For immediate release 8 September 2022

Genus plc
Preliminary results for the year ended 30 June 2022

CONTINUED STRATEGIC PROGRESS IN CHALLENGING MARKETS

Year ended 30 June	Adjusted results[1]				Statutory results		
	Actual currency			Constant currency change[2]	Actual currency		
	2022	2021	Change		2022	2021	Change
	£m	£m	%	%	£m	£m	%
Revenue	**593.4**	574.3	3	2	**593.4**	574.3	3
Operating profit	**68.8**	76.9	(11)	(13)	**49.4**	47.7	4
Operating profit inc JVs exc gene editing	**85.6**	97.4	(12)	(14)	**n/a**	n/a	n/a
Profit before tax	**71.5**	84.8	(16)	(18)	**48.4**	55.8	(13)
Free cash flow	**(13.5)**	37.5	(136)	n/m[3]			
Basic earnings per share (pence)	**82.7**	100.9	(18)	(20)	**62.5**	72.6	(14)
Dividend per share (pence)					**32.0**	32.0	-

Robust performance across the business, despite challenging macro-economic events; Group results adversely impacted by PIC China

- Group revenue up 2% in constant currency (3% in actual currency), adjusted profit before tax ('PBT') down 18% in constant currency (16% in actual currency)
- Excluding PIC China, Group adjusted PBT up 25% in constant currency (28% in actual currency) and revenue up 7% in constant currency (9% in actual currency)
- R&D investment increased by 6%[2] as planned
- Statutory PBT reduced by 13% to £48.4m, reflecting lower adjusted profit, lower net IAS 41 biological asset movement and share-based payments

Challenging market conditions for PIC China as previously indicated, strong PIC performance elsewhere

- China pig prices averaged 14.6 RMB/kg through the year, down 50% on the prior year. Since June 2022, these have now recovered to over 21 RMB/kg, which exceeds the cost of production for most producers
- Overall PIC volumes were stable, with revenue down 5%[2] but royalty revenue up 1%[2]. Adjusted operating profit declined by 13%[2]
- Excluding China, PIC's volumes up 8%, revenue up 4%[2], royalty revenue up 8%[2] and adjusted operating profit up 11%[2]
- Strong customer wins drove North America growth; solid performances in Latin America and Europe despite challenging market conditions for customers

Good performance in ABS, with adjusted operating profit growth of 9%[2] and volume growth of 3%, despite more challenging market for producers

- Continued success for Sexcel® (supporting sexed volume growth of 18%) and NuEra® beef (with volumes up 21% and total beef volumes up 9%)
- Strong growth in third party sales of IntelliGen sexed semen production in North America and Europe
- High growth in Asia, particularly China and continued growth in Latin America
- Overall, ABS's adjusted operating profit up 9%[2]

Lower cash generation and earnings than prior year, dividends maintained

- Free cash outflow of £13.5m, reflecting lower profit from PIC China, continued investment in the business as well as expected working capital outflows. Solid cash conversion of 82%[1]
- Net debt increased to £185.0m, with year-end net debt to EBITDA ratio of 1.7x[1], within 1.0x-2.0x targeted range
- On 26 August 2022 Genus extended its multi-currency revolving credit facility to 2025 and increased the facility by £40m (to £190m) and USD $25m (to $150m) under an accordion option

- Adjusted earnings per share 18% lower, final dividend in line with prior year, with 2.6x[1] adjusted earnings cover

Continued strategic progress and investment for growth

- Further genetic progress in pork, dairy and beef, contributing to a reduction in use of energy, water and land in animal protein production. Good progress on reduction of Genus's carbon emissions, with the primary intensity ratio[4] reduced by 25% since FY19
- Acquisition in Canada of Olymel LP's internal elite porcine genetics programme, AlphaGene, for CAD$25m (£14.5m) in February 2022 progressing well, generating royalties in the second half
- Significant capital investments to support growth including expansion of the ABS Leeds facility in Wisconsin, completion of the PIC Atlas facility in Canada in June 2022 and further roll out of the GenusOne enterprise system, now live in over 60% of Genus's business
- Investments in digitalisation to deliver differentiation for ABS's Gene Advance genetic offering and ecommerce capabilities

Building R&D capabilities and opportunity pipeline

- PRRSv resistant pig programme on track, with final FDA submissions expected to be made by December 2023
- R&D pipeline strengthened from investments, with an increase in the number of projects in the discovery and proof of concept phases

Commenting on the performance and outlook, Stephen Wilson (Chief Executive) said:

"The Group performed robustly, although challenging market conditions in China porcine impacted the performance of PIC. We also made good strategic progress and completed significant capital investments including Atlas, PIC's new elite genetics farm in Canada to support growth. Our strategic collaboration with Olymel, which we announced during the year, is progressing well, further strengthening PIC's North America business.

"Bovine producers faced more challenging conditions in the second half of the year, as a result of significantly increased input costs and the Ukraine war. However, ABS continued to grow volumes and expand margins, driven by the success of Sexcel (including expansion of sales through our third party IntelliGen business), as well as strong growth in sales of our proprietary NuEra beef genetics across all regions.

"PIC delivered strong growth in operating profits excluding PIC China, underpinned by market share gains with key customers in North America, Latin America, and Europe, despite challenging political and macro-economic events. However, as expected, the porcine market and COVID-19 lockdowns in China adversely affected PIC China's trading during the second half of the year. The live pig price in China remained below the cost of production and has only showed signs of recovery since June.

"Over the summer, China's live pig prices have risen above 21 RMB/kg, improving confidence that the country's porcine industry is on the path to recovery and profitability. Industry expectations are that prices will continue to exceed 20 RMB/kg for the remainder of 2022, although there could still be some further volatility. Investments we have made to increase elite porcine supply chain capacity position Genus well to support Chinese producers' needs and benefit from the market recovery over time.

"The Board remains confident in the Group's strategy and the many opportunities for Genus. Medium-term growth expectations remain unchanged."

Results presentation today

A pre-recorded analysts and bankers briefing to discuss the preliminary results for the year ended 30 June 2022 will be held via a video webcast facility and will be accessible via the following link from 7:01am today:

https://webcasting.buchanan.uk.com/broadcast/62c6c042d161177b45786de1

This will be followed by a live Q&A session to be held by invitation via Zoom at 10:30am. Please contact Verity Parker at Buchanan for details; verityp@buchanan.uk.com

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About Genus

Genus advances animal breeding and genetic improvement by applying biotechnology and sells added value products for livestock farming and food producers. Its technology is applicable across livestock species and is currently commercialised by Genus in the dairy, beef and pork food production sectors.

Genus's worldwide sales are made in over 75 countries under the trademarks 'ABS' (dairy and beef cattle) and 'PIC' (pigs) and comprise semen, embryos and breeding animals with superior genetics to those animals currently in farms. Genus's customers' animals produce offspring with greater production efficiency and quality, and our customers use them to supply the global dairy and meat supply chains.

Genus's competitive edge comes from the ownership and control of proprietary lines of breeding animals, the biotechnology used to improve them and its global supply chain, technical service and sales and distribution network.

Headquartered in Basingstoke, United Kingdom, Genus companies operate in over 24 countries on six continents, with research laboratories located in Madison, Wisconsin, USA.

[1] Adjusted results are the Alternative Performance Measures ('APMs') used by the Board to monitor underlying performance at a Group and operating segment level, which are applied consistently throughout. These APMs should be considered in addition to, and not as a substitute for or as superior to statutory measures. For more information on APMs, see APM Glossary.

[2] Constant currency percentage movements are calculated by restating the results for the year ended 30 June 2022 at the average exchange rates applied to adjusted operating profit for the year ended 30 June 2021.

[3] n/m = not meaningful

[4] The primary intensity ratio is a measure of the Group's Scope 1 and 2 emissions per tonne of animal weight

Chief Executive's Review

A robust performance was achieved by the Group despite some highly challenging market conditions. We made good progress with our strategy and continued to invest in the business and in innovation, positioning us for growth and reflecting our confidence in the future.

Group Performance

Revenue for the year was 2% higher (3% in actual currency), with adjusted profit before tax down 18% in constant currency (16% in actual currency). PIC China was a key factor in this performance (see below). Excluding PIC China, adjusted profit before tax for the Group was up 25% in constant currency (28% in actual currency).

The macro environment proved particularly difficult for our customers in the last year, due to a range of factors including record grain, fuel and fertiliser prices and the ongoing impact of COVID-19 on their operations. The Russian invasion of Ukraine sent further shockwaves throughout producers' supply chains, exacerbating inflationary pressures on input costs. While our customers benefited from rising output prices in some markets, these have generally lagged behind increases in input costs, putting pressure on their margins.

Genus PIC revenue declined by 5% in constant currency, although royalty revenue grew by 1%. Adjusted operating profit (including joint ventures) was 13% lower than the previous year (all figures in constant currency). Excluding China, PIC's revenue was up 4%, royalty revenue was 8% higher and adjusted operating profit rose by 11%. This progress included PIC's fastest growth in North America for a number of years, as a result of our investment in genetics and capturing market share.

Conditions in China remained challenging, as previously indicated. The China porcine market suffered from a combination of reduced demand, due to COVID-19 lockdowns, and oversupply following the heavy restocking after African Swine Fever. This resulted in the industry making heavy losses during the year. More favourable market conditions have emerged since the end of the financial year. We continue to see strong long-term prospects for PIC in China as a result of our product strength and the investments we have made to significantly increase supply chain capacity and strengthen our team.

Genus ABS grew volumes by 3% and increased revenue and adjusted operating profit by 7% and 9% respectively, in constant currency, despite the impact of an IT security incident, now fully resolved, which affected June's trading in Brazil. The business continued to see growing uptake of our NuEra beef genetics in dairy herds, which contributed to a 9% increase in global beef volumes. ABS also delivered further growth in Sexcel sexed genetics, with sexed volumes being 18% higher.

We made further planned investments in R&D, which are essential to the long-term development of the business, with expenditure of £67.1m in the year: an increase of 6% in constant currency. The PRRSv gene editing programme is on track and we expect to complete FDA submissions by the end of 2023. We have also made considerable progress in building our pipeline of other R&D projects. Further details are set out below.

Strategic Progress

Our customers choose us because of the strength of our genetic portfolio and we made good genetic progress across all species during the year. In porcine, we further enhanced our portfolio through our collaboration with Olymel in Canada. This has seen us acquire all intellectual property in Olymel's elite porcine genetics and sign an exclusive long-term genetics collaboration agreement. The arrangement also increases PIC's footprint in the Canadian market.

Our programme to produce PRRSv-resistant pigs is making continued progress with the expansion of E2 generation homozygous edited animals and further submissions to the FDA as planned. We are focusing on our industry engagement and increasing production capacity as the prospect of bringing PRRSv-resistant pigs to market comes closer. We also have a pipeline of other gene editing projects, primarily in porcine, and our investment in reproductive technology is making progress.

Digitalisation is an important element of our strategy. In particular, we are transforming ABS's digital capabilities to improve our ability to engage with customers, demonstrate genetic improvements in their herds and conduct digital sales and marketing. The roll-out of our new enterprise system, GenusOne, is also progressing, having gone live in Spain and Chile during the year and in the UK shortly after the year end. With the UK rollout now completed, over 60% of the Group's business is using the new system.

This was a year of major investment in the business, which saw our capital expenditure peaking. Atlas, our new elite porcine genetics farm in Canada, opened in June 2022. Our investment in ABS's facility in Leeds, Wisconsin, has given us increased bull housing and production capacity, as well as generating efficiency gains.

Sustainability

As a purpose-driven business focused on helping to nourish the world, sustainability is core to our business model. We have an important role in reducing the environmental impact of our customers' operations, by delivering genetic improvement that helps them achieve business goals while using fewer resources and cutting their carbon footprints. This year, we became a founder member of the Greener Cattle Initiative, an industry consortium that is supporting research on how to mitigate methane emissions from cattle. Since 2019 we have also made progress in the business with our own carbon reduction goals, reducing by 25% our primary carbon intensity, being tonnes of carbon emitted per tonne of animal bodyweight. We have also reduced our absolute Scope 1 & 2 carbon footprint by 9% compared to the 2019 baseline.

People

Genus depends on attracting and retaining the best talent and I want to thank everyone in the Group for their contribution this year. Our *Your Voice* survey is a key way in which we measure sentiment around the Group. We were pleased to achieve our highest-ever response rate and strong results, with increases in scores for almost all questions. Highlights included a further increase in the percentage of our people who would recommend Genus to their family or friends, which now stands at 82%, up from 79% in the previous survey and 73% in 2017. In addition, some 89% of our people said they enjoy working at Genus, versus 85% last time.

Outlook

As noted above, macro-economic conditions remain particularly challenging for our customers in many parts of the world, however, since the start of the 2023 fiscal year, China's live pig prices have risen above 21 RMB/kg, improving confidence that the country's porcine industry is on the path to recovery. There is still uncertainty as to how sustained this will be and the implications for demand for porcine genetics. Our investments in China position us well to benefit from an upturn. More broadly our clear strategy, strong product portfolio and depth of skill in our sales, services and R&D teams give us confidence that we will continue to make strategic and financial progress in fiscal year 2023 and beyond. The Group remains well positioned to benefit from improving market conditions when these occur and therefore our medium-term growth expectations remain unchanged.

Financial and Operating Review
Financial Review

In the year ended 30 June 2022, the Group achieved revenue growth of 3% in actual currency (2% in constant currency). However, adjusted operating profit including joint ventures fell by 13% (15% in constant currency), due to some significant market challenges. These included rising inflation (driven particularly by increasing energy prices), the impact of the war in Ukraine and, most notably, turbulence in China's porcine industry following the sharp decline in pig prices in 2021. The resultant decline in operating profit in China had a significant impact on the Group's results. Excluding PIC China, however, adjusted operating profit including joint ventures increased by 28% (25% in constant currency).

On a statutory basis, profit before tax was £48.4m (2021: £55.8m). The difference between statutory and adjusted profit before tax principally reflected the reduction in the non-cash fair value of IAS 41 biological assets and lower share-based payment charge. Basic earnings per share on a statutory basis were 62.5 pence (2021: 72.6 pence).

The Group continued its significant R&D investment strategy, up 7% (6% in constant currency). Excluding gene editing costs, adjusted operating profit including joint ventures fell by 12% (14% in constant currency) and adjusted profit before tax was down 16% (18% in constant currency).

The effect of exchange rate movements on the translation of overseas profits was to increase the Group's adjusted profit before tax for the year by £1.8m, compared with 2021, primarily due to the weakness of Sterling. All growth rates quoted are in constant currency unless otherwise stated. Constant currency percentage movements are calculated by restating the results for the year ended 30 June 2022 at the average exchange rates applied to adjusted operating profit for the year ended 30 June 2021.

Revenue

Revenue increased by 2% in constant currency (3% in actual currency) to £593.4m (2021: £574.3m). PIC's revenue declined by 5% (3% in actual currency) as a result of the downturn of the porcine market in China impacting our customers' demand for genetics. In ABS, revenue was up 7% (9% in actual currency) reflecting the continuing success of Genus's sexed and beef genetics, particularly in China and Australia.

Adjusted Operating Profit Including JVs

	Actual currency			Constant currency change
Year ended 30 June	**2022**	**2021**	**Change**	
Adjusted Profit Before Tax[1]	**£m**	**£m**	**%**	**%**
Genus PIC	**121.2**	135.9	(11)	(13)
Genus ABS	**40.5**	36.4	11	9
R&D	**(67.1)**	(62.5)	(7)	(6)
Central costs	**(16.9)**	(20.0)	16	18
Adjusted operating profit inc JVs	**77.7**	89.8	(13)	(15)
Net finance costs	**(6.2)**	(5.0)	(24)	(24)
Adjusted profit before tax	**71.5**	84.8	(16)	(18)

[1] Includes share of adjusted pre-tax profits of joint ventures and removes share of adjusted profits of non-controlling interests.

Adjusted operating profit including joint ventures was £77.7m (2021: £89.8m), 15% lower in constant currency. The Group's share of adjusted joint venture operating profit was lower at £9.2m (2021: £13.0m), primarily due to weaker results in our porcine JVs in China.

Gene editing investment, which is primarily focused on creating pigs resistant to PRRSv, increased to £7.9m (2021: £7.6m) as we expanded our population of gene-edited animals. Adjusted operating profit including joint ventures and excluding gene editing investment was £85.6m (2021: £97.4m), 14% lower, due to PIC China's performance. However, the underlying business continues to perform well and over the last five years our compound annual growth rate in this profit measure has been 10% in constant currency, in line with our medium-term objective.

PIC's performance during the year was affected particularly by the situation in China and by market volatility in Latin America and Europe. As a result, adjusted operating profit including joint ventures was down 13% in constant currency. However, excluding China, adjusted operating profit rose by 11%. Volumes were stable and up 8% when China is excluded. Strategically important royalty revenue was up 1% (8% excluding China), aided by increases of 17% in Latin America and 7% in Europe, despite the challenging market conditions. Royalty revenues in North America also grew by 7%, primarily through strong sales of both our damline and sireline products (particularly the PIC800 boar) and were further supported by the integration of Olymel's AlphaGene breeding programme.

