whilst prices are projected to be stronger than the historic averages throughout 2022, they may not reach the highs of 2021 and the greater scope to procure from Australia (and NZ) from the end of the year will also have an impact.

 154 Ha mixed lowland fa 	rm (114 Ha	owned, 40	Ha FBT)	
· Beef (suckler cows plus f	inishers, fin	ished bulls,	sheep and	arable)
• Proprietor, 1FT family wo	orker & casu	al		
£ per Ha	19/20	20/21*	21/22*	22/23*
Livestock Gross Margin	617	741	894	683
Crop Area Gross Margin	662	702	926	748
Total Gross Margin	626	732	900	696
Overheads	510	492	541	567
Rent, Finance & Drawings	325	327	328	331
Margin From Production	(209)	(87)	31	(202)
Basic Payment and CSS	251	255	241	207
Business Surplus	43	168	273	5

'Meadow Farm' is a notional 154-hectare (380 acre) beef and sheep holding in the Midlands. It consists of grassland, with wheat and barley mainly for livestock feed. There are 60 spring-calving suckler cows with all progeny finished, a dairy bull beef enterprise and a 500-ewe breeding flock. In most years, the business makes a loss from its farming activity. The 21/22 year is set to be exceptional as the farm will make a margin from production for the first time in many years, driven by strong livestock and grain prices. The declining BPS will only have a limited impact and the farm is set to make a healthy business surplus. However, 2022/23 will be challenging as costs (both variable and overheads) rise significantly and the farm will make a projected loss of over £200 per Ha from production. A further cut to the BPS means the business surplus will be very small. The proprietors are considering the new Sustainable Farming Incentive, to see if some of the 'lost' BPS can be recouped from this scheme.

MEADOW FARM MODEL - SCOTLAND

- 154 Ha mixed lowland farm (114 Ha owned, 40 Ha SLDT)
- Beef (suckler cows plus finishers, finished bulls, sheep and arable)
- Proprietor, 1FT family worker & casual

	£ per Ha	19/20°	20/21*	21/22*	22/23*	
	Livestock Gross Margin	633	767	921	700	
	Crop Area Gross Margin	629	708	910	733	
	Total Gross Margin	632	755	919	707	
	Overheads	517	498	548	576	
	Rent, Finance & Drawings	322	323	325	327	
	Margin From Production	(207)	(66)	46	(196)	
	Basic Payment & SSBSS	267	266	258	258	
	Business Surplus	60	200	304	62	
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Scottish 'Meadow Farm' is a notional 154-hectare (380 acre) beef and sheep holding in the Scottish Lowlands. It consists mostly of grassland, with barley grown mainly for livestock feed. There is a 60-cow suckler herd with all progeny being finished, a dairy bull beef enterprise and a 500 ewe breeding flock. Fundamentally, this farm has too many enterprises and the manager has not been clever with the assets or working with other farms - it is too selfsufficient. The business is subsidy dependant. As with its English counterpart, Scottish Meadow Farm has generated a positive margin from production in 2021/22 and taken together with support income, it means that a business surplus of over £46,300 will be generated. Next year will be more challenging as input costs are rising considerably, but as support will not change significantly, it is less exposed than its English counterpart.

UPLANDS FARM MODEL

- 300 Ha uplands farm (100 Ha moorland, 50 Ha of in-bye on FBT)
- 90 sucklers (plus progeny) and 800 ewes

£ per Ha	19/20	20/21	21/22*	22/23=
Output	509	586	684	623
Variable Costs	292	305	329	412
Total Gross Margin	217	280	355	211
Overheads	185	177	201	211
Rent, Finance & Drawings	162	163	163	165
Margin From Production	(129)	(59)	(9)	(165)
Basic Payment	174	177	163	137
Business Surplus	44	117	154	(28)
ht © The Andersons Centre Source: Anderso	ons @ Result @ I	Estimated @ Budget	A	NDERSON

'Uplands Farm' is a notional 300-hectare (740 acre) beef and sheep holding in the north of England. There are 90 spring-calving suckler cows with all progeny finished and a 800-breeding ewe flock. In all the years shown, the business makes a loss from its farming activity. This is lesser or greater depending on market factors (i.e. 2021/22 looks like being a 'good' year thanks to better beef and sheep prices). The business is support dependant and needs to capture some of the SFI opportunities which it has not yet done. How will this farm adapt to survive without BPS? Perhaps through provision of public goods, or through modernising its management practices, or a combination of both.

