



Immediate release

7 September 2023

Genus plc
Preliminary results for the year ended 30 June 2023
SOLID PERFORMANCE AND GOOD STRATEGIC PROGRESS

Year ended 30 June	Adjusted results ¹				Statutory results		
	Actual currency			Constant currency change ²	Actual currency		
	2023	2022	Change		2023	2022	Change
	£m	£m	%	%	£m	£m	%
Revenue	689.7	593.4	16	10	689.7	593.4	16
Operating profit	74.6	68.8	8	2	40.5	49.4	(18)
Operating profit inc JVs	85.8	77.7	10	3	n/a	n/a	n/a
Operating profit inc JVs exc gene editing	100.1	85.6	17	9	n/a	n/a	n/a
Profit before tax	71.5	71.5	-	(8)	39.4	48.4	(19)
Free cash flow	18.2	(13.5)	n/a	n/a			
Basic earnings per share (pence)	84.8	82.7	3	(5)	50.8	62.5	(19)
Dividend per share (pence)					32.0	32.0	-

Solid Group performance

- Group revenue rose by 10% in constant currency (16% in actual currency)
- Adjusted operating profit including joint ventures up 3% in constant currency (10% in actual currency)
- R&D investment increased by 19%² as planned, including a 66%² rise in gene editing expense in preparation for the anticipated commercialisation of pigs resistant to porcine reproductive and respiratory syndrome virus (PRRSv) which continues to make excellent progress
- Adjusted profit before tax (PBT) flat in actual currency (8% lower in constant currency), with net finance costs up 124%²
- Statutory PBT reduced by 19% to £39.4m, with a £16.9m reduction in the non-cash fair value IAS41 valuation of the Group's biological assets

Record PIC performance, profit growth achieved in all regions

- Strong demand for PIC's differentiated genetics drove a 5% increase in volumes, revenue up 7%² and strategically important royalty revenue growth across all regions, up 10%²
- Adjusted operating profit including joint ventures increased by 11%², as the business continued to expand and strengthen commercial relationships with producers around the world
- The performance was driven by strong profit growth in North America, Latin America and Asia. Good growth in Europe, with improved performance in the second half
- Performance in China was affected by ongoing market volatility, particularly in the second half of the year. Volumes were 1% lower in the year, with revenue stable. Royalty revenue was up 26%² and adjusted operating profit was £9.4m (2022: £5.6m, impacted by a £4m customer credit)

Solid ABS performance, profit growth achieved in all regions other than Latin America, which was stable

- Volumes up 3%, revenue up 12%² supported by robust price increases
- Adjusted operating profit up 5%, after a stronger second half. Expansion of long-term partnerships with strategic accounts, underpinned by Sexcel and NuEra beef genetics, drove strong profit growth in North America and good growth in Europe
- Latin America profits stable, despite challenging market conditions, particularly in Brazil where macroeconomic conditions continued to impact beef supply and demand dynamics
- Sexed genetics volumes up 18%; strong growth in volumes of Sexcel and third-party IntelliGen production

Good cash flow, debt leverage reduced and dividend maintained

- Free cash inflow¹ of £18.2m (2022: £13.5m outflow), reflecting record high adjusted EBITDA¹, lower working capital outflows and lower capital expenditure. Strong cash conversion of 105%¹ (2022: 82%) above target level of 90%
- Net debt to EBITDA ratio improved to 1.6x¹ (2022: 1.7x); within the 1.0x-2.0x target range. Net debt¹ of £195.8m (2022: £185.0m) as expected
- Adjusted earnings per share rose 3% in actual currency, full year dividend maintained at 32.0p per share, with 2.7x¹ adjusted earnings cover, comfortably within the 2.5x-3.0x target range

Good strategic progress and continued investment for growth

- Genus's PRRSv-resistant pigs programme continued to make excellent progress, with submissions to the US Food and Drug Administration (FDA) completed ahead of schedule and approval expected in the first half of 2024. We are making regulatory progress in Colombia, Brazil and also China, where we have obtained consent for import of PRRSv-resistant pigs for in-country assessment
- PIC's new world-class elite farms in Canada, Brazil and China well positioned to capture future growth opportunities
- GenusOne successfully deployed throughout the majority of Europe in the year; implementation underway in LATAM
- Strong progress in reducing CO2 emissions; primary intensity ratio reduced by 36% and Scope 1 and 2 emissions reduced by 14% compared to our 2019 baseline

Commenting on the performance and outlook, Jorgen Kokke, Chief Executive Officer, said:

"The Group achieved a strong operational performance despite ongoing challenging market conditions for producers in several important markets. Revenues grew in all regions and both PIC and ABS delivered profit growth. This also enabled us to deliver record adjusted EBITDA and good cashflow for the Group. Growth in R&D investments, primarily due to the strategically important gene editing work and expansion of PIC's elite farms, as well as higher interest costs, resulted in adjusted profit before tax consistent with the prior year.

"PIC's performance was particularly impressive, achieving a record adjusted operating profit for the year. Whilst PIC China had a more challenging second half, this was offset by the strong performance in the rest of the world. Our focus is on ensuring that PIC China can offer the best genetics and customer service in the market, underpinned by royalty contracts where we share in our customers' success and build a predictable business. Population of PIC's new world-class elite farms in Canada, Brazil and China positions the business very well to capture future growth opportunities, including commercialising PRRSv-resistant edited pigs.

"The PRRSv-resistant pig programme is reaching an exciting stage, having completed our submissions to the FDA ahead of schedule. Approval is expected in the first half of 2024. We are also progressing the approvals for other markets, including China where we now have consent to import PRRSv-resistant pigs for in-country assessment.

"ABS saw trading improve in the second half and it continued to expand business with strategic accounts, by continuing to build long-term partnerships and offering the leading combination of Sexcel and NuEra beef genetics. This, along with robust price increases to counter inflation