ABS's volumes rose by 3% and adjusted operating profit rose by 9%. The popularity of our proprietary bovine sexed product, Sexcel, continued to increase, supporting sexed volumes up 18% compared to a very high prior year growth rate of 29%. Increasing use of NuEra beef genetics in dairy herds drove beef volume growth of 9%. Asia increased adjusted operating profit by 24% in constant currency, aided by strong growth in China and Australia. Latin America's profits rose by 2%, lower than expected due to an IT security incident in June which was quickly resolved but impacted the business's ability to despatch product prior to the end of the financial year. Europe's adjusted operating profit declined by 4%, due particularly to market uncertainty driven by the Ukraine war and rising input costs for producers, which were felt particularly in the UK business and among our European distributors. In North America, adjusted operating profit was 4% higher, with growth of third-party sales of IntelliGen production contributing to profit growth.

Central costs were 18% lower, at £16.9m (2021: £20.0m) in constant currency, primarily due to a combination of prudent cost management and lower performance related employee rewards.

Statutory Profit Before Tax

The table below reconciles adjusted profit before tax to statutory profit before tax:

	2022 £m	2021 £m
Adjusted Profit Before Tax	**71.5**	84.8
Operating profit attributable to non-controlling interest	**0.3**	0.1
Net IAS 41 valuation movement on biological assets in JVs and associates	**(1.4)**	3.1
Tax on JVs and associates	**(2.6)**	(3.0)
Adjusting items:		
Net IAS 41 valuation movement on biological assets	**(5.4)**	(10.8)
Amortisation of acquired intangible assets	**(8.3)**	(7.4)
Share-based payment expense	**(3.7)**	(7.7)
Exceptional items	**(2.0)**	(3.3)
Statutory Profit Before Tax	**48.4**	55.8

Statutory profit before tax was £48.4m (2021: £55.8m), largely reflecting the decrease in the underlying trading performance being partially offset by lower share-based payment expense, lower exceptional items and a lower non-cash fair value net IAS 41 biological asset movement. Within this, there was a £24.5m uplift (2021: £6.4m uplift) in porcine biological assets and a £29.9m reduction (2021: £17.2m reduction) in bovine biological assets, due to certain fair value model estimate changes. Share-based payment expense was £3.7m (2021: £7.7m). These reconciling items are primarily non-cash, can be volatile and do not correlate to the underlying trading performance in the year.

Exceptional Items

There was a £2.0m net exceptional expense in the year (2021: £3.3m expense), which included legal fees of £1.4m (2021: £2.5m) in relation to Genus ABS's litigation with STgenetics. It also includes a £3.3m credit relating to a non-refundable cash receipt (net of fees) received for the assignment of rights to a legacy legal claim in Brazil, and a £2.8m expense relating to a restructuring programme in ABS North America's supply chain, principally the closure of barns in Canada. Also contributing to this expense was £0.5m of one-time costs to help us resolve the IT security incident.

Net Finance Costs

Net finance costs increased to £6.2m (2021: £5.0m). This was primarily caused by an increase in average borrowings, from £122.0m in 2021 to £173.9m in 2022, increasing interest costs by £0.8m. Higher market interest rates also increased interest costs by £0.3m and there were also higher margin and utilisation fees of £0.2m. Amortisation costs in the year were £0.9m (2021: £0.9m) and within other interest there was £1.1m (2021: £0.8m) of IFRS 16 finance lease interest and £0.4m (2021: £0.9m) from the unwinding of discount interest on the Group's pension liabilities and put options.

Taxation

The tax charge on the statutory profit in the year of £14.3m (2021: £12.0m) represented an effective tax rate ('ETR') of 28.0% (2021: 20.4%). The statutory tax charge included a one-off charge of £2.2m (4.3%) in the year to reflect higher deferred tax rates on China Porcine IAS41 assets and increased by 6.0% due to the reduced share of Group profits arising in China, which benefits from the availability of tax relief on owned production agricultural activities.

The tax charge on adjusted profits in the year was £17.4m (2021: £19.1m), which represented an adjusted ETR of 24.3% (2021: 22.5%). The adjusted tax charge for the year increased by approximately 3% due to the reduced availability of tax relief in China on owned production agricultural activities mentioned above. This adverse movement was partially offset by a reduction in foreign and withholding taxes due of 1.9%, increases in US R&D and foreign tax credits of 1.2% and UK fixed asset timing difference credits of 1.3%. The prior year adjusted tax rate benefitted by 3.3% from the revaluation of UK deferred tax assets to the future UK tax rate of 25%. The outlook for the Group adjusted ETR is in the range of 23%-25%, consistent with the current year and including the impact of the future UK tax rate increase to 25% from April 2023.

Earnings Per Share

Adjusted basic earnings per share decreased by 18% (20% in constant currency) to 82.7 pence (2021: 100.9 pence) reflecting the impact of some significant market challenges, most notably in China's porcine industry. Basic earnings per share on a statutory basis were 62.5 pence (2021: 72.6 pence), as above but also reflecting the impact of lower net IAS 41 biological asset movement, lower share-based payments and lower exceptional items.

Biological Assets

A feature of the Group's net assets is its substantial investment in biological assets, which under IAS 41 are stated at fair value. At 30 June 2022, the carrying value of biological assets was £387.7m (2021: £337.3m), as set out in the table below:

	2022	2021
	£m	£m
Non-current assets	**333.7**	279.9
Current assets	**33.1**	39.6
Inventory	**20.9**	17.8
	387.7	337.3
Represented by:		
Porcine	**278.8**	227.4
Dairy and beef	**108.9**	109.9
	387.7	337.3

The movement in the overall balance sheet carrying value of biological assets of £50.4m includes the effect of exchange rate translation increases of £36.7m. Excluding the translation effect there was:

- a £25.9m increase in the carrying value of porcine biological assets, due principally to an increase in the number of animals held in our new genetic nucleus farm in Canada; and

- a £12.2m reduction in the bovine biological assets carrying value, primarily due to increased production costs and higher risk adjusted discount rate.

The historical cost of these assets, less depreciation, was £77.2m at 30 June 2022 (2021: £65.1m), which is the basis used for the adjusted results. The historical cost depreciation of these assets included in adjusted results was £10.7m (2021: £10.0m).

Retirement Benefit Obligations

The Group's retirement benefit obligations at 30 June 2022 were £8.3m (2021: £11.1m) before tax and £7.0m (2021: £9.0m) net of related deferred tax. The largest element of this liability now relates to some legacy unfunded pension commitments dating prior to the acquisition of PIC by Genus.

During the year, contributions payable in respect of the Group's defined benefit schemes amounted to £3.5m (2021: £7.4m). Deficit repair contributions to the Milk Pension Fund ('MPF') ended in September 2021, which accounts for the reduction in contributions, and we expect the cash payments for pension contributions to reduce to £1.0m for FY23.

Robust investment strategies and higher bond yields during the year for our two main defined benefit obligation schemes have led to strengthened financial positions. Prior to any IFRIC 14 amendments, both the Dalgety Pension Fund and our share of the MPF reported IAS 19 surpluses.

Cash Flow

	2022	2021
Cash flow (before debt repayments)	**£m**	£m
Cash generated by operations	**56.6**	86.6
Interest and paid taxes	**(22.3)**	(19.1)
Capital expenditure	**(50.9)**	(33.8)
Cash received from JVs	**3.2**	3.7
Other	**(0.1)**	0.1
Free cash flow	**(13.5)**	37.5
Acquisitions and investments	**(19.5)**	(16.9)
Dividends	**(20.9)**	(19.5)
Shares issued	**-**	0.1
Net cash (outflow)/inflow (before debt repayments)	**(53.9)**	1.2

Cash generated by operations of £56.6m (2021: £86.6m) represented cash conversion of 82% (2021: 113%) of adjusted operating profit excluding joint ventures. The cash conversion rate of adjusted operating profit to cash was below our objective to achieve conversion of at least 90% annually, however we expect this to return to meeting this objective in the coming year. The decrease in cash generation primarily reflected the impact of some significant market challenges, most notably in China's porcine industry and higher working capital outflows primarily due to increased inventories, trade receivables and other receivables. The increase in inventory is for Sexcel units and IntelliGen equipment to support continued growth and availability of our industry leading Sexcel product. Trade receivables increased through sales activity, particularly in North America, and other debtors primarily relate to China farm production security deposits.

Capital expenditure cash flow of £50.9m (2021: £33.8m) included continued investment in the ABS supply chain (with state-of-the-art new bull housing in Wisconsin) increasing PIC's supply chain capacity (with a new genetic nucleus farm being constructed in Canada) and investment in software development. Cash inflow from joint ventures were £3.2m (2021: £3.7m). After interest and tax paid, total free cash flow was £13.5m outflow (2021: £37.5m inflow).

The cash outflow from investments was £19.5m (2021: £16.9m), primarily involving £14.5m to acquire all intellectual property in Olymel's elite porcine genetics, £2.2m to increase production capacity through a China JV and £1.0m of deferred consideration payments from previous acquisitions.

Net Debt and Credit Facilities

Net debt increased to £185.0m at 30 June 2022 (2021: £105.6m), primarily due to the planned large capital expenditure investments and acquisitions. On 30 June 2022, the Group had headroom of £77.8m (2021:£129.3m) under its available credit facilities.

During the year, the Group's principal credit facilities comprised a £150m multi-currency revolving credit facility ('RCF'), a 125 million US dollar RCF and a 20 million US dollar bond and guarantee facility. The original term of this facility was for three years to 24 August 2023, with options to extend by a further year before each of the first and second anniversaries. The credit facility also included an uncommitted £100m accordion option, which can be requested on a maximum of three occasions over the lifetime of the facility. On 24 August 2021, the group and its lenders extended the facility by a further year to 24 August 2024. With effect from 26 August 2022, the Group and its lenders increased the multi-currency RCF by £40m to £190m and the USD RCF by USD 25m to USD 150m, and extended the maturity date of the total facilities to 24 August 2025.

EBITDA, as calculated under our financing facilities, includes cash received from joint ventures. Net debt as calculated under our financing facilities excludes IFRS 16 lease liabilities up to a cap of £30m but includes bank guarantees. The ratio of net debt to EBITDA on this basis at the year-end has increased to 1.7 times (2021: 0.9 times) which remains in line with our medium-term objective of having a ratio of net debt to EBITDA of between 1.0 – 2.0 times. At the end of June 2022, interest cover was at 27 times (2021: 45 times).

Return on Adjusted Invested Capital

The Group's return on adjusted invested capital is measured using adjusted operating profit including joint ventures after tax, divided by the operating net assets of the business on the historical cost basis and excluding net debt and pension liabilities. This removes the impact of IAS 41 fair value accounting, the related deferred tax and goodwill. The post-tax return on adjusted invested capital was lower at 13.9% (2021: 23.0%), reflecting the lower profit and increased asset base from the capital investments in supply chain capacity and the acquisition of Olymel's AlphaGene programme. The total increase in the invested capital asset base was £119m of which circa £40m was due to foreign exchange translation impacts.

Dividend

Recognising the importance of balancing investment for the future with ensuring an attractive return for shareholders, the Board is recommending a final dividend of 21.7 pence per ordinary share, consistent with the prior year final dividend. When combined with the interim dividend, this will result in a total dividend for the year of 32.0 pence per ordinary share (2021: 32.0 pence per share), the same as prior year. Dividend cover from adjusted earnings of 2.6 times (2021: 3.2 times), is within the medium-term target of an adjusted earnings cover range of 2.5 to 3.0 times.

It is proposed that the final dividend will be paid on 9 December 2022 to the shareholders on the register at the close of business on 18 November 2022.

Genus PIC – Operating Review

	Actual currency			Constant currency change
Year ended 30 June	**2022**	**2021**	**Change**	
	£m	**£m**	**%**	**%**
Revenue	**306.6**	315.6	(3)	(5)
Adjusted operating profit exc JV	**112.3**	122.9	(9)	(10)
Adjusted operating profit inc JV	**121.2**	135.9	(11)	(13)
Adjusted operating margin exc JV	**36.6%**	38.9%	(2.3)pts	(2.3)pts

Pig producers across the world faced a series of significant challenges, which increased in the second half of the year. China, the world's largest porcine market, experienced a significant cyclical downturn during a period of very restrictive COVID-19 lockdown measures. China pig prices averaged 14.6 RMB/kg through the year, down 50% on the prior year. African Swine Fever (ASF) is an ongoing challenge for Chinese producers and during the year the virus spread into Germany. As the year went on, challenging labour markets and the war in Ukraine contributed to rising inflation, which had a significant impact on input costs for producers. Greater risks faced by producers meant there was less appetite to expand, leading to lower industry growth and lower producer profitability in most major porcine markets.

PIC's adjusted operating profit was 13% lower than in the previous year in constant currency. This was driven particularly by an 84% fall in operating profit within China. Volumes were stable, with revenue down 5% but strategically important royalty revenue up 1% (both in constant currency).

However, outside China, the business delivered solid growth. Excluding China, PIC increased adjusted operating profit by 11%. Volumes rose by 8%, revenue increased by 4% and royalty revenue increased by 8% (both in constant currency).

Overall, therefore, the business continued to make progress in many parts of the world while navigating volatility in China. We also continued to invest in the supply chain to position for further growth. Our largest investment was the new Atlas nucleus farm in Canada, which was completed in June 2022.

North America

Near-record US pig prices in the first six months of the year driven by robust domestic demand and declines in both building and feed costs were tempered by market volatility, rising inflation and a partial reversal in feed cost trends in the second half. However, the market remains strong, both domestically and for exports, where higher demand from Mexico is making up for lower demand from China. The USDA projects pig production to remain relatively consistent in 2022.

Performance: Strongest performance in recent years, with rises in market share of 5% for sireline products (aided by the introduction of the PIC800 to customer herds) and 2% for damline products. Royalties from Olymel commenced in the second half of the year following the acquisition of Olymel's AlphaGene programme in February 2022.

- volumes +9%
- revenue +9% and royalty revenue + 7%
- adjusted operating profit +7%

Latin America

Producer profitability in Latin America was also affected by rising production costs in the second half of the year. However, domestic demand remained strong throughout the period, compared to the previous year. Brazil is the region's largest exporter of pork, but a collapse in demand from China coupled with rising inflation means that many producers are currently experiencing margin pressure.

Performance: Growth in royalties supported a strong revenue and adjusted operating profit performance, with double-digit growth in many countries, partially offset by lower joint venture income in Brazil.

- volumes +8%
- revenue +16% and royalty revenue +17%
- adjusted operating profit +5%

Europe

Producers across the region experienced challenging conditions in a highly volatile market. While domestic demand remained stable, the spread of ASF into Germany and the industry downturn in China led to a 22% fall in exports. During the year, pork production and the region's breeding herd declined. The war in Ukraine significantly increased input costs and market uncertainty, which meant that many European producers made losses, despite higher pig prices.

Performance: Increased breeding stock sales supported by supply chain investments and partnerships with Hermitage, Møllevang and Sergal. Further success through strategic focus on royalty revenues, strong growth in Spain and continued operations in Russia.

- volumes +7%
- revenue -6% and royalty revenue +7%
- adjusted operating profit +1%

Asia

The downturn in China contrasted with market trends elsewhere in Asia. A cyclical oversupply and weak consumer demand (primarily caused by COVID-19 lockdown restrictions) led to a sharp decline in pig prices during the year, with producers incurring significant operating losses. Higher input costs also meant the break-even point for most producers rose to over 18 RMB/kg. However, during June pig prices began to show recovery, as they rose to almost 19RMB/kg by the end of the month. They reached more than 21 RMB/kg in July and August.

Performance: Growth outside China (adjusted operating profit +25% and revenue +19%), particularly in the Philippines, contrasted with the decline in trading in China. Commercial terms with a large PIC China customer were changed in the period to more closely align the economic interests of a unique outcome-based royalty contract in place. This resulted in a one-time refund of £4.1m, related to historical royalties.

- volumes -31% (China -42%)
- revenue -34% and royalty revenue -32% (China -48% and -39% respectively)
- adjusted operating profit -69% (China -84%)

Genus ABS - Operating Review

Year ended 30 June	Actual currency 2022	Actual currency 2021	Actual currency Change	Constant currency change
	£m	**£m**	**%**	**%**
Revenue	**272.0**	250.1	9	7
Adjusted operating profit	**40.5**	36.4	11	9
Adjusted operating margin	**14.9%**	14.6%	0.3pts	0.2pts

In the first half of the year, the Global Dairy Trade Whole Milk Powder price continued to rise, fuelled by increasing demand following the easing of COVID-19 lockdowns in most geographies. It reached its highest level for over eight years in March, but subsequently declined in the face of economic uncertainty and rising inflation. Rising input costs in areas such as feed, fuel, energy and labour in the second half of the year impacted dairy producer profitability. These cost increases, to which the war in Ukraine and weather-related issues were contributory factors, also led to a decline in milk production during the year.

The same issues affected beef producers, but prices remained high during the year, partially due to low cattle numbers in some countries and strong demand from the foodservice industry following the relaxation of COVID-19 restrictions. However, there are some signs that consumer demand may be softening in China (due to COVID-19 lockdowns) and in the US (as consumers spend less in the face of rising inflation), with resultant pressure on beef prices.