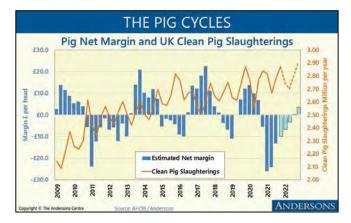
BEEF & SHEEP ISSUES 2022 ONWARDS

Most farms in this sector are BPS-dependent

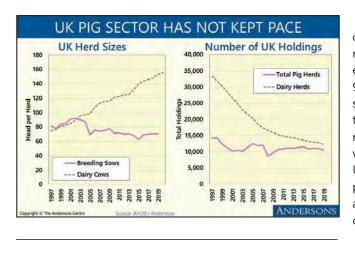
- new schemes (Eng & Wales) will not deliver the same level of support
 Markets for the product
- Markets for the product
 chart term: market level after
- short-term: market level after Covid & influence of trade deals (Aus, NZ)
 medium-term: extra competition in beef from additional trade deals (US?, Mercosur?), could present opportunities for sheepmeat
 long-term: shift in consumer tastes towards 'alternative meats'
- long-term: shift in consumer tastes towards alternative me
- Addressing society's concerns GHG, animal welfare etc.
- Sector structure inefficiency issues; difficulties achieving greater scale
 number of farmers, age profile, systems, breeds etc.
- · A period of significant structural change ahead?
- more competition for land dairy, public goods, diversification etc.
- economics suggest so, but, lifestyle preferences signify slower change
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The current good prices in the beef and sheep sectors will mask many of the longer-term issues that both sectors face. Systems have evolved that are reliant on direct payments to deliver farm profitability. In England, this is now time-limited and other parts of the UK are likely to follow in some way. This is a sector with the most farmers, making the least money and many, whether they realise it or not, are lifestyle farmers. As the BPS disappears, the decision to go for public goods payments or, get better, or do something else (potentially on a part-time basis) will be an important choice for a large number of farmers. The emotional investment of many of these farmers in their land and their stock is high – meaning change is difficult even if it is the right thing to do.

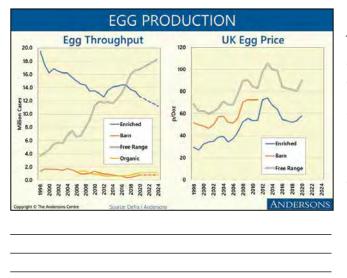
PIGS AND POULTRY



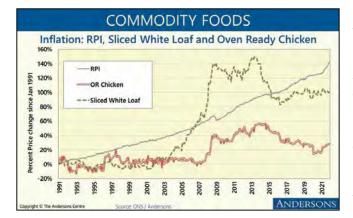
Commodity prices move in cycles, albeit mostly unpredictable ones. These are best known and recited in the pig meat sector. On this chart, the cycle is demonstrated not by price, but net margin per head. This is a calculated figure for an average producer using typical volumes of inputs, applying their costs and comparing them with the price per unit of pig-meat and typical weight per pig sold. The cycle is currently coming out from an unusually low point. This is, at least in part because of supply chain issues, with insufficient pigs being slaughtered because of carbon dioxide unavailability and staff shortage; largely because of Covid issues. Finished pigs had to remain on farm for longer than usual, costing money, and going out of condition. There are several other cycles in agriculture, and the orange line demonstrates the cycle of numbers sold, the seasonal variation can be identified, as usually spiking in the fourth quarter of each year ahead of the Christmas consumption. Overall slaughterings have been gradually rising year on year but less this year for the reasons already mentioned.



Where dairy farms (arguably one of the more progressive sectors of UK agriculture) have more than doubled in size and halved in number, pushing through structural changes and improvements in efficiencies and performances, the average pig herd has fallen from 90 to 70 sows in 20 years, and gone outside. About 40% of breeding sows are in outdoor production systems. Poultry has migrated to this system and branded it 'free range'. The pig industry has not managed to capture the marketing benefits of that transition as well, despite us now having a globally unique welfare boast. The UK pig industry is tiny compared with some neighbours, with 7 pigs per 100 people. This compares with 70 in Netherlands, 63 in Spain and a whopping 215 in Denmark. Perhaps a period of economic challenge might accelerate porcine industry reform.