ABS maintained its growth trajectory, with volumes rising by 3% and revenue by 7% in constant currency. The business increased adjusted operating profit by 9% in constant currency, despite the impact of an IT security incident, now fully resolved, which affected Brazil's trading in June and we estimate the profit impact to have been £0.9m. This progress was underpinned by a growing number of partnerships with progressive dairy producers, using the combination of Sexcel and NuEra beef genetics within comprehensive genetic programmes. ABS also continued to expand and strengthen relationships with participants across the beef supply chain. As a result, global sexed volumes rose by 18% and beef volumes by 9% during the year.

North America

Further dairy industry consolidation led to fewer farms with larger herds, but no change in cow numbers. Higher input costs reduced margins for producers, despite record milk prices, increasing caution over investment in replacement heifers for herds. By contrast, the beef market was buoyed by high prices for calves, increasing production and robust export demand, although there are signs that consumer demand is now weakening due to rising inflation.

Performance: Strong volume increases driven by growth of exclusive relationships with strategic accounts, continued growth in the IntelliGen third party business and NuEra beef volumes up 33%.

- total volumes +8%, sexed volumes +10%, beef volumes +24%
- revenue +4%
- adjusted operating profit +4%

Latin America

Dairy production declined during the year due to a combination of lower herd numbers, drought, and high input costs. In contrast, the beef industry continued to grow, with production up 6% in Brazil (particularly following the lifting of the Chinese embargo on Brazilian beef exports) and 2% in Mexico (with prices in Mexico 20% higher on average than the previous year). Inflation continued to affect consumption of both beef and dairy products during the year, as household purchasing power was eroded across middle-income groups.

Performance: Slightly lower volumes (although 89% increase in tropical ABS XBlack genetics, aided by further digital sales campaigns), mitigated by robust pricing policies. Trading in June was affected by the IT security incident, which was resolved in the month. This impacted the business's ability to despatch product prior to the end of the financial year which, by our estimates, impacted FY22 volumes by 4% with an associated profit impact of £0.9m. Without this, Latin America profit growth would have been around 11%.

- total volumes -5%, sexed volumes -3%, beef volumes -1%
- revenue +5%
- adjusted operating profit +2%

Europe

The war in Ukraine and its impact on input costs created uncertainty in most markets. Despite these costs and weather-related issues, which contributed to lower production across the region, milk prices remained high and are expected to rise further in the coming months. Beef production declined, with increases in some countries failing to compensate for reductions in countries like Germany and France. Lower production led to higher prices, but rising inflation risks dampening consumer demand.

Performance: Partnerships with a growing range of strategic accounts involving genomic testing and comprehensive genetic programmes drove growth in higher-priced sexed and beef products, as well as the IntelliGen third party business. Robust pricing policies mitigated inflationary cost pressures, however market uncertainty caused lower volumes and profits, particularly in the UK and distributor markets.

- total volumes -2%, sexed volumes +8%, beef volumes +9%
- revenue +5%
- adjusted operating profit -4%

Asia

Consolidation of the Chinese dairy industry drove increasing demand for sexed genetics, supported by growth in domestic production and imports, although this tapered off later in the year as consumer demand weakened (a factor which also affected the beef industry). In Australia, favourable weather conditions and low herd numbers fuelled record beef prices, while the dairy industry benefitted from China's demand for live heifers.

Performance: Good growth across the region, underpinned by strong progress in China and Australia and further contract wins in India.

- total volumes +13%, sexed volumes +32%, beef volumes +37%
- revenue +28%
- adjusted operating profit +24%

Research and Development - Operating Review

Year ended 30 June	Actual currency 2022	2021	Change	Constant currency change
	£m	**£m**	**%**	**%**
Porcine product development	**22.5**	21.9	3	1
Bovine product development	**22.7**	19.7	15	13
Gene editing	**7.9**	7.6	4	1
Other research and development	**14.0**	13.3	5	5
Net expenditure in R&D	**67.1**	62.5	7	6

During the year, Genus increased its investment in net research and development expenditure by 6% in constant currency. This investment supported gene editing projects, enhanced IntelliGen production capacity, expanded elite porcine farm populations and strengthened the research and development pipeline.

Porcine product development

Porcine product development maintained Genus's industry-leading product differentiation. Further progress on genomic selection, coupled with advances in digital phenotyping, enabled Genus to accelerate genetic gain and amplify new traits related to robustness and efficiency. We expect these advances, along with initial production from new elite facilities, Barrick Family Farms (in the United States) and PIC's Atlas facility (in Canada) which have both now been completed, to increase availability of our industry-leading genetics for North America and global exports during FY23.

Bovine product development

Bovine product development delivered a highly competitive portfolio of dairy and beef genetics. De Novo Genetics, our joint venture with De-Su Holsteins, produced over 50% of new Holstein bulls introduced to the market. Further investment in our proprietary NuEra beef genetics (a rise of 25% expenditure on the previous year) helped ABS continue to increase their representation within total beef volumes, of which NuEra now account for one third. In parallel, validation trials in customer systems reinforced NuEra's superior performance over competitor genetics. We also expanded production capacity for sexed bovine genetics, internally and with third-party customers, and won a Government of India tender for IntelliGen sexed semen production, which we will begin fulfilling during FY23.

Gene editing

Genus continued to advance the PRRSv resistance project according to plan. During the year, we expanded our population of gene-edited animals so we could start additional regulatory studies for the US Food and Drug Administration while pursuing our plan for regulatory approval in target markets around the world. We also continued proactive and positive engagement with stakeholders within and outside the pork supply chain. Through these engagements, we are explaining our responsible use of gene-editing technology and exploring the benefits that PRRSv-resistant animals will bring for animal well-being, for farmers and for efforts to meet evolving consumer expectations around environmental sustainability and food security.

Other research and development

Other research and development expenditure increased by 5%. This focused on supporting research in the field of reproductive biology and expansion of our data science capabilities, as well as further work on genome science and the development of our bioinformatics platform. We also continued to collaborate with external partners in a variety of discovery areas.

Principal Risks and Uncertainties

Genus is exposed to a wide range of risks and uncertainties as it fulfils its purpose of providing farmers with superior genetics, which in turn supports the fulfilment of its vision of nourishing the world more sustainably.

Some of these risks relate to the current business operations in our global agricultural markets, while others relate to future commercial exploitation of our leading-edge R&D programmes. We are also exposed to global economic and political risks such as trade restrictions heightened by the Russia-Ukraine conflict.

As part of our risk management process we monitor emerging risks and consider when to include them in our main risk assessment process. This year our reviews included:

- the impact of the Russia-Ukraine conflict,
- macroeconomic conditions,
- cyber security, and
- the impacts of COVID-19.

The Russia-Ukraine conflict has increased several principal risks and we have added cyber security to the principal risks as a result of the increasing sophistication and frequency of cyber-crime and a recent IT security incident support elevating cyber to a principal risk. In addition, we continue to monitor the impact of COVID-19 across our global operations and Brexit for our European operations, although both have not materially impacted our operations to date.

In our first year of reporting TCFD we have undertaken a limited qualitative analysis of climate related risks for alternative climate scenarios (RCP 2.6 vs RCP 4.5) with the support of an external specialist. This has informed our risk descriptions in relation to climate change as they relate to our principal risks and to our TCFD reporting. We continue to monitor emerging risks related to the worsening global macroeconomic impact on our business.

In June 2022, the company experienced an IT security incident which had a limited impact on the company's systems. The incident, which involved ransomware, was confined to on-premise systems, with minimal impact to entities operating on GenusOne. However, impacts on certain local systems did disrupt operations for a short period, particularly in Latin America. With the support of external specialists, management fully restored all systems and files prior to the June month-end. Improvements to system controls and monitoring activities to detect and help prevent future security incidents have been implemented across the IT environment. No ransom was paid.

From our broad risk universe, we have identified eleven principal risks, which we regularly evaluate based on an assessment of the likelihood of occurrence and the magnitude of potential impact, together with the effectiveness of our risk mitigation controls.

The Directors confirm that they have undertaken a robust assessment of the principal and emerging risks and uncertainties facing the Group.

Risk	Risk description	How we manage risk	Risk change in FY22
DEVELOPING PRODUCTS WITH COMPETITIVE ADVANTAGE	• Development programmes fail to produce best genetics for customers. • Increased competition to secure elite genetics.	Dedicated teams align our product development to customer requirements. We use large-scale data and advanced genomic analysis to ensure we meet our breeding goals. We frequently measure	No change. Our analysis and benchmarking continue to support our genetic improvements.

		our performance against competitors in customers' systems, to ensure the value added by our genetics remains competitive.	
CONTINUING TO SUCCESSFULLY DEVELOP INTELLIGEN TECHNOLOGY	• Failure to manage the technical, production and financial risks associated with the rapid development of the IntelliGen business.	Our continued development of the technology and its deployment to new markets is supported by dedicated internal resources and agreements with suppliers. Current patent infringement proceedings initiated by STgenetics in the US are being vigorously defended.	Increased. New Gen2 machines launched during the year are being monitored and recalibrated seeking to optimise performance in line with specifications. Uncertainty over further legal actions and uncertainties in relation to patent infringements.
DEVELOPING AND COMMERCIALISING GENE EDITING AND OTHER NEW TECHNOLOGIES	• Failure to develop successfully and commercialise gene editing technologies due to technical, intellectual property ('IP'), market, regulatory or financial barriers. • Competitors secure 'game-changing' new technology.	We stay aware of new technology opportunities through a wide network of academic and industry contacts. Our Genus Portfolio Steering Committee oversees our research, ensures we correctly prioritise our R&D investments and assesses the adequacy of resources and the relevant IP landscapes. We have formal collaboration agreements with key partners, to ensure responsible exploration and development of technologies and the protection of IP. The Board is updated regularly on key development projects.	No change. Key initiatives continue to progress through the R&D lifecycle, and we maintain the high level of investment needed to bring the end products to market.
CAPTURING VALUE THROUGH ACQUISITIONS	• Failure to identify appropriate investment opportunities or to perform sound due diligence. • Failure to successfully integrate an acquired business.	We have a rigorous acquisition analysis and due diligence process, with the Board reviewing and signing off all material projects. We also have a structured post-acquisition integration planning and execution process.	No change. We continue to work diligently to identify areas of opportunity consistent with our strategic plans and our aim to accelerate growth and create value for our shareholders. Our experiences with post acquisition integration provide a platform for

			integrating newly acquired businesses.
SUCCEEDING IN GROWTH MARKETS	• Failure to appropriately develop our business in China and other growth markets.	Our organisation blends local and expatriate executives, supported by the global species teams, to allow us to grow our business in key markets, while managing risks and ensuring we comply with our global standards and comply with sanctions. We also establish local partnerships where appropriate, to increase market access.	Increased. This is due to market price volatility and uncertainty affecting production and profitability in the China porcine market, the Russia-Ukraine conflict and the worsening global macroeconomic conditions.
SUSTAINABILITY	• Failure to lead the market in sustainable animal protein production and help our customers to meet the challenge of producing meat and milk efficiently and sustainably as climate change increases demand. • Failure to fulfil our commitment to reduce the environmental impact of our own operations and implement our Climate Change Policy and TCFD reporting.	We have a global sustainability strategy and climate change policy that are approved, and regularly reviewed, at Board level. Our Sustainability Committee oversees the implementation of the strategy and the annual objective setting process as well as monitoring progress using key performance indicators. The Board is updated regularly on the progress of the key initiatives and our progress against the annual targets. The Company ensures climate-related responsibilities and incentives are appropriate at management levels and considers climate-related implications within important processes including capital expenditure and procurement. With support from external risk specialist consultants, we have undertaken comprehensive analysis of our climate-related risks and opportunities which forms a basis of	No change. We have developed our 2030 emissions reduction plan (and 2050 net zero plan) and developed quantifiable, robust performance indicators in relation to life-cycle carbon reduction (per generation) of pigs, beef and dairy cows.

		future monitoring and quantitative assessment.	
PROTECTING IP	• Failure to protect our IP could mean Genus-developed genetic material, methods, systems and technology become freely available to third parties.	We have a global, cross-functional process to identify and protect our IP. Our customer contracts and our selection of multipliers and joint venture partners include appropriate measures to protect our IP. We maintain IP appropriate landscape watches and where necessary conduct robust 'freedom to operate' searches, to identify third-party rights to technology.	No change. We continue actively to protect our IP by filing patents attributed to our R&D activity.
ENSURING BIOSECURITY AND CONTINUITY OF SUPPLY	• Loss of key livestock, owing to disease outbreak. • Loss of ability to move animals or semen freely (including across borders) due to disease outbreak, environmental incident or international trade sanctions and disputes. • Lower demand for our products, due to industry-wide disease outbreaks.	We have stringent biosecurity standards, with independent reviews throughout the year to ensure compliance. We investigate biosecurity incidents, to ensure learning across the organisation. We regularly review the geographical diversity of our production facilities, to avoid over-reliance on single sites.	Increased. This is due to the continued global supply chain challenges imposed by the COVID-19 outbreak, the continued spread of ASF, and trade sanctions. Our geographically diverse production facilities and the expert knowledge of our supply chain and commercial teams allowed for a swift and comprehensive response to these challenges, which helped to reduce their impact.
HIRING AND RETAINING TALENTED PEOPLE	• Failure to attract, recruit, develop and retain the global talent needed to deliver our growth plans and R&D programmes.	We have a robust talent and succession planning process, including annual assessments of our global talent pool and active leadership development programmes. The Group's reward and remuneration policies are reviewed regularly, to ensure their competitiveness. We work closely with several specialist recruitment agencies, to identify candidates with the skills we need.	Increased. An increased demand post Covid-19 for more flexible working, and current inflationary pressures across the globe may lead to greater attrition.

CYBER SECURITY	• Failure to adequately detect and mitigate a malicious cyber-attack by internal or external activists and the ability to quickly recover. • Failure to properly protect our data an systems from an attack.	We utilise a flexible multi-layered approach that focuses on employee awareness and training, policies, software, and a third-party 24 x 7 monitoring Security Operations Centre and follow ISO 27001 standards. We have improved our system and data backup procedures and hardened our servers to further strengthen our resilience. Our GenusOne programme continues to progress well, improving our operational controls and IT Security as we move to the cloud.	New principal risk. We have noted an increased sophistication and frequency of cyber-crime and were subject to a ransomware attack, which was successfully resolved without payment of a ransom.
MANAGING AGRICULTURAL MARKET AND COMMODITY PRICES VOLATILITY	• Fluctuations in agricultural markets affect customer profitability and therefore demand for our products and services. > Increase in our operating costs due to commodity pricing volatility. > Longer-term influence of climate factors on the cost and availability of agricultural inputs (animal feed) > Macroeconomic downturn accelerated by COVID-19 and geopolitical tensions > The Russia-Ukraine conflict impact on agricultural markets.	We continuously monitor markets and seek to balance our costs and resources in response to market demand. We actively monitor and update our hedging strategy to manage our exposure. Our porcine royalty model and extensive use of third-party multipliers mitigates the impact of cyclical price and/or cost changes in pig production. Our R&D programmes measure and track progress in our breeding programmes which reduce the life-cycle carbon footprint of meat and dairy production for each new generation which is quantifiable.	Increased. This is due to increased feed input costs as a result of higher grain prices, due to the Russia-Ukraine conflict, changes in weather patterns, and strong demand. In addition, the China pork market continued to deal with the challenges of ASF, price decline, higher input costs and rolling COVID-19 lockdowns.

GROUP INCOME STATEMENT
For the year ended 30 June 2022

	Note	2022 £m	2021 £m
REVENUE	3	**593.4**	574.3
Adjusted operating profit	3	**68.8**	76.9
Adjusting items:			
– Net IAS 41 valuation movement on biological assets	10	**(5.4)**	(10.8)
– Amortisation of acquired intangible assets	9	**(8.3)**	(7.4)
– Share-based payment expense		**(3.7)**	(7.7)
		(17.4)	(25.9)
Exceptional items (net)	4	**(2.0)**	(3.3)
Total adjusting items		**(19.4)**	(29.2)
OPERATING PROFIT		**49.4**	47.7
Share of post-tax profit of joint ventures and associates retained		**5.2**	13.1
Finance costs	5	**(6.6)**	(5.4)
Finance income	5	**0.4**	0.4
PROFIT BEFORE TAX		**48.4**	55.8
Taxation	6	**(11.7)**	(9.0)
PROFIT FOR THE YEAR		**36.7**	46.8
ATTRIBUTABLE TO:			
Owners of the Company		**40.9**	47.3
Non-controlling interest		**(4.2)**	(0.5)
		36.7	46.8
EARNINGS PER SHARE			
Basic earnings per share	7	**62.5p**	72.6p
Diluted earnings per share	7	**62.2p**	72.0p

	Note	2022 £m	2021 £m
Alternative Performance Measures			
Adjusted operating profit		**68.8**	76.9
Adjusted operating profit attributable to non-controlling interest		**(0.3)**	(0.1)
Pre-tax share of profits from joint ventures and associates excluding net IAS 41 valuation movement		**9.2**	13.0
Gene editing costs		**7.9**	7.6
Adjusted operating profit including joint ventures and associates, excluding gene editing costs		**85.6**	97.4
Gene editing costs		**(7.9)**	(7.6)
Adjusted operating profit including joint ventures and associates		**77.7**	89.8
Net finance costs	5	**(6.2)**	(5.0)
Adjusted profit before tax		**71.5**	84.8
Adjusted earnings per share			
Basic adjusted earnings per share	7	**82.7p**	100.9p
Diluted adjusted earnings per share	7	**82.3p**	100.1p

Adjusted results are the Alternative Performance Measures ('APMs') used by the Board to monitor underlying performance at a Group and operating segment level, which are applied consistently throughout. These APMs should be considered in addition to statutory measures, and not as a substitute for or as superior to them. For more information on APMs, see APM Glossary.

GROUP STATEMENT OF COMPREHENSIVE INCOME
For the year ended 30 June 2022

	Note	**2022 £m**	**2022 £m**	2021 £m	2021 £m
PROFIT FOR THE YEAR			**36.7**		46.8
Items that may be reclassified subsequently to profit or loss					
Foreign exchange translation differences		**66.6**		(45.2)	
Fair value movement on net investment hedges		**(0.7)**		0.4	
Fair value movement on cash flow hedges		**1.9**		0.2	
Tax relating to components of other comprehensive expense		**(8.2)**		7.6	
			59.6		(37.0)
Items that may not be reclassified subsequently to profit or loss					
Actuarial gains on retirement benefit obligations	14	**27.3**		22.3	
Movement on pension asset recognition restriction	14	**(69.8)**		(0.1)	
Release/(recognition) of additional pension liability	14	**43.7**		(19.9)	
(Loss)/gain on equity instruments measured at fair value		**(6.1)**		6.7	
Tax relating to components of other comprehensive income/(expense)		**1.1**		(2.0)	
			(3.8)		7.0
OTHER COMPREHENSIVE INCOME/(EXPENSE) FOR THE YEAR			**55.8**		(30.0)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR			**92.5**		16.8
ATTRIBUTABLE TO:					
Owners of the Company		**97.3**		17.1	
Non-controlling interest		**(4.8)**		(0.3)	
			92.5		16.8

GROUP STATEMENT OF CHANGES IN EQUITY
For the year ended 30 June 2022

	Note	Called up share capital £m	Share premium account £m	Own shares £m	Translation reserve £m	Hedging reserve £m	Retained earnings £m	Total £m	Non-controlling interest £m	Total equity £m
BALANCE AT 30 JUNE 2020		6.5	179.1	(0.1)	29.5	(0.2)	280.7	495.5	(1.0)	494.5
Foreign exchange translation differences, net of tax		–	–	–	(37.7)	–	–	(37.7)	0.2	(37.5)
Fair value movement on net investment hedges, net of tax		–	–	–	0.3	–	–	0.3	–	0.3
Fair value movement on cash flow hedges, net of tax		–	–	–	–	0.2	–	0.2	–	0.2
Gain on equity instruments measured at fair value, net of tax		–	–	–	–	–	5.0	5.0	–	5.0
Actuarial gains on retirement benefit obligations, net of tax		–	–	–	–	–	19.8	19.8	–	19.8
Movement on pension asset recognition restriction, net of tax		–	–	–	–	–	(0.1)	(0.1)	–	(0.1)
Recognition of additional pension liability, net of tax		–	–	–	–	–	(17.7)	(17.7)	–	(17.7)
Other comprehensive (expense)/income for the year		–	–	–	(37.4)	0.2	7.0	(30.2)	0.2	(30.0)
Profit/(loss) for the year		–	–	–	–	–	47.3	47.3	(0.5)	46.8
Total comprehensive (expense)/income for the year		–	–	–	(37.4)	0.2	54.3	17.1	(0.3)	16.8
Recognition of share-based payments, net of tax		–	–	–	–	–	4.9	4.9	–	4.9
Dividends	8	–	–	–	–	–	(19.5)	(19.5)	–	(19.5)
Adjustment arising from change in non-controlling interest and written put option		–	–	–	–	–	–	–	(0.2)	(0.2)
Issue of ordinary shares		0.1	–	–	–	–	–	0.1	–	0.1
BALANCE AT 30 JUNE 2021		6.6	179.1	(0.1)	(7.9)	–	320.4	498.1	(1.5)	496.6
Foreign exchange translation differences, net of tax		**–**	**–**	**–**	**59.4**	**–**	**–**	**59.4**	**(0.6)**	**58.8**
Fair value movement on net investment hedges, net of tax		**–**	**–**	**–**	**(0.6)**	**–**	**–**	**(0.6)**	**–**	**(0.6)**
Fair value movement on cash flow hedges, net of tax		**–**	**–**	**–**	**–**	**1.4**	**–**	**1.4**	**–**	**1.4**
Loss on equity instruments measured at fair value, net of tax		**–**	**–**	**–**	**–**	**–**	**(4.6)**	**(4.6)**	**–**	**(4.6)**
Actuarial gains on retirement benefit obligations, net of tax		**–**	**–**	**–**	**–**	**–**	**19.5**	**19.5**	**–**	**19.5**
Movement on pension asset recognition restriction, net of tax		**–**	**–**	**–**	**–**	**–**	**(49.7)**	**(49.7)**	**–**	**(49.7)**
Recognition of additional pension liability, net of tax		**–**	**–**	**–**	**–**	**–**	**31.0**	**31.0**	**–**	**31.0**
Other comprehensive (expense)/income for the year		**–**	**–**	**–**	**58.8**	**1.4**	**(3.8)**	**56.4**	**(0.6)**	**55.8**
Profit/(loss) for the year		**–**	**–**	**–**	**–**	**–**	**40.9**	**40.9**	**(4.2)**	**36.7**
Total comprehensive (expense)/income for the year		**–**	**–**	**–**	**58.8**	**1.4**	**37.1**	**97.3**	**(4.8)**	**92.5**
Recognition of share-based payments, net of tax		**–**	**–**	**–**	**–**	**–**	**4.0**	**4.0**	**–**	**4.0**
Dividends	8	**–**	**–**	**–**	**–**	**–**	**(20.9)**	**(20.9)**	**–**	**(20.9)**
Adjustment arising from change in non-controlling interest and written put option		**–**	**–**	**–**	**–**	**–**	**–**	**–**	**(0.1)**	**(0.1)**
BALANCE AT 30 JUNE 2022		**6.6**	**179.1**	**(0.1)**	**50.9**	**1.4**	**340.6**	**578.5**	**(6.4)**	**572.1**

GROUP BALANCE SHEET
As at 30 June 2022

	Note	2022 £m	2021 £m
ASSETS			
Goodwill		**111.0**	101.5
Other intangible assets	9	**72.0**	56.3
Biological assets	10	**333.7**	279.9
Property, plant and equipment	11	**171.4**	123.0
Interests in joint ventures and associates		**41.2**	34.1
Other investments		**10.2**	14.7
Derivative financial assets		**2.2**	–
Other receivables	12	**8.6**	1.8
Deferred tax assets		**10.1**	8.0
TOTAL NON-CURRENT ASSETS		**760.4**	619.3
Inventories		**50.9**	37.0
Biological assets	10	**33.1**	39.6
Trade and other receivables	12	**129.5**	106.2
Cash and cash equivalents		**38.8**	46.0
Income tax receivable		**4.0**	2.6
Derivative financial assets		**1.0**	0.1
Asset held for sale		**0.2**	0.2
TOTAL CURRENT ASSETS		**257.5**	231.7
TOTAL ASSETS		**1,017.9**	851.0
LIABILITIES			
Trade and other payables	13	**(124.7)**	(110.3)
Interest-bearing loans and borrowings		**(7.1)**	(13.9)
Provisions		**(1.9)**	(1.3)
Deferred consideration		**(0.8)**	(1.6)
Obligations under leases		**(10.1)**	(9.0)
Tax liabilities		**(4.9)**	(6.4)
Derivative financial liabilities		**(1.8)**	–
TOTAL CURRENT LIABILITIES		**(151.3)**	(142.5)
Trade and other payables	13	**(0.2)**	(1.4)
Interest-bearing loans and borrowings		**(182.1)**	(109.4)
Retirement benefit obligations	14	**(8.3)**	(11.1)
Provisions		**(12.0)**	(11.1)
Deferred consideration		**(0.7)**	(0.5)
Deferred tax liabilities		**(60.3)**	(53.0)
Derivative financial liabilities		**(6.4)**	(6.1)
Obligations under leases		**(24.5)**	(19.3)
TOTAL NON-CURRENT LIABILITIES		**(294.5)**	(211.9)
TOTAL LIABILITIES		**(445.8)**	(354.4)
NET ASSETS		**572.1**	496.6
EQUITY			
Called up share capital		**6.6**	6.6
Share premium account		**179.1**	179.1
Own shares		**(0.1)**	(0.1)
Translation reserve		**50.9**	(7.9)
Hedging reserve		**1.4**	–
Retained earnings		**340.6**	320.4
EQUITY ATTRIBUTABLE TO OWNERS OF THE COMPANY		**578.5**	498.1
Non-controlling interest	17	**(0.7)**	3.6
Put option over non-controlling interest	17	**(5.7)**	(5.1)
TOTAL NON-CONTROLLING INTEREST		**(6.4)**	(1.5)
TOTAL EQUITY		**572.1**	496.6

GROUP STATEMENT OF CASH FLOWS
For the year ended 30 June 2022

	Note	2022 £m	2021 £m
NET CASH FLOW FROM OPERATING ACTIVITIES	15	**34.3**	67.5
CASH FLOWS FROM INVESTING ACTIVITIES			
Dividends received from joint ventures and associates		**3.2**	4.1
Joint venture and associate loan payment		**–**	(0.4)
Acquisition of joint venture and associate		**(2.2)**	(2.4)
Acquisition of trade and assets		**(0.8)**	(6.9)
Acquisition of Olymel AlphaGene assets		**(14.5)**	–
Acquisition of investments		**(1.0)**	(0.9)
Payment of deferred consideration		**(1.0)**	(6.7)
Purchase of property, plant and equipment		**(42.1)**	(28.7)
Purchase of intangible assets		**(8.8)**	(5.1)
Proceeds from sale of property, plant and equipment		**–**	0.3
NET CASH OUTFLOW FROM INVESTING ACTIVITIES		**(67.2)**	(46.7)
CASH FLOWS FROM FINANCING ACTIVITIES			
Drawdown of borrowings		**138.7**	195.1
Repayment of borrowings		**(83.9)**	(176.1)
Payment of lease liabilities		**(11.3)**	(11.7)
Equity dividends paid		**(20.9)**	(19.5)
Dividend to non-controlling interest		**(0.1)**	(0.2)
Debt issue costs		**(0.6)**	(1.9)
Issue of ordinary shares		**–**	0.1
NET CASH INFLOW/(OUTFLOW) FROM FINANCING ACTIVITIES		**21.9**	(14.2)
NET (DECREASE)/INCREASE IN CASH AND CASH EQUIVALENTS		**(11.0)**	6.6
Cash and cash equivalents at start of the year		**46.0**	41.3
Net (decrease)/increase in cash and cash equivalents		**(11.0)**	6.6
Effect of exchange rate fluctuations on cash and cash equivalents		**3.8**	(1.9)
TOTAL CASH AND CASH EQUIVALENTS AT 30 JUNE		**38.8**	46.0

NOTES TO THE PRELIMINARY RESULTS
For the year ended 30 June 2022

1. REPORTING ENTITY

Genus plc (the 'Company') is a public company limited by shares and incorporated in England, United Kingdom under the Companies Act 2006. Its company number is 02972325 and its registered office is Matrix House, Basing View, Basingstoke, Hampshire RG21 4DZ.

The condensed financial information given does not constitute the Group's financial statements for the year ended 30 June 2022 or the year ended 30 June 2021, but is derived from those financial statements. The financial statements for the year ended 30 June 2021 have been delivered to the Registrar of Companies and those for the year ended 30 June 2022 will be delivered following the Company's annual general meeting. The auditors have reported on those financial statements; their reports were unqualified, did not draw attention to any matters by way of emphasis without qualifying their reports, and did not contain statements under s. 498(2) or (3) Companies Act 2006.

2. BASIS OF PREPARATION

We have prepared the condensed financial information for the year ended 30 June 2022 together with the comparative year has been computed in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006 and International Financial Reporting Standards ('IFRSs'). The Group Financial Statements have also been prepared in accordance with IFRSs as issued by the IASB.

Functional and presentational currency
We present the Group Financial Statements in Sterling, which is the Company's functional and presentational currency. All financial information presented in Sterling has been rounded to the nearest £0.1m.

The principal exchange rates were as follows:

	Average			Closing		
	2022	2021	2020	**2022**	2021	2020
US Dollar/£	**1.32**	1.36	1.26	**1.22**	1.38	1.24
Euro/£	**1.18**	1.13	1.14	**1.16**	1.17	1.10
Brazilian Real/£	**6.94**	7.33	5.74	**6.39**	6.87	6.77
Mexican Peso/£	**26.97**	28.15	26.08	**24.45**	27.57	28.52
Chinese Yuan/£	**8.55**	8.94	8.89	**8.15**	8.93	8.75
Russian Rouble/£	**98.75**	102.04	85.17	**66.73**	101.10	88.19

While the condensed financial information included in this preliminary announcement has been computed in accordance with IFRSs, this announcement does not itself contain sufficient information to comply with IFRSs. The Company expects to publish full financial statements that comply with IFRSs in October 2022. These financial statements have also been prepared in accordance with the accounting policies set out in the 2021 Annual Report and Financial Statements, as amended by the following new accounting standards.

New standards and interpretations
In the current year, the Group has applied a number of amendments to IFRS issued by the International Accounting Standards Board that are mandatorily effective for an accounting period that begins after 1 January 2021 and have been implemented with effect from 1 July 2021. These are:
Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 -' Interest Rate Benchmark Reform — Phase 2'; and
Amendment to IFRS 16 - ' COVID-19-Related Rent Concessions beyond 30 June 2021'.

Their addition has not had any material impact on the disclosures, or amounts reported in the Group Financial Statements.

New standards and interpretations not yet adopted
At the date of the Annual Report, the following standards and interpretations which have not been applied in the report were in issue but not yet effective (and in some cases had not yet been adopted by the UK). The Group will continue to assess the impact of these amendments prior to their adoption. These are:
Amendments to IAS 1 - ' Classification of Liabilities as Current or Non-Current';
Amendments to IAS 16 - ' Property, Plant and Equipment — Proceeds before Intended Use';
Annual Improvements 2018-2020 Cycle;
Amendments to IAS 37 - ' Onerous Contracts — Cost of Fulfilling a Contract';
Amendments to IAS 1 and IFRS Practice Statement 2 - 'Disclosure of Accounting Policies';
Amendments to IAS 12 - ' Deferred Tax related to Assets and Liabilities arising from a Single Transaction'; and
Amendments to IAS 8- ' Definition of Accounting Estimates'.

Impact of Russian sanctions
The Group has two group operating companies that are incorporated in Russia – Limited Liability Co. Genus ABS Russia and PIC Genetics LLC ("Russian based subsidiaries/entities").Following the sanctions that have been put in place by the UK and other governments the Group implemented a comprehensive screening process with external counsel to ensure that its Russian entities do not trade with sanctioned individuals or entities controlled by them. The main impact of the sanctions regime has been to categorize the banks in Russia into sanctioned and non-sanctioned banks . Where we receive money from sanctioned banks we are unable to use the cash without a licence from Her Majesty's Treasury ('HMT'). For cash receipts from non-sanctioned banks into the entities' non-sanctioned banks we are able to use the cash in Russia for day to day operations.

The Group applied for a License to HMT on 25 April 2022 to allow the use of payments from sanctioned banks by non-sanctioned Russian customers for the delivery of porcine and bovine genetics; use money in a non-sanctioned Russian bank account in the name of Genus Russia to pay Russian suppliers who continue to use sanctioned Russian bank accounts; and to remit any excess money in Genus Russia's non-sanctioned Russian bank account (regardless of whether it was received from a sanctioned or non-sanctioned Russian bank account) to other Genus group company UK bank accounts. As at 7 September 2022 we are awaiting a response from HMT.

Under the requirements of IAS 7, where there is cash that is not currently available to be used by the rest of the group this needs to be disclosed. As at 30 June 2022 we had a cash balance of £4.5m in the Russian entities of which £3.9m is not currently available to be used by the group due to being received from or held in sanctioned banks. If the Group were to obtain the License from HMT referred to above the £3.9m would be available to be used by the Group.

Management have performed an assessment of the operations and cash flow over a period of 18 months from 30 June 2022 to 31 December 2023 based upon the 2023 operating plans to determine whether the Russian entities have sufficient non-sanctioned cash flow to enable them to continue day to day operations and to meet liabilities as they fall due. The analysis indicates they do have sufficient non-sanctioned cash flow to enable them to meet day to day operational needs.

Critical accounting judgement – exercise of control

Management has assessed whether the actions of the UK and Russian Governments have caused the Group to lose control of these Russian based subsidiaries. We have concluded that we do have control for the year ended 30 June 2022, as defined under IFRS 10 Consolidated financial statements' over the Russian based subsidiaries and are still able to consolidate despite short term restrictions on extracting cash. We have assessed each of the asset balances for impairment. The material areas that could give rise to impairment are:

- PIC Russia Farm (£3.7m) – The value of the farm is predicated on the future economic benefit of the animals that are being reared there. We would need to assess if the open market price (less cost to sell) the property would support the carrying value.
- Trade Receivables (£6.0m) – the ongoing financial sanctions may affect the ability of our customers to pay us for their goods. If it is determined that our customers are unlikely to repay these amounts then they should be provided for.
- IAS 41 valuation (£2.9m) - the ongoing impacts of both the local economic outlook and our customers' ability to pay us could result in a reversal of the Fair Value of the Russian biological assets in the June valuation.