The rise of the Free Range egg continues, now accounting for just shy of 60% of all UK chicken egg production. This is being mostly driven by commitments made by supermarkets to phaseout eggs produced in enriched barns, many of which are making big announcements on this having already achieved. Increases in Free Range are outstripping declines in other sectors as the egg market grows, Britains are eating almost 30% more eggs than we were only 10 years ago. Egg prices have also been rising this year, arguably not by enough to cover the higher costs of feed in the short term. The rising demand for eggs has retained a firm price for them. When an industry is in transition (growth), it can be difficult to retain that balance if growth rates change at some point.



There's a chicken going 'cheep'. 30 years ago you could buy a 1.5 to 2kg 'Oven-Ready' chicken from your local supermarket for £2.95; now you can buy it for £3.75. It would have been worth double that if it had risen in line with inflation. Chickens are the fastest growing farm animals with the shortest generation gap, meaning it is very fast to work genetic improvements into them. Improvements in management making use of computers and sensors has been easy, being an indoor farm system, and the control of their environment consequently easy too. But in some cases, the commodity chicken is now rather different to what the marketing pictures suggest. This is leading to some growers trying to identify their birds as different to the rest, with a price premium.

COMMODITY FARMING

The humble chicken has lost its identity. It is on par with milk – a brandless commodity product which is a household staple

Andersons' Outlook 2022

Supply chains therefore struggling to find a point of difference:

- Red Tractor assured;
- RSPCA Assured
 Room to Roam
- Corn fed
 Provenance
 Slow-grown poultry
- British Indoor; British Indoor+
- Free Range
- Organic

Better Chicken Commitment

ANDERSONS

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Indeed, the chicken meat industry has been struggling with the commodity chicken image and trying at various levels to add value to their fundamentally very cheap product. Whist this happens in every sector of commodity production, particularly in livestock farming, it is arguably most acute here as the difference is prices from the cheapest chicken available (£2.15/kg - Lidl) and most expensive (£9.97/kg - Loose Birds) is considerable, and so is the end product.

PIG & POULTRY ISSUES 2022 ONWARDS

- Labour shortages processing as well as farming
- · CO2 and other input availability (feed) could return at short notice
- Logistics live animal movements are expensive to postpone
- Trade Deals some very large manufacturers on our doorstep. P&P currently well protected
- Public perception antibiotic use, animal welfare,
- Climate Change Emissions per kg output are tiny but per Ha are huge. Beware how they are measured. Soya considered baddie
- · Capital investment Same as all other intensive farming systems
- Disease pressure high in enclosed high-stocking-rate systems -ASF, Avian Flu, Anti Microbial Resistance, antibiotics...
- Range of performance amongst producers

The issues (and benefits) of farming systems can be magnified when a lot of production takes place in a small space in intensive systems (mostly indoor). Cramming lots of production into a small space multiplies the output and profits, but also the losses when they occur. Many people see them as environmental disasters as they measure emissions per shed, not per kilo of output coming from them (compare production of say 500m² of broiler shed with the same area of beef-grazed grass. The emissions per m² of grassland will be far lower but per kg beef might be far higher). The cost of feed is always a key influencer as it accounts for so much of the P&L. As indoor farming is less visible to consumers, they can create more suspicion.

FINAL THOUGHTS

CONCLUSIONS

- A promising year for many sectors in 2021/22, but high costs look set to bite 2022/23
- Farming continues to go through a period of significant change
 changes to policy, will mean farming has to have an increased focus on
- rentages of policy, with early here and placed by new support schemes
 increased competition from new trade deals will also pose longer term
- challenges.