The impairment analysis performed by management indicates that under the current business environment and based on the plans for the Financial Year 2023 no impairment is required as at 30 June 2022.

Management will continue to monitor the situation closely to see if any further changes require additional analysis that may result in a different conclusion.

In the event of changes in legislation, such as more restrictive sanctions imposed by the UK government or actions taken by the Russian government, we may determine that we do not exercise control, as defined under IFRS 10 Consolidated financial statements, over the assets and operations of the Russian entities and we would not be able to consolidate these companies into the financial statements of the Group. The deconsolidation would mean that we would reclassify the Russian entities as investments and we would need to assess for impairment. A charge of up to £16.6m may need to be recognised in the Income Statement representing the total net assets of the two Russian entities. Dependent on the nature of the events leading to the decision to deconsolidate the entities there may be additional expenses incurred which we are unable to estimate at this time. In addition, revenues would not be consolidated into the financial statements of the Genus group from the date of any deconsolidation. Revenues from the Russian entities were £14.6m in the financial year 2022.

Going Concern
As part of the directors' consideration of the appropriateness of adopting the going concern basis in preparing the financial statements, as well as their assessment of the Group's viability, the Board considered several key factors, including our business model and our strategic framework. In addition, all principal risks identified by the Group were considered in a downside scenario within the viability assessment with specific focus paid to those that could reasonably have a material impact within our outlook period, including

> Growing in emerging markets, which we have modelled through reductions to short term growth expectations, particularly in China;
> Managing agricultural market and commodity prices volatility; modelled through reductions in price expectations, particularly in China;
> Developing products with competitive advantage, modelled through reductions to short term growth expectations because of failing to produce best genetics for our customers or to secure elite genetics;
> Ensuring biosecurity or continuity of supply, which is modelled through one off impacts of disease outbreaks and border closures; and
> Impact of the war in Ukraine, modelled through reduction in profit expectations and cash restrictions.

We have considered the position if each of the identified principal risks materialised individually and where multiple risks occur in parallel. In addition, we have overlaid this downside scenario, net of mitigating actions, with reverse stress tests on both our headroom and banking covenants to ensure the range beyond the downside scenario is fully assessed.

Based on this assessment our headroom under these sensitivities and reverse stress tests, including our mitigating actions, remain adequate.
In their assessment of the Group's viability, the Directors have determined that a three-year time horizon, to June 2025, is an appropriate period to adopt. This was based on the Group's visibility of its product development pipeline, for example, because of the genetic lag of approximately three years between the porcine nucleus herds and customers' production systems and the pipeline of young bulls. The Board also considered the nature of the principal risks affecting Genus, including the agricultural markets in which it operates.

Based on this assessment, the Directors have a reasonable expectation that the Group has adequate resources to continue its operational existence for the foreseeable future and for a period of at least 12 months from the date of this report. Accordingly, the Directors continue to adopt and consider appropriate the going concern basis in preparing this report.

Also, based on this assessment, the Directors have a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the period to 30 June 2025. There are no indications from this assessment that change this expectation when looking beyond 30 June 2025 at the Group's longer-term prospects.

Alternative Performance Measures ('APMs')
In reporting financial information, the Group presents APMs, which are not defined or specified under the requirements of IFRS and which are not considered to be a substitute for, or superior to, IFRS measures.

The Group believes that these APMs provide stakeholders with additional helpful information on the performance of the business. The APMs are consistent with how we plan our business performance and report on it in our internal management reporting to the Board and GELT. Some of these measures are also used for the purpose of setting remuneration targets.

For a full list of all APMs please see the Alternative Performance Measures Glossary section.

Climate change
In preparing these condensed financial statements we have considered the impact of both physical and transition climate change risks on the current valuation of our assets and liabilities. We do not believe that there is a material impact on the financial reporting judgements and estimates arising from our considerations and as a result the valuations of our assets or liabilities have not been significantly impacted by these risks as at 30 June 2022. In concluding, we specifically considered the impact of climate change on the growth rates and projected cash flows as part of our goodwill impairment testing. As government policies evolve as a result of commitments to limit global warming to 1.5°C, we will continue to monitor implications on the valuations of our assets and liabilities that could arise in future years.

Approval
This preliminary announcement was approved by the board on 7 September 2022.

3. SEGMENTAL INFORMATION

IFRS 8 'Operating Segments' requires operating segments to be identified on the basis of internal reports about components of the Group that are regularly reviewed by the Chief Executive and the Board, to allocate resources to the segments and to assess their performance. The Group's operating and reporting structure comprises three operating segments: Genus PIC, Genus ABS and Genus Research and Development. These segments are the basis on which the Group reports its segmental information. The principal activities of each segment are as follows:
Genus PIC – our global porcine sales business;
Genus ABS – our global bovine sales business; and
Genus Research and Development – our global spend on research and development.

A segmental analysis of revenue, operating profit, depreciation, amortisation, non-current asset additions, segment assets and liabilities and geographical information is provided below. We do not include our adjusting items in the segments, as we believe these do not reflect the underlying performance of the segments. The accounting policies of the reportable segments are the same as the Group's accounting policies, as described in the Financial Statements.

Revenue	**2022 £m**	2021 £m
Genus PIC	**306.6**	315.6
Genus ABS	**272.0**	250.1
Genus Research and Development		
Porcine product development	**12.4**	7.3
Bovine product development	**1.7**	1.3
Gene editing	**0.7**	–
Other research and development	**–**	–
	14.8	8.6
	593.4	574.3

Adjusted operating profit by segment is set out below and reconciled to the Group's adjusted operating profit. A reconciliation of adjusted operating profit to profit for the year is shown on the face of the Group Income Statement.

Adjusted operating profit	**2022 £m**	2021 £m
Genus PIC	**112.3**	122.9
Genus ABS	**40.5**	36.4
Genus Research and Development		
Porcine product development	**(22.4)**	(21.9)
Bovine product development	**(22.8)**	(19.6)
Gene editing	**(7.9)**	(7.6)
Other research and development	**(14.0)**	(13.3)
	(67.1)	(62.4)
Adjusted segment operating profit	**85.7**	96.9
Central	**(16.9)**	(20.0)
Adjusted operating profit	**68.8**	76.9

Our business is not highly seasonal and our customer base is diversified, with no individual customer generating more than 2% of revenue.

Exceptional items of £2.0m expense (2021: £3.3m expense) relate to Genus ABS (£4.2m expense) (2021: 2.5m expense), Genus PIC (£0.6m expense) (2021: £0.3m expense) and our central segment (£2.8m credit) (2021: £0.5m expense). Note 4 provides details of these exceptional items.

We consider share-based payment expenses on a Group-wide basis and do not allocate them to reportable segments.

Other segment information

	Depreciation		Amortisation		Additions to non-current assets (excluding deferred taxation and financial instruments)	
	2022 £m	2021 £m	**2022 £m**	2021 £m	**2022 £m**	2021 £m
Genus PIC	**4.5**	3.0	**7.4**	6.5	**45.2**	10.0
Genus ABS	**14.3**	13.3	**3.4**	2.8	**25.4**	26.8
Genus Research and Development						
Research	**1.0**	0.7	**–**	–	**3.3**	1.7
Porcine product development	**2.2**	1.9	**–**	–	**1.3**	7.1
Bovine product development	**2.0**	1.8	**0.2**	0.2	**2.7**	2.7
	5.2	4.4	**0.2**	0.2	**7.3**	11.5
Segment total	**24.0**	20.7	**11.0**	9.5	**77.9**	48.3
Central	**2.4**	3.3	**1.6**	1.6	**5.8**	3.9
Total	**26.4**	24.0	**12.6**	11.1	**83.7**	52.2

	Segment assets		Segment liabilities	
	2022 £m	2021 £m	**2022 £m**	2021 £m
Genus PIC	**305.4**	261.5	**(73.4)**	(57.4)
Genus ABS	**261.4**	203.1	**(78.9)**	(56.0)
Genus Research and Development				
Research	**14.7**	17.8	**(4.4)**	(6.1)
Porcine product development	**275.0**	213.6	**(57.7)**	(55.0)
Bovine product development	**119.6**	125.0	**(16.7)**	(25.5)
	409.3	356.4	**(78.8)**	(86.6)
Segment total	**976.1**	821.0	**(231.1)**	(200.0)
Central	**41.8**	30.0	**(214.7)**	(154.4)
Total	**1,017.9**	851.0	**(445.8)**	(354.4)

Geographical information

The Group's revenue by geographical segment is analysed below. This analysis is stated on the basis of where the customer is located.

Revenue

	2022 £m	2021 £m
North America	**238.5**	214.7
Latin America	**94.6**	83.8
UK	**88.7**	92.2
Rest of Europe, Middle East, Russia and Africa	**88.3**	82.1
Asia	**83.3**	101.5
	593.4	574.3

Non-current assets (excluding deferred taxation and financial instruments)

The Group's non-current assets by geographical segment are analysed below and are stated on the basis of where the assets are located.

	2022 £m	2021 £m
North America	**529.6**	419.5
Latin America	**56.7**	46.1
UK	**69.8**	73.3
Rest of Europe, Middle East, Russia and Africa	**45.7**	44.6
Asia	**46.3**	27.8
	748.1	611.3

Revenue by type

	2022 £m	2021 £m
Genus PIC	**158.4**	172.6
Genus ABS	**262.5**	242.2
Genus Research and Development	**14.8**	8.6
Sale of animals, semen, embryos and ancillary products and services	**435.7**	423.4
Genus PIC	**148.2**	143.0
Genus ABS	**1.1**	0.6
Genus Research and Development	**–**	–
Royalties	**149.3**	143.6
Genus PIC	**–**	–
Genus ABS	**8.4**	7.3
Genus Research and Development	**–**	–
Consulting services	**8.4**	7.3
Total revenue	**593.4**	574.3

Revenue from contracts with customers

The Group's revenue is analysed below by the timing at which it is recognised.

	2022 £m	2021 £m
Genus PIC	**303.2**	312.8
Genus ABS	**247.2**	229.1
Genus Research and Development	**14.1**	8.6
Recognised at a point in time	**564.5**	550.5
Genus PIC	**3.4**	2.8
Genus ABS	**24.8**	21.0
Genus Research and Development	**0.7**	–
Recognised over time	**28.9**	23.8
Total revenue	**593.4**	574.3

4. EXCEPTIONAL ITEMS

Operating (expense)/credit	2022 £m	2021 £m
Litigation and damages	**(1.4)**	(2.5)
Acquisition and integration	**(0.3)**	(0.3)
Pension related	**(0.4)**	(2.3)
Legacy legal claim	**3.3**	–
ABS production restructuring	**(2.8)**	–
Other	**(0.4)**	1.8
	(2.0)	(3.3)

Litigation and damages

Litigation includes legal fees and related costs of £1.4m (2021: £2.5m) related to the actions between ABS Global, Inc. and certain affiliates ('ABS') and Inguran, LLC and certain affiliates (aka STGenetics ('ST')).

Material litigation activities during the year ended 30 June 2022

In July 2014, ABS launched a legal action against ST in the US District Court for the Western District of Wisconsin and initiated anti-trust proceedings which ultimately enabled the launch of ABS's IntelliGen sexing technology in the US market ('ABS I'). In June 2017, ST filed proceedings against ABS in the same District Court, where ST alleged that ABS infringed seven patents and asserted trade secret and breach of contract claims ('ABS II'). The ABS I and ABS II proceedings in the periods before the year ended 30 June 2021 are more fully described in the Notes to the Financial Statements in previous Annual Reports. ABS sought judgments as a matter of law ('JMOL') in relation to the invalidity of all three of the patents considered in ABS II, JMOLs in relation to the non-infringement of two of those patents, and a reduction in damages awarded by the jury.

On 29 January 2020, ST filed a new US complaint against ABS ('ABS III'). ABS has prepared and filed a response to the ABS III complaint, including a motion to dismiss, on the basis that all these issues were fully resolved in either the ABS I or ABS II litigations.

On 10 March 2020, the USPTO issued patent 10,583,439 (the ''439 patent'), and subsequently ST asked the court for permission to file a supplemental complaint in ABS III asserting infringement of the '439 patent. On 15 April 2020, ST filed a new complaint ('ABS IV'), asserting the same claim of infringement of the '439 patent alleged in its supplemental complaint and then moved to consolidate the ABS IV and ABS III litigation. ABS opposed this action and has filed a motion for summary dismissal. On 23 June 2020, the USPTO issued patent 10,689,210 (the ''210 patent'), and on 6 July 2020, ST sought a second supplement of ABS III by adding a claim of '210 patent infringement. ABS opposed this action.

On 26 October 2020 and 10 December 2020, ABS filed Inter Partes Reviews ('IPR') against the '439 and '210 patents with the USPTO. On 4 May 2021, the Patent Trial and Appeal Board ('PTAB') instituted the '439 patent IPR, and the hearing was completed on 2 February 2022. On 7 June 2021, PTAB declined to institute the '210 patent IPR and on 28 April 2022, PTAB issued its decision and declined to invalidate the claims of the '439 patent.

On 20 December 2021, the Wisconsin Federal Court reached a decision on the ABS III and IV motions, granting ABS's motion to dismiss all claims relating to US patent 8,206,987 (the ''987 patent'), and denying ST's motion to amend ABS III to add the '439 and '210 patents. The court dismissed ABS III in its entirety and entered judgment favour of ABS. ST has appealed this decision.

On 1 July 2022 , the court reached a decision on the ABS II post-judgment motions as well as the pending motions in ABS IV. The Court deferred to the jury's verdict in ABS II confirming the validity and infringement of US patents 7,311,476, 7,611,309 (the ''476 and 309 patents' respectively) and the '987 patent, and further confirmed the award of costs to ABS of ~$5.3m in connection with ABS I. In relation to ABS IV, the Court denied ABS' motion to dismiss the '439 and '210 patent claims on the basis that the challenges were too fact-based to be resolved at this stage. A Court scheduling conference confirmed a hearing date of 15 July 2024 for ABS IV hearing. Appeals have been filed by ABS on the validity and infringement of the '987, the '476 and the '309 patents and ST has appealed the award of the $5.3m costs.

Indian Litigation: In September 2019, ST also filed parallel patent infringement proceedings against ABS in India, alleging infringement of the Indian patent 240790 (''790 patent'). The '790 patent is the equivalent of the US patent 7,311,476 asserted in ABS II. ABS had already sought the revocation of the '790 patent in April 2017 before the Indian Patent Office and has now consolidated the revocation petition as a counterclaim in the Indian court proceedings. Progress of these proceedings has been delayed on multiple occasions and is next before the court for consideration on 15 September 2022.

Acquisitions and integration

During the year, £0.3m (2021: £0.3m) of expenses were incurred in relation to acquisitions during the year, with £0.2m relating the Olymel transaction.

Legacy legal claim

A one-off credit of £3.3m resulted from a non-refundable receipt of cash for the assignment of rights to a legacy legal claim against the Instituto Brasileiro de Café (IBC) in Brazil. The claim was for reimbursement of unpaid amounts plus interest in respect of coffee shipments made by a group subsidiary to the IBC in the 1990s, when the subsidiary was part of the Dalgety Group. Under the assignment agreement, the subsidiary has assigned any future receipt from the legal claim to an Investment Fund in Brazil, in exchange for an immediate cash amount and a sliding scale earn out payment which decreases over the duration of the period to the eventual receipt of proceeds by the assignee. No amount has been recognised in respect of the earn out payment, as the duration to the eventual settlement of the legal claim cannot be estimated with any certainty.

ABS production restructuring

A one-off charge of £2.8m was incurred primarily relating to the closure of our Canadian ABS facilities and disposals of bulls held in North America as part of a production restructuring.

Pension related

A pensions benefits audit on the National Pig Development pension fund concluded during the year lead to an aggregate past service charge of £0.4m, resulted from the recognition of these additional liabilities. In the prior year, an aggregate past service charge of £2.3m, resulted from recognition of additional liabilities, relating to Guaranteed Minimum Pension ('GMP') on historic transfer values.

Other

Included in Other is an expense of £0.5m relating to legal advice, IT consultancy fees and one-time costs incurred as the direct result of an IT security incident in June 2022. In the prior year, a £2.0m credit resulting from a share forfeiture exercise.

5. NET FINANCE COSTS

	2022 £m	2021 £m
Interest payable on bank loans and overdrafts	**(4.1)**	(2.8)
Amortisation of debt issue costs	**(0.9)**	(0.9)
Other interest payable	**(0.1)**	–
Unwinding of discount put options	**(0.2)**	(0.6)
Net interest cost in respect of pension scheme liabilities	**(0.2)**	(0.3)
Interest on lease liabilities	**(1.1)**	(0.8)
Total interest expense	**(6.6)**	(5.4)
Interest income on bank deposits	**0.4**	0.4
Total interest income	**0.4**	0.4
Net finance costs	**(6.2)**	(5.0)

6. TAXATION AND DEFERRED TAXATION

Income tax expense

	2022 £m	2021 £m
Current tax expense		
Current period	**13.6**	18.3
Adjustment for prior periods	**1.8**	1.3
Total current tax expense in the Group Income Statement	**15.4**	19.6
Deferred tax expense		
Origination and reversal of temporary differences	**(0.5)**	(10.3)
Adjustment for prior periods	**(3.2)**	(0.3)
Total deferred tax credit in the Group Income Statement	**(3.7)**	(10.6)
Total income tax expense excluding share of income tax of equity accounted investees	**11.7**	9.0
Share of income tax of equity accounted investees	**2.6**	3.0
Total income tax expense in the Group Income Statement	**14.3**	12.0

Reconciliation of effective tax rate

	2022 %	**2022 £m**	2021 %	2021 £m
Profit before tax		**48.4**		55.8
Add back share of income tax of equity accounted investees		**2.6**		3.0
Profit before tax excluding share of income tax of equity accounted investees		**51.0**		58.8
Income tax at UK corporation tax of 19% (2021: 19.0%)	**19.0**	**9.7**	19.0	11.2
Effect of tax rates in foreign jurisdictions	**9.2**	**4.7**	10.5	6.2
Non-deductible expenses	**4.3**	**2.2**	2.0	1.2
Tax exempt income and incentives	**(1.8)**	**(0.9)**	(8.7)	(5.2)
Change in tax rate	**2.5**	**1.3**	(4.4)	(2.6)
Movements in recognition of tax losses	**0.2**	**0.1**	(1.2)	(0.7)
Change in unrecognised temporary differences	**(3.7)**	**(1.9)**	2.2	1.3
Tax (over)/under provided in prior periods	**(2.1)**	**(1.1)**	0.5	0.3
Change in provisions	**(0.2)**	**(0.1)**	1.2	0.7
Tax on undistributed reserves	**0.6**	**0.3**	(0.7)	(0.4)
Total income tax expense in the Group Income Statement	**28.0**	**14.3**	20.4	12.0

7. EARNINGS PER SHARE

Basic earnings per share is the profit generated for the financial year attributable to equity shareholders, divided by the weighted average number of shares in issue during the year.

Basic earnings per share from continuing operations

	2022 (pence)	2021 (pence)
Basic earnings per share	**62.5**	72.6

The calculation of basic earnings per share from continuing operations is based on the net profit attributable to owners of the Company from continuing operations of £40.9m (2021: £47.3m) and a weighted average number of ordinary shares outstanding of 65,395,000 (2021: 65,108,000), which is calculated as follows:

Weighted average number of ordinary shares (basic)

	2022 000s	2021 000s
Issued ordinary shares at the start of the year	**65,761**	65,092
Effect of own shares held	**(373)**	(180)
Shares issued on exercise of stock options	**7**	9
Shares issued in relation to Employee Benefit Trust	**–**	187
Weighted average number of ordinary shares in year	**65,395**	65,108

Diluted earnings per share from continuing operations

	2022 (pence)	2021 (pence)
Diluted earnings per share	**62.2**	72.0

The calculation of diluted earnings per share from continuing operations is based on the net profit attributable to owners of the Company from continuing operations of £40.9m (2021: £47.3m) and a weighted average number of ordinary shares outstanding, after adjusting for the effects of all potential dilutive ordinary shares, of 65,714,000 (2021: 65,662,000), which is calculated as follows:

Weighted average number of ordinary shares (diluted)

	2022 000s	2021 000s
Weighted average number of ordinary shares (basic)	**65,395**	65,108
Dilutive effect of share awards and options	**319**	554
Weighted average number of ordinary shares for the purposes of diluted earnings per share	**65,714**	65,662

Adjusted earnings per share from continuing operations

	2022 (pence)	2021 (pence)
Adjusted earnings per share	**82.7**	100.9
Diluted adjusted earnings per share	**82.3**	100.1

Adjusted earnings per share is calculated on profit before the net IAS 41 valuation movement on biological assets, amortisation of acquired intangible assets, share-based payment expense and exceptional items, after charging taxation associated with those profits, of £54.1m (2021: £65.7m), which is calculated as follows:

	2022 £m	2021 £m
Profit before tax from continuing operations	**48.4**	55.8
Add/(deduct):		
Net IAS 41 valuation movement on biological assets	**5.4**	10.8
Amortisation of acquired intangible assets	**8.3**	7.4
Share-based payment expense	**3.7**	7.7
Exceptional items (see note 4)	**2.0**	3.3
Net IAS 41 valuation movement on biological assets in joint ventures	**1.4**	(3.1)
Tax on joint ventures and associates	**2.6**	3.0
Attributable to non-controlling interest	**(0.3)**	(0.1)
Adjusted profit before tax	**71.5**	84.8
Adjusted tax charge	**(17.4)**	(19.1)
Adjusted profit after tax	**54.1**	65.7
Effective tax rate on adjusted profit	**24.3%**	22.5%

8. DIVIDENDS

Dividends are one type of shareholder return, historically paid to our shareholders in late November/early December and late March.

Amounts recognised as distributions to equity holders in the year

	2022 **£m**	2021 £m
Final dividend		
Final dividend for the year ended 30 June 2021 of 21.7 pence per share	**14.2**	–
Final dividend for the year ended 30 June 2020 of 19.7 pence per share	**–**	12.8
Interim dividend		
Interim dividend for the year ended 30 June 2022 of 10.3 pence per share	**6.7**	–
Interim dividend for the year ended 30 June 2021 of 10.3 pence per share	**–**	6.7
	20.9	19.5

The Directors have proposed a final dividend of 21.7 pence per share for 2022. This is subject to shareholders' approval at the AGM and we have therefore not included it as a liability in these Financial Statements. The total proposed and paid dividend for year ended 30 June 2022 is 32.0 pence per share (2021: 32.0 pence per share).

9. INTANGIBLE ASSETS

	Porcine and bovine genetics technology £m	Brands, multiplier contracts and customer relationships £m	Separately identified acquired intangible assets £m	Software £m	Assets under construction £m	IntelliGen £m	Patents, licences and other £m	Total £m
Cost								
Balance at 1 July 2020	52.0	85.9	137.9	18.4	2.0	25.4	4.4	188.1
Additions	–	–	–	0.4	3.8	0.9	–	5.1
Acquisition	–	3.7	3.7	–	–	–	–	3.7
Disposals	–	–	–	(1.1)	–	–	–	(1.1)
Transfers	–	–	–	3.1	(3.1)	–	–	–
Effect of movements in exchange rates	(0.3)	(8.0)	(8.3)	(0.8)	–	(2.7)	(0.1)	(11.9)
Balance at 30 June 2021	51.7	81.6	133.3	20.0	2.7	23.6	4.3	183.9
Additions	**4.2**	**10.3**	**14.5**	**0.2**	**8.6**	**–**	**–**	**23.3**
Acquisition	**–**	**0.4**	**0.4**	**–**	**–**	**–**	**–**	**0.4**
Transfers	**–**	**–**	**–**	**7.7**	**(7.7)**	**–**	**–**	**–**
Effect of movements in exchange rates	**0.6**	**10.6**	**11.2**	**1.0**	**0.1**	**3.2**	**0.1**	**15.6**
Balance at 30 June 2022	**56.5**	**102.9**	**159.4**	**28.9**	**3.7**	**26.8**	**4.4**	**223.2**
Amortisation and impairment losses								
Balance at 1 July 2020	33.2	68.2	101.4	13.0	–	6.9	3.9	125.2
Disposals	–	–	–	(0.6)	–	–	–	(0.6)
Amortisation for the year	2.8	4.6	7.4	1.4	–	2.2	0.1	11.1
Effect of movements in exchange rates	–	(6.6)	(6.6)	(0.8)	–	(0.7)	–	(8.1)
Balance at 30 June 2021	36.0	66.2	102.2	13.0	–	8.4	4.0	127.6
Amortisation for the year	**3.0**	**5.3**	**8.3**	**1.7**	**–**	**2.5**	**0.1**	**12.6**
Effect of movements in exchange rates	**0.1**	**8.6**	**8.7**	**0.8**	**–**	**1.4**	**0.1**	**11.0**
Balance at 30 June 2022	**39.1**	**80.1**	**119.2**	**15.5**	**–**	**12.3**	**4.2**	**151.2**
Carrying amounts								
At 30 June 2022	**17.4**	**22.8**	**40.2**	**13.4**	**3.7**	**14.5**	**0.2**	**72.0**
At 30 June 2021	15.7	15.4	31.1	7.0	2.7	15.2	0.3	56.3
At 30 June 2020	18.8	17.7	36.5	5.4	2.0	18.5	0.5	62.9

Included within brands, multiplier contracts and customer relationships are carrying amounts for brands of £0.5m (2021: £0.7m), multiplier contracts of £11.1m (2021: £0.3m) and customer relationships of £11.2m (2021: £14.4m).

On 22 February 2022, PIC acquired all the intellectual property in Olymel's AlphaGene elite porcine genetics for a total cash consideration of CAD$ 25.0m (£14.5m), being £4.2m for porcine genetic technology and £10.3m for multiplier contracts. The parties have also entered into an exclusive long term genetics collaboration agreement, where PIC will supply elite germplasm and manage the ongoing genetic improvement of Olymel's AlphaGene genetics.

Included within the software class of assets is £6.9m (2021: £5.4m) and included in assets in the course of construction is £2.7m (2021: £1.1m) that relate to the ongoing development costs of GenusOne, our single global enterprise system.

10. BIOLOGICAL ASSETS

Fair value of biological assets	Bovine £m	Porcine £m	Total £m
Non-current biological assets	107.2	202.9	310.1
Current biological assets	–	39.8	39.8
Balance at 30 June 2020	107.2	242.7	349.9
Increases due to purchases	15.2	134.8	150.0
Decreases attributable to sales	–	(223.0)	(223.0)
Decrease due to harvest	(24.4)	(21.4)	(45.8)
Business combination	–	0.3	0.3

Changes in fair value less estimated sale costs	3.9	118.4	122.3
Effect of movements in exchange rates	(9.9)	(24.3)	(34.2)
Balance at 30 June 2021	92.0	227.5	319.5
Non-current biological assets	92.0	187.9	279.9
Current biological assets	–	39.6	39.6
Balance at 30 June 2021	92.0	227.5	319.5
Increases due to purchases	**23.3**	**225.8**	**249.1**
Decreases attributable to sales	**–**	**(234.8)**	**(234.8)**
Decrease due to harvest	**(17.7)**	**(26.3)**	**(44.0)**
Changes in fair value less estimated sale costs	**(19.6)**	**61.2**	**41.6**
Effect of movements in exchange rates	**10.0**	**25.4**	**35.4**
Balance at 30 June 2022	**88.0**	**278.8**	**366.8**
Non-current biological assets	**88.0**	**245.7**	**333.7**
Current biological assets	**–**	**33.1**	**33.1**
Balance at 30 June 2022	**88.0**	**278.8**	**366.8**

Bovine

Bovine biological assets include £6.9m (2021: £7.4m) representing the fair value of bulls owned by third parties but managed by the Group, net of expected future payments to such third parties, which are therefore treated as assets held under leases.

There were no movements in the carrying value of the bovine biological assets in respect of sales or other changes during the year.

A risk-adjusted rate of 12.5% (2021: 8.8%) has been used to discount future net cash flows from the sale of bull semen.

Decreases due to harvest represent the semen extracted from the biological assets. Inventories of such semen are shown as biological asset harvest.

Porcine

Included in increases due to purchases is the aggregate increase arising during the year on initial recognition of biological assets in respect of multiplier purchases, other than parent gilts, of £101.2m (2021: £47.5m).

Decreases attributable to sales during the year of £234.8m (2021: £223.0m) include £74.0m (2021: £67.4m) in respect of the reduction in fair value of the retained interest in the genetics of animals, other than parent gilts, transferred under royalty contracts.

Also included is £119.0m (2021: £97.9m) relating to the fair value of the retained interest in the genetics in respect of animals, other than parent gilts, sold to customers under royalty contracts in the year.

Total revenue in the year, including parent gilts, includes £231.4m (2021: £206.9m) in respect of these contracts, comprising £83.2m (2021: £63.9m) on initial transfer of animals and semen to customers and £148.2m (2021: £143.0m) in respect of royalties received.

A risk-adjusted rate of 10.3% (2021: 9.3%) has been used to discount future net cash flows from the expected output of the pure line porcine herds. The number of future generations which have been taken into account is seven (2021: seven) and their estimated useful lifespan is 1.4 years (2021: 1.4 years).

Year ended 30 June 2022

	Bovine £m	**Porcine £m**	**Total £m**
Changes in fair value of biological assets	**(19.6)**	**61.2**	**41.6**
Inventory transferred to cost of sales at fair value	**(10.3)**	**(26.3)**	**(36.6)**
Biological assets transferred to cost of sales at fair value	**–**	**(10.3)**	**(10.3)**
	(29.9)	**24.6**	**(5.3)**
Fair value movement in related financial derivative	**–**	**(0.1)**	**(0.1)**
Net IAS 41 valuation movement on biological assets[1]	**(29.9)**	**24.5**	**(5.4)**

Year ended 30 June 2021

	Bovine £m	Porcine £m	Total £m
Changes in fair value of biological assets	3.9	118.4	122.3
Inventory transferred to cost of sales at fair value	(21.1)	(21.4)	(42.5)
Biological assets transferred to cost of sales at fair value	–	(90.0)	(90.0)
	(17.2)	7.0	(10.2)
Fair value movement in related financial derivative	–	(0.6)	(0.6)
Net IAS 41 valuation movement on biological assets[1]	(17.2)	6.4	(10.8)

1 This represents the difference between operating profit prepared under IAS 41 and operating profit prepared under historical cost accounting, which forms part of the reconciliation to adjusted operating profit (see APMs).

11. PROPERTY, PLANT AND EQUIPMENT

	Land and buildings £m	Plant, motor vehicles and equipment £m	Assets under construction £m	Total owned assets £m	Land and buildings £m	Plant, motor vehicles and equipment £m	Total right-of-use assets £m	Total £m
Cost or deemed cost								
Balance at 1 July 2020	67.9	87.8	8.2	163.9	21.9	24.0	45.9	209.8
Additions	1.1	5.9	22.3	29.3	2.3	8.1	10.4	39.7
Business combination	–	0.2	–	0.2	–	–	–	0.2
Transfers	4.3	3.5	(7.8)	–	–	–	–	–
Disposals	(0.3)	(2.1)	–	(2.4)	(1.9)	(4.7)	(6.6)	(9.0)
Effect of movements in exchange rates	(6.4)	(7.3)	(0.6)	(14.3)	(1.6)	(1.4)	(3.0)	(17.3)
Balance at 30 June 2021	66.6	88.0	22.1	176.7	20.7	26.0	46.7	223.4
Additions	**0.2**	**3.9**	**40.3**	**44.4**	**9.2**	**6.1**	**15.3**	**59.7**
Transfers	**23.5**	**12.8**	**(36.3)**	**–**	**–**	**–**	**–**	**–**
Disposals	**(1.4)**	**(2.0)**	**–**	**(3.4)**	**(0.5)**	**(6.0)**	**(6.5)**	**(9.9)**
Effect of movements in exchange rates	**11.3**	**10.9**	**3.5**	**25.7**	**2.1**	**2.3**	**4.4**	**30.1**
Balance at 30 June 2022	**100.2**	**113.6**	**29.6**	**243.4**	**31.5**	**28.4**	**59.9**	**303.3**
Depreciation and impairment losses								
Balance at 1 July 2020	24.3	53.1	–	77.4	4.4	10.1	14.5	91.9
Depreciation for the year	3.2	9.8	–	13.0	3.7	7.3	11.0	24.0
Disposals	(0.3)	(1.5)	–	(1.8)	(1.3)	(4.2)	(5.5)	(7.3)
Effect of movements in exchange rates	(2.7)	(4.5)	–	(7.2)	(0.3)	(0.7)	(1.0)	(8.2)
Balance at 30 June 2021	24.5	56.9	–	81.4	6.5	12.5	19.0	100.4
Depreciation for the year	**3.8**	**11.0**	**–**	**14.8**	**4.8**	**6.8**	**11.6**	**26.4**
Disposals	**(1.3)**	**(1.8)**	**–**	**(3.1)**	**(0.5)**	**(5.9)**	**(6.4)**	**(9.5)**
Impairment	**0.8**	**0.1**	**–**	**0.9**	**–**	**–**	**–**	**0.9**
Effect of movements in exchange rates	**4.4**	**7.1**	**–**	**11.5**	**0.6**	**1.6**	**2.2**	**13.7**
Balance at 30 June 2022	**32.2**	**73.3**	**–**	**105.5**	**11.4**	**15.0**	**26.4**	**131.9**
Carrying amounts								
At 30 June 2022	**68.0**	**40.3**	**29.6**	**137.9**	**20.1**	**13.4**	**33.5**	**171.4**
At 30 June 2021	42.1	31.1	22.1	95.3	14.2	13.5	27.7	123.0

12. TRADE AND OTHER RECEIVABLES

	2022 £m	2021 £m
Trade receivables	**105.3**	87.2
Less expected credit loss allowance	**(4.3)**	(5.0)
Trade receivables net of impairment	**101.0**	82.2
Other debtors	**10.7**	6.4
Prepayments	**8.5**	6.6
Contract assets	**7.7**	7.7
Other taxes and social security	**1.6**	3.3
Current trade and other receivables	**129.5**	106.2
Other debtors	**3.7**	1.8
Contract assets	**4.9**	-
Non-current other receivables	**8.6**	1.8
	138.1	108.0

Trade receivables

The average credit period our customers take on the sales of goods is 62 days (2021: 53 days). We do not charge interest on receivables for the first 30 days from the date of the invoice.