 Increased competition for land
- with new policy comes an increased focus on the environment and land use change
- a long-term transition to food production alongside the environment, diversification and delivery of public goods
- land use change is generational not short-term

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In the shorter term, most sectors look set to have made good returns in 2021/22, except for pigs and poultry. Agriculture in 2021/22 has been defined by high prices, however it will also be defined by high costs. Whilst they might not bite this year, 2022/23 looks to be challenging for many. Grazing livestock, and arable to a lesser extent, have been fundamentally unprofitable with subsidy. In England, the SFI is coming in but will not displace the guaranteed income of BPS. As has been a theme for some time farming continues to go through a period of significant change. The environment is increasingly becoming a driver of agricultural land use and will continue to be so for some time to come. We have increased competition for land from diversification, woodland, peatland, and other biodiversity drivers. However, as we've seen, land use change is generational, not instant, and only following a significant change in the status quo.

GLOSSARY OF ACRONYMS

AECS	Agri-Environment and Climate Scheme (Scotland)
AHDB	Agricultural and Horticultural Development Board
AONB	Area of Outstanding Natural Beauty
ASF	African Swine Fever
BCG	Boston Consulting Group
BoE	Bank of England
BPS	Basic Payments Scheme
Brexit	British Exit (from the EU)
BSE	Bovine Spongiform Encephalopathy
CAP	Common Agricultural Policy
CCC	Committee on Climate Change
CGT	Capital Gains Tax
CPD	Continuing Professional Development
CO2	Carbon Dioxide
СоР	Cost of Production
CPI	Consumer Price Index (Inflation)
CPTPP	Comprehensive and Progressive Trans-Pacific Partnership
CSO	Central Statistics Office (Ireland)
CS	Countryside Stewardship
CU	Customs Union
DAERA	Department of Agriculture, Environment & Rural Affairs (NI)
Defra	Department for Environment Food & Rural Affairs
DIT	Department for International Trade
ECJ	European Court of Justice
ELM	Environmental Land Management
ELS	Entry Level Stewardship
EP	European Parliament
ES	Environmental Stewardship
ESS	Environmental Standards Scotland
EU	European Union
FAO	Food & Agriculture Organisation

FAO	Food & Agriculture Organisation
	(of the UN)

FBI	Farm Business Income
FBS	Farm Business Survey
FBT	Farm Business Tenancy
FiPL	Farming in Protected Landscapes
FIT	Feed-In Tariff
FSA	Food Standards Agency
FTA	Free Trade Agreement
GB	Great Britain
GCC	Gulf Cooperation Council
GDT	Global Dairy Trade
GHGs	Green House Gases
GVA	Gross Value Added (economic output)
IHT	Inheritance Tax
KPI	Key Performance Indicator
LFA	Less Favoured Area (Uplands)
LFASS	Less Favoured Area Support Scheme (Scotland)
LIDAR	Light Detection and Ranging
L/L	Lowland
LNR	Local Nature Recovery
LPF	Level Playing Field
LRS	Landscape Recovery Scheme
MFN	Most Favoured Nation
Mt	Million Tonnes
NFI	Net Farm Income
NFS	National Food Strategy
NFU	National Farmers Union
NI	National Insurance
NI	Northern Ireland
NLW	National Living Wage
NTM	Non-Tariff Measures
NZ	New Zealand
OBR	Office of Budget Responsibility
OECD	Organisation for Economic Co-operation & Development

ONS	Office of National Statistics
OSR	Oilseed Rape
PPL	Pence per Litre
PV	Photovoltaic (Solar)
RAU	Royal Agricultural University
RICS	Royal Institution of Chartered Surveyors
RoW	Rest of World
RPA	Rural Payments Agency
RPI	Retail Price Index (Inflation)
SAW	Seasonal Agricultural Workers
SFI	Sustainable Farming Incentive
SFP	Sustainable Farming Payment
SFS	Sustainable Farming Scheme
SLDT	Short Limited Duration Tenancy (Scotland)
SP	Single Payment
SQQ	Standard Quality Quotation (sheep price)
SPS	Single Payment Scheme
SPS	Sanitary and Phytosanitary
SSBSS	Scottish Suckled Beef Support Scheme
ТВ	(Bovine) Tuberculosis
TCA	Trade and Cooperation Agreement
TIAH	The Institute for Agriculture and Horticulture
TIFF	Total Income From Farming
TRQ	Tariff Rate Quotas
UAE	United Arab Emirates
UK	United Kingdom
UKGT	UK Global Tariff
UN	United Nations
US	United States
USDA	United States Department of Agriculture
WG	Welsh Government
WTO	World Trade Organisation

Please call if there are any questions from this presentation.

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