The Group always measures the loss allowance for trade receivables at an amount equal to lifetime expected credit losses ('ECLs'). The ECLs on trade receivables are estimated using a provision matrix by reference to past default experience of the debtor and an analysis of the debtor's current financial position, adjusted for factors that are specific to the general economic conditions of the industry and country in which the debtor operates and an assessment of both the current and the forecast direction of conditions at the reporting date. The Group writes off a trade receivable when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery, such as when the debtor has been placed under liquidation or has entered into bankruptcy proceedings.

No customer represents more than 5% of the total balance of trade receivables (2021: no more than 5%).

13. TRADE AND OTHER PAYABLES

	2022 £m	2021 £m
Trade payables	**36.0**	23.7
Other payables	**8.2**	7.6
Accrued expenses	**61.4**	60.2
Contract liabilities	**10.1**	10.6
Other taxes and social security	**9.0**	8.2
Current trade and other payables	**124.7**	110.3
Contract liabilities	**0.2**	1.4
Non-current trade and other payables	**0.2**	1.4

The average credit period taken for trade purchases is 39 days (2021: 27 days).

14. RETIREMENT BENEFIT OBLIGATIONS

The Group operates a number of defined contribution and defined benefit pension schemes covering many of its employees. The principal funds are the Milk Pension Fund ('MPF') and the Dalgety Pension Fund ('DPF') in the UK, which are defined benefit schemes. The assets of these funds are held separately from the Group's assets, are administered by trustees and managed professionally. These schemes are closed to new members.

Retirement benefit obligations

The financial positions of the defined benefit schemes, as recorded in accordance with IAS 19 and IFRIC 14, are aggregated for disclosure purposes. The liability split by principal scheme is set out below.

	2022 £m	2021 £m
The Milk Pension Fund – Genus's share	**–**	2.2
The Dalgety Pension Fund	**–**	–
National Pig Development Pension Fund	**0.1**	0.3
Post-retirement healthcare	**0.6**	0.6
Other unfunded schemes	**7.6**	8.0
Overall net pension liability	**8.3**	11.1

Overall, we expect to pay £1.0m (2021: £4.1m) in contributions to defined benefit plans in the 2023 financial year.

Aggregated position of defined benefit schemes

	2022 £m	2021 £m
Present value of funded obligations (includes Genus's 86% share of MPF (2021: 86%))	**857.6**	1,097.7
Present value of unfunded obligations	**8.4**	8.9
Total present value of obligations	**866.0**	1,106.6
Fair value of plan assets (includes Genus's 86% share of MPF (2021: 86%))	**(936.3)**	(1,147.2)
Restricted recognition of asset (MPF and DPF)	**78.6**	8.8
Recognition of additional liability (MPF)	**–**	42.9
Recognised liability for defined benefit obligations	**8.3**	11.1

Summary of movements in Group deficit during the year

	2022 £m	2021 £m
Deficit in schemes at the start of the year	**(11.1)**	(18.1)
Administration expenses	**(0.4)**	(0.4)
Exceptional cost	**(0.4)**	(2.3)
Reclassified from accruals	**–**	(0.4)
Contributions paid into the plans	**3.5**	7.4
Net pension finance cost	**(0.2)**	(0.3)
Actuarial gains recognised during the year	**27.3**	22.3
Movement in restriction of assets	**(69.8)**	(0.1)
Release/(recognition) of additional liability	**43.7**	(19.9)
Exchange rate adjustment	**(0.9)**	0.7
Deficit in schemes at the end of the year	**(8.3)**	(11.1)

The expense is recognised in the following line items in the Group Income Statement

	2022 £m	2021 £m
Administrative expenses	**0.4**	0.4
Exceptional cost	**0.4**	2.3
Net finance charge	**0.2**	0.3
	1.0	3.0

Actuarial assumptions and sensitivity analysis
Principal actuarial assumptions (expressed as weighted averages) are:

	2022	2021
Discount rate	**3.90%**	1.90%
Consumer Price Index	**2.40%**	2.10%
Retail Price Index	**2.90%**	2.85%

The mortality assumptions used are consistent with those recommended by the schemes' actuaries and reflect the latest available tables, adjusted for the experience of the scheme where appropriate. For 2022, the mortality tables used are 100% of the S3PMA (males)/S3PFA_M(females) all lives tables, with birth year and 2021 CMI projections with a smoothing parameter of Sk = 7.0 and A=0.5%, subject to a long-term rate of improvement of 1.5% for males and females and for 2021, the mortality tables used are 97% of the S2NA tables, with birth year and 2021 CMI projections with a smoothing parameter of Sk = 7.0 and A=0%, subject to a long-term rate of improvement of 1.25% for males and females.

15. NOTES TO THE CASH FLOW STATEMENT

	2022 £m	2021 £m
Profit for the year	**36.7**	46.8
Adjustment for:		
Net IAS 41 valuation movement on biological assets	**5.4**	10.8
Amortisation of acquired intangible assets	**8.3**	7.4
Share-based payment expense	**3.7**	7.7
Share of profit of joint ventures and associates	**(5.2)**	(13.1)
Finance costs (net)	**6.2**	5.0
Income tax expense	**11.7**	9.0
Exceptional items	**2.0**	3.3
Adjusted operating profit from continuing operations	**68.8**	76.9
Depreciation of property, plant and equipment	**26.4**	24.0
Loss on disposal of plant and equipment	**0.4**	0.4
Loss on disposal of intangible assets	**–**	0.5
Amortisation and impairment of intangible assets	**4.3**	3.7
Adjusted earnings before interest, tax, depreciation and amortisation	**99.9**	105.5
Cash impact of exceptional items	**1.1**	(3.0)
Other movements in biological assets and harvested produce	**(19.1)**	(12.8)
Decrease in provisions and release in deferred consideration	**–**	(0.4)
Additional pension contributions in excess of pension charge	**(3.1)**	(7.0)
Other	**0.2**	(1.3)
Operating cash flows before movement in working capital	**79.0**	81.0
Increase in inventories	**(6.1)**	(1.3)
Increase in receivables	**(18.5)**	(11.0)
Increase in payables	**2.2**	17.9
Cash generated by operations	**56.6**	86.6
Interest received	**0.4**	0.4
Interest and other finance costs paid	**(4.0)**	(2.8)
Interest on leased assets	**(1.1)**	(0.8)
Cash flow from derivative financial instruments	**(0.1)**	0.2
Income taxes paid	**(17.5)**	(16.1)
Net cash from operating activities	**34.3**	67.5

Analysis of net debt
Total changes in liabilities due to financing activities are as follows:

	At 1 July 2021 £m	**Net cash flows £m**	**Foreign exchange £m**	**Other non-cash movements £m**	**At 30 June 2022 £m**
Cash and cash equivalents	46.0	**(11.0)**	**3.8**	**–**	**38.8**
Interest-bearing loans – current	(13.9)	**8.9**	**(1.2)**	**(0.9)**	**(7.1)**
Lease liabilities – current	(9.0)	**11.3**	**(0.7)**	**(11.7)**	**(10.1)**
	(22.9)	**20.2**	**(1.9)**	**(12.6)**	**(17.2)**
Interest-bearing loans – non-current	(109.4)	**(63.1)**	**(9.6)**	**–**	**(182.1)**
Lease liabilities – non-current	(19.3)	**–**	**(1.6)**	**(3.6)**	**(24.5)**
	(128.7)	**(63.1)**	**(11.2)**	**(3.6)**	**(206.6)**
Total debt financing	(151.6)	**(42.9)**	**(13.1)**	**(16.2)**	**(223.8)**
Net debt	(105.6)	**(53.9)**	**(9.3)**	**(16.2)**	**(185.0)**

Included within non-cash movements is £15.3m in relation to net new leases and £0.9m in the unwinding of debt issue costs.

	At 1 July 2020 £m	Net cash flows £m	Foreign exchange £m	Other non-cash movements £m	At 30 June 2021 £m
Cash and cash equivalents	41.3	6.6	(1.9)	–	46.0
Interest-bearing loans – current	(9.2)	(4.4)	0.6	(0.9)	(13.9)
Lease liabilities – current	(10.0)	11.7	0.2	(10.9)	(9.0)
	(19.2)	7.3	0.8	(11.8)	(22.9)

Interest-bearing loans – non-current	(103.6)	(12.7)	6.9	–	(109.4)
Lease liabilities – non-current	(21.1)	–	0.3	1.5	(19.3)
	(124.7)	(12.7)	7.2	1.5	(128.7)
Total debt financing	(143.9)	(5.4)	8.0	(10.3)	(151.6)
Net debt	(102.6)	1.2	6.1	(10.3)	(105.6)

Included within non-cash movements is £9.4m in relation to net new leases and £0.9m in the unwinding of debt issue costs.

16. CONTINGENCIES AND BANK GUARANTEES

Contingent liabilities are potential future cash outflows, where the likelihood of payments is considered more than remote but is not considered probable or cannot be measured reliably. Assessing the amount of liabilities that are not probable is highly judgemental.

The retirement benefit obligations referred to in note 14 include obligations relating to the MPF defined benefit scheme. Genus, together with other participating employers, is joint and severally liable for the scheme's obligations. Genus has accounted for its section and its share of any orphan assets and liabilities, collectively representing approximately 86% (2021: 86%) of the MPF. As a result of the joint and several liability, Genus has a contingent liability for the scheme's obligations that it has not accounted for. The total deficit of the MPF from the most recent triennial valuation can be found in note 14.

The Group has widespread global operations and is consequently a defendant in many legal, tax and customs proceedings incidental to those operations. In addition, there are contingent liabilities arising in the normal course of business in respect of indemnities, warranties and guarantees. These contingent liabilities are not considered to be unusual in the context of the normal operating activities of the Group. Provisions have been recognised in accordance with the Group accounting policies where required. None of these claims are expected to result in a material gain or loss to the Group.

As described in note 3, the Group is involved in ongoing litigation proceedings and investigations with ST that are at various legal stages. The Group makes a provision for amounts to the extent where an outflow of economic benefit is probable and can be reliably estimated. However, there are specific claims identified in the litigation which the Group considers the outcome of the claim is not probable and will not result in the outflow of economic benefit.

The Group's future tax charge and effective tax rate could be affected by factors such as countries reforming their tax legislation to implement the OECD's BEPS recommendations and by European Commission initiatives including state aid investigations.

At 30 June 2022, we had entered into bank guarantees totalling £20.2m (2021: £19.1m).

17. NON-CONTROLLING INTEREST

	2022 £m	2021 £m
Non-controlling interest	**(0.7)**	3.6
Put option over non-controlling interest at inception	**(5.7)**	(5.1)
Total non-controlling interest	**(6.4)**	(1.5)

Summarised financial information in respect of each of the Group's subsidiaries that has a material non-controlling interest is set out below before intra-Group eliminations.

	De Novo Genetics LLC £m	**PIC Italia S.r.l. £m**	**2022 £m**
Revenue	**3.7**	**3.4**	**7.1**
Expenses	**(12.6)**	**(2.6)**	**(15.2)**
Total comprehensive (expense)/income for the year	**(8.9)**	**0.8**	**(8.1)**
Total comprehensive (expense)/income attributable to owners of the Company	**(4.5)**	**0.6**	**(3.9)**
Total comprehensive (expense)/income attributable to the non-controlling interest	**(4.4)**	**0.2**	**(4.2)**
Biological assets	**15.2**	**–**	**15.2**
Current assets	**0.9**	**1.0**	**1.9**
Other non-current assets	**0.8**	**2.3**	**3.1**
Current liabilities	**(19.6)**	**(1.8)**	**(21.4)**
Net (liabilities)/ assets	**(2.7)**	**1.5**	**(1.2)**
Equity attributable to owners of the Company	**1.8**	**(1.3)**	**0.5**
Non-controlling interest	**(0.9)**	**0.2**	**(0.7)**

Dividends of £0.1m were paid to non-controlling interests (2021: £0.2m).

	De Novo Genetics LLC £m	PIC Italia S.r.l. £m	2021 £m
Revenue	3.4	4.1	7.5
Expenses	(4.9)	(3.3)	(8.2)
Total comprehensive income for the year	(1.5)	0.8	(0.7)
Total comprehensive income attributable to owners of the Company	(0.8)	0.6	(0.2)
Total comprehensive income attributable to the non-controlling interest	(0.7)	0.2	(0.5)
Biological assets	15.8	–	15.8
Current assets	0.9	1.2	2.1
Other non-current assets	0.8	1.8	2.6
Current liabilities	(11.5)	(1.4)	(12.9)
Net assets	6.0	1.6	7.6
Equity attributable to owners of the Company	(2.6)	(1.4)	(4.0)
Non-controlling interest	3.4	0.2	3.6

18. POST BALANCE SHEET EVENTS

With effect from 26 August 2022, the Group and its lenders increased the Company's multi-currency RCF by £40m to £190m and the USD RCF by USD 25m to USD 150m, and extended the maturity date of the total facilities to 24 August 2025.

ALTERNATIVE PERFORMANCE MEASURES GLOSSARY

The Group tracks a number of APMs in managing its business, which are not defined or specified under the requirements of IFRS because they exclude amounts that are included in, or include amounts that are excluded from, the most directly comparable measure calculated and presented in accordance with IFRS, or are calculated using financial measures that are not calculated in accordance with IFRS.

The Group believes that these APMs, which are not considered to be a substitute for or superior to IFRS measures, provide stakeholders with additional helpful information on the performance of the business. These APMs are consistent with how the business performance is planned and reported within the internal management reporting to the Board and GELT. Some of these APMs are also used for the purpose of setting remuneration targets.

These APMs should be viewed as supplemental to, but not as a substitute for, measures presented in the consolidated financial information relating to the Group, which are prepared in accordance with IFRS. The Group believes that these APMs are useful indicators of its performance. However, they may not be comparable to similarly-titled measures reported by other companies, due to differences in the way they are calculated.

The key APMs that the Group uses include:

Alternative Performance Measures	**Calculation methodology and closest equivalent IFRS measure (where applicable)**	**Reasons why we believe the APMs are useful**
Income Statement measures		
Adjusted operating profit exc JVs	Adjusted operating profit is operating profit with the net IAS 41 valuation movement on biological assets, amortisation of acquired intangible assets, share-based payment expense and exceptional items added back and excludes JV and associate results. *Closest equivalent IFRS measure: Operating profit*[1] See reconciliation below.	Allows the comparison of underlying financial performance by excluding the impacts of exceptional items and is a performance indicator against which short-term and long-term incentive outcomes for our senior executives are measured: net IAS 41 valuation movements on biological assets – these movements can be materially volatile and do not directly correlate to the underlying trading performance in the period. Furthermore, the movement is non-cash related and many assumptions used in the valuation model are based on projections rather than current trading; amortisation of acquired intangible assets – excluding this improves the comparability between acquired and organically grown operations, as the latter cannot recognise internally generated intangible assets. Adjusting for amortisation provides a more consistent basis for comparison between the two; share-based payments – this expense is considered to be relatively volatile and not fully reflective of the current period trading, as the performance criteria are based on EPS performance over a three-year period and include estimates of future performance; and exceptional items – these are items which due to either their size or their nature are excluded, to improve the understanding of the Group's underlying performance.
Adjusted operating profit inc JVs	Including adjusted operating profit from JV and associate results. See reconciliation below.	
Adjusted operating profit inc JVs exc gene editing costs	Including adjusted operating profit from JV and associate results but excluding gene editing costs. See reconciliation below.	
Adjusted operating profit inc JVs after tax	Adjusted operating profit including JV less adjusted effective tax. See reconciliation below.	
Adjusted profit inc JVs before tax	Adjusted operating profit including JVs less net finance costs. See reconciliation below.	
Adjusted profit inc JVs after tax	Adjusted profit including JVs before tax less adjusted effective tax. See reconciliation below.	
Adjusted effective tax rate	Total income tax charge for the Group excluding the tax impact of adjusting items, divided by the adjusted operating profit. *Closest equivalent IFRS measure: Effective tax rate* See reconciliation below.	Provides an underlying tax rate to allow comparability of underlying financial performance, by excluding the impacts of net IAS 41 valuation movement on biological assets, amortisation of acquired intangible assets, share-based payment expense and exceptional items.
Adjusted basic earnings per share	Adjusted profit after tax profit divided by the weighted basic average number of shares. *Closest equivalent IFRS measure: Earnings per share* See calculation below.	On a per share basis, this allows the comparability of underlying financial performance by excluding the impacts of adjusting items.
Adjusted diluted earnings per share	Underlying attributable profit divided by the diluted weighted basic average number of shares. *Closest equivalent IFRS measure: Diluted earnings per share*	

Alternative Performance Measures	Calculation methodology and closest equivalent IFRS measure (where applicable)	Reasons why we believe the APMs are useful
	See calculation below.	
Adjusted earnings cover	Adjusted earnings per share divided by the expected dividend for the year. See calculation below.	The Board dividend policy targets the adjusted earning cover to be between 2.5–3 times.
Adjusted EBITDA – calculated in accordance with the definitions used in our financing facilities	This is adjusted operating profit, adding back cash received from our JVs, depreciation of property, plant and equipment, depreciation of the historical cost of biological assets, operational amortisation (i.e. excluding amortisation of acquired intangibles) and deducting the amount attributable to minority interest. *Closest equivalent IFRS measure: Operating profit*[1] See reconciliation below.	This APM is presented because it is used in calculating our ratio of net debt to EBITDA and our interest cover, which we report to our banks to ensure compliance with our bank covenants.
Adjusted operating margin	Adjusted operating profit (including JVs) divided by revenue.	Allows for the comparability of underlying financial performance by excluding the impacts of exceptional items.
Adjusted operating margin (exc JVs)	Adjusted operating profit divided by revenue.	
Constant currency basis	The Group reports certain financial measures, on both a reported and constant currency basis and retranslates the current year's results at the average actual exchange rates used in the previous financial year.	The Group's business operates in multiple countries worldwide and its trading results are translated back into the Group's functional currency of Sterling. This measure eliminates the effects of exchange rate fluctuations when comparing year-on-year reported results.
Revenue excluding Genus PIC China	Revenue made by excluding revenue made by Genus PIC China. See reconciliation below.	Allows for the comparison of the financial performance of Genus PIC by excluding the results of Genus PIC China, which has been impacted by volatile and challenging market conditions.
Adjusted operating profit inc JVs for Genus PIC and exc PIC China	Adjusted operating profit including JVs for Genus PIC excluding adjusted operating profit including JVs made by Genus PIC China . See reconciliation below.	
Adjusted Profit before tax exc PIC China	Adjusted profit before tax excluding PIC China. See reconciliation below.	Allows for the comparison of underlying financial performance of Genus by excluding Genus PIC China.

Balance Sheet measures

Net debt	Net debt is gross debt, made up of unsecured bank loans and overdrafts and obligations under finance leases, with a deduction for cash and cash equivalents. See reconciliation below.	This allows the Group to monitor its levels of debt.
Net debt – calculated in accordance with the definitions used in our financing facilities	Net debt excluding the impact of adopting IFRS 16 and adding back guarantees and deferred purchase arrangements. See reconciliation below.	This is a key metric that we report to our banks to ensure compliance with our bank covenants.

Cash flow measures

Cash conversion	Cash generated by operations as a percentage of adjusted operating profit excluding JVs. See calculation below.	This is used to measure how much operating cash flow we are generating and how efficient we are at converting our operating profit into cash.
Free cash flow	Cash generated by the Group before debt repayments, acquisitions and investments, dividends and proceeds from share issues. *Closest IFRS measure: Net cash flow from operating activities* See reconciliation below.	Shows the cash retained by the Group in the year.

Other measures

Interest cover	The ratio of adjusted net finance costs, calculated in accordance with the definitions used in our financing facilities, is net finance costs with a deduction for pension interest, interest from adopting IFRS 16, unwinding of discount on put options and amortisation of refinancing fees, to adjusted EBITDA. *Closest equivalent IFRS components for the ratio: The equivalent IFRS components are finance costs, finance income and operating profit* See calculation and reconciliation below.	This APM is used to understand our ability to meet our interest payments and is also a key metric that we report to our banks to ensure compliance with our bank covenants.
Ratio of net debt to adjusted EBITDA	The ratio of net debt, calculated in accordance with the definitions used in our financing facilities, is gross debt, made up of unsecured bank loans and overdrafts and obligations under finance leases, with a deduction for cash and cash equivalents and adding back amounts related to guarantees and deferred purchase arrangements, to adjusted EBITDA.	This APM is used as a measurement of our leverage and is also a key metric that we report to our banks to ensure compliance with our bank covenants.

Alternative Performance Measures	Calculation methodology and closest equivalent IFRS measure (where applicable)	Reasons why we believe the APMs are useful
	Closest equivalent IFRS components for the ratio: The equivalent IFRS components are gross debt, cash and cash equivalents and operating profit See calculation below.	
Return on adjusted invested capital	The Group's return on adjusted invested capital is measured on the basis of adjusted operating profit including JVs after tax, which is operating profit with the pre-tax share of profits from JVs and associates, net IAS 41 valuation movement on biological assets, amortisation of acquired intangible assets, share-based payment expense and exceptional items added back, net of amounts attributable to non-controlling interest and tax. The adjusted operating profit including JVs after tax is divided by adjusted invested capital, which is the equity attributable to owners of the Company adding back net debt, pension liability net of related deferred tax and deducting biological assets (less historical cost) and goodwill, net of related deferred tax. *Closest equivalent IFRS components for the ratio: Return on invested capital* See calculation and reconciliation below.	This APM is used to measure our ability to efficiently invest our capital and gives us a sense of how well we are using our resources to generate returns.

1 Operating profit is not defined per IFRS. It is presented in the Group Income Statement and is shown as profit before tax, finance income/costs and share of post-tax profit of JVs and associates retained.

THE TABLES BELOW RECONCILE THE CLOSEST EQUIVALENT IFRS MEASURE TO THE APM OR OUTLINE THE CALCULATION OF THE APM

INCOME STATEMENT MEASURES

Adjusted operating profit exc JVs
Adjusted operating profit inc JVs
Adjusted operating profit inc JVs and exc gene editing costs

	2022		2021		
	£m	£m	£m	£m	Reference
Operating profit		**49.4**		**47.7**	Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	5.4		10.8		Group Income Statement
Amortisation of acquired intangible assets	8.3		7.4		Group Income Statement
Share-based payment expense	3.7		7.7		Group Income Statement
Exceptional items	2.0		3.3		Group Income Statement
Adjusted operating profit exc JVs		**68.8**		**76.9**	Group Income Statement
Less: amounts attributable to non-controlling interest		(0.3)		(0.1)	Group Income Statement
Operating profit from JVs and associates	5.2		13.1		Group Income Statement
Tax on JVs and associates	2.6		3.0		Note 6 – Income tax expense
Net IAS 41 valuation movement	1.4		(3.1)		No direct reference
Adjusted operating profit from JVs		9.2		13.0	
Adjusted operating profit inc JVs		**77.7**		**89.8**	
Gene editing costs		7.9		7.6	Note 3 – Segmental information
Adjusted operating profit inc JVs and exc gene editing costs		**85.6**		**97.4**	

Adjusted operating profit inc JVs after tax

	2022		2021		
		£m		£m	Reference
Adjusted operating profit inc JVs		**77.7**		**89.8**	See APM
Effective tax rate	**24.3%**		22.5%		Note 7 – Earnings per share
Adjusted tax		(18.9)		(20.2)	No direct reference
Adjusted operating profit inc JVs after tax		**58.8**		**69.6**	

Adjusted profit inc JVs before tax
Adjusted profit inc JVs after tax

	2022	2021	
	£m	£m	Reference
Adjusted operating profit inc JVs	**77.7**	**89.8**	See APM
Less net finance costs	(6.2)	(5.0)	Note 5 – Net finance costs
Adjusted profit inc JVs before tax	**71.5**	**84.8**	
Adjusted tax	(17.4)	(19.1)	Note 7 – Earnings per share
Adjusted profit inc JVs after tax	**54.1**	**65.7**	

Adjusted effective tax £m/rate

	2022		2021		
	£m	%	£m	%	Reference
Adjusted effective tax £m/rate	**17.4**	**24.3**	**19.1**	**22.5**	Note 7 – Earnings per share
Exceptional items	(0.8)	(40.0)	(1.1)	(33.3)	No direct reference
Share-based payment expense	(0.5)	(13.5)	(1.6)	(20.8)	No direct reference
Amortisation of acquired intangible assets	(3.3)	(39.8)	(1.5)	(20.3)	No direct reference
Net IAS 41 valuation movement on biological assets	1.5	27.8	(2.9)	(26.9)	No direct reference
Effective tax £m/rate	**14.3**	**28.0**	**12.0**	**20.4**	Note 6 – Taxation and deferred taxation

Adjusted basic earnings per share

	2022	2021	Reference
Adjusted profit inc JVs after tax (£m)	**54.1**	**65.7**	See APM
Weighted average number of ordinary shares (000s)	65.395	65.108	Note 7 – Earnings per share
Adjusted basic earnings per share (pence)	**82.7**	**100.9**	

Adjusted diluted earnings per share

	2022	2021	Reference
Adjusted profit inc JVs after tax (£m)	**54.1**	**65.7**	See APM
Weighted average number of diluted ordinary shares (000s)	65.714	65.662	Note 7 – Earnings per share
Adjusted diluted earnings per share (pence)	**82.3**	**100.1**	

Adjusted earnings cover

	2022		2021		
	pence	Times	pence	times	Reference
Adjusted earnings per share	**82.7**		**100.9**		See APM
Dividend for the year	**32.0**		**32.0**		Note 8 – Dividends
Adjusted earnings cover		**2.6**		**3.2**	

Adjusted EBITDA – as calculated under our financing facilities

	2022		2021		
	£m	£m	£m	£m	Reference
Operating profit		**49.4**		**47.7**	Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	5.4		10.8		Group Income Statement
Amortisation of acquired intangible assets	8.3		7.4		Group Income Statement
Share-based payment expense	3.7		7.7		Group Income Statement
Exceptional items	2.0		3.3		Group Income Statement
Adjusted operating profit exc JVs	68.8		76.9		Group Income Statement
Adjust for:					
Cash received from JVs (dividend and loan repayment)	3.2		4.1		Group Statement of Cash Flows
Depreciation: property, plant and equipment	26.4		24.0		Note 11 – Property, plant and equipment
Operational lease payments	(12.4)		(12.5)		No direct reference
Depreciation: historical cost of biological assets	10.7		10.0		See Financial Review
Amortisation and impairment (excluding separately identifiable acquired intangible assets)	4.3		3.7		Note 9 – Intangible assets
Less amounts attributable to non-controlling interest	(0.3)		(0.1)		Group Income Statement
Adjusted EBITDA – as calculated under our financing facilities		**100.7**		**106.1**	

Revenue excluding Genus PIC China

	30 June 2022		30 June 2021		
	£m	£m	£m	£m	Reference
Revenue	**593.4**		574.3		Note 3 – Segmental information
Less revenue in Genus PIC China	**(29.9)**		(55.0)		No direct reference
Revenue excluding Genus PIC China		**563.5**		519.3	

PIC Adjusted operating profit inc JVs and exc PIC China

	30 June 2022		30 June 2021		
	£m	£m	£m	£m	Reference
Adjusted operating profit in Genus PIC	**112.3**		122.9		Note 3 – Segmental information
Adjusted operating profit from PIC JV's and associates	**9.1**		13.2		No direct reference
Less amounts attributable to non-controlling interest	**(0.2)**		(0.2)		No direct reference
Adjusted operating profit inc JVs		**121.2**		135.9	
Less: PIC China adjusted operating profit inc JVs		**(5.6)**		(33.4)	No direct reference
PIC Adjusted operating profit inc JVs exc PIC China		**115.6**		102.5	

Adjusted Profit before tax exc PIC China

	30 June 2022		30 June 2021		
	£m	£m	£m	£m	Reference
Adjusted profit before tax		**71.5**		84.8	Group Income statement
Less adjusted profit before tax in Genus PIC China		**(5.6)**		(33.4)	No direct reference
Adjusted profit before tax exc PIC China		**65.9**		51.4	

BALANCE SHEET MEASURES

Net debt

Net debt as calculated under our financing facilities

	2022		2021		
	£m	£m	£m	£m	Reference
Current unsecured bank loans and overdrafts	7.1		13.9		
Non-current unsecured bank loans and overdrafts	182.1		109.4		
Unsecured bank loans and overdrafts		189.2		123.3	Group Balance Sheet
Current obligations under finance leases	10.1		9.0		
Non-current obligations under finance leases	24.5		19.3		
Obligations under finance leases		34.6		28.3	Group Balance Sheet
Total debt financing		223.8		151.6	Note 15 – Notes to the cash flow statement
Deduct:					
Cash and cash equivalents		(38.8)		(46.0)	Group Balance Sheet
Net debt		**185.0**		**105.6**	
Deduct:					
Lower of obligations under finance leases or £30m		(30.0)		(28.3)	
Add back:					
Guarantees		20.2		19.1	Note 16 – Contingencies and bank guarantees
Deferred purchase arrangements		–		0.1	No direct reference
Net debt – as calculated under our financing facilities		**175.2**		**96.5**	

CASH FLOW MEASURES

Cash conversion

	2022		2021		
	£m	£m	£m	£m	Reference
Cash generated by operations		**56.6**		**86.6**	Note 15 – Notes to the cash flow statement
Operating profit	49.4		47.7		Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	5.4		10.8		Group Income Statement
Amortisation of acquired intangible assets	8.3		7.4		Group Income Statement
Share-based payment expense	3.7		7.7		Group Income Statement
Exceptional items	2.0		3.3		Group Income Statement
Adjusted operating profit exc JVs		**68.8**		**76.9**	Group Income Statement
Cash conversion (%)		**82%**		**113%**	

Free cash flow

	2022		2021		
	£m	£m	£m	£m	Reference
Cash generated by operations		**56.6**		**86.6**	Note 15 – Notes to cash flow statement
Net interest and tax paid		(22.3)		(19.1)	Note 15 – Notes to cash flow statement
Capital expenditure		(50.9)		(33.8)	Group Statement of Cash Flows
Dividends received from JV and associates		3.2		4.1	Group Statement of Cash Flows
Joint venture and associate loan (payment)/repayment		–		(0.4)	Group Statement of Cash Flows
Proceeds from sale of property, plant and equipment		–		0.3	Group Statement of Cash Flows
Dividend to non-controlling interest		(0.1)		(0.2)	Group Statement of Cash Flows
Free cash flow		**(13.5)**		**37.5**	

OTHER MEASURES

Interest cover

	2022		2021		
	£m	Times	£m	Times	Reference
Finance costs	6.6		5.4		Group Income Statement
Finance income	(0.4)		(0.4)		Group Income Statement
Net finance costs	6.2		5.0		Note 5 – Net finance costs
Deduct:					
Pension interest	(0.2)		(0.3)		Note 5 – Net finance costs
Interest on lease liabilities	(1.1)		(0.8)		Note 5 – Net finance costs
Unwinding discount on put options	(0.2)		(0.6)		Note 5 – Net finance costs
Amortisation of refinancing fees	(0.9)		(0.9)		Note 5 – Net finance costs
Adjusted net finance costs	**3.8**		**2.4**		
Adjusted EBITDA – as calculated under our financing facilities	**100.7**		**106.1**		See APM
Interest cover		**27**		**45**	

Ratio of net debt to adjusted EBITDA

	2022		2021		
	£m	Times	£m	Times	Reference
Net debt – as calculated under our financing facilities	**175.2**		**96.5**		See APM
Adjusted EBITDA – as calculated under our financing facilities	**100.7**		**106.1**		See APM
Ratio of net debt to EBITDA		**1.7**		**0.9**	

Return on adjusted invested capital

	2022		2021		
	£m	%	£m	%	Reference
Adjusted operating profit inc JVs after tax	**58.8**		**69.6**		See APM
Equity attributable to owners of the Company	578.5		498.1		Group Balance Sheet
Add back:					
Net debt	185.0		105.6		Note 15 – Notes to the cash flow statement
Pension liability	8.3		11.1		Group Balance Sheet
Related deferred tax	(1.3)		(2.1)		No direct reference
Adjust for:					
Biological assets – carrying value	(366.8)		(319.5)		Note 10 – Biological assets
Biological assets' harvest classed as inventories	(20.9)		(17.8)		No direct reference
Biological assets – historic cost	77.2		65.1		See Financial Review
Goodwill	(111.0)		(101.5)		Group Balance Sheet
Related deferred tax	73.0		63.7		No direct reference
Adjusted invested capital	**422.0**		**302.7**		
Return on adjusted invested capital		**13.9%**		**23.0%**	

Return on invested capital

	2022		2021		
	£m	%	£m	%	Reference
Return on adjusted invested capital		**13.9%**		**23.0%**	see APM
Adjusted operating profit inc JVs after tax	58.8		69.6		see APM
Tax rate	18.9	24.3%	20.2	22.5%	Note 7 – Earnings per share
Adjusted operating profit inc JVs	77.7		89.8		Group Income Statement
Adjusted operating profit attributable to non-controlling interest	0.3		0.1		Group Income Statement
Pre-tax share of profits from JVs exc net IAS 41 valuation movement	(9.2)		(13.0)		Group Income Statement
Adjusted operating profit exc JVs	68.8		76.9		Group Income Statement
Fair value movement on biological assets	(5.4)		(10.8)		Group Income Statement
Amortisation of acquired intangibles	(8.3)		(7.4)		Group Income Statement
Share-based payment expense	(3.7)		(7.7)		Group Income Statement
Exceptional items	(2.0)		(3.3)		Group Income Statement
Share of post-tax profit of JVs	5.2		13.1		Group Income Statement
Finance costs	(6.2)		(5.0)		Group Income Statement
Profit before tax	48.4		55.8		Group Income Statement
Tax	(11.7)		(9.0)		Group Income Statement
Profit	**36.7**		**46.8**		Group Income Statement
Equity attributable to owners of the Company	**578.5**		**498.1**		Group Balance Sheet
Return on invested capital		**6.3%**		**9.4%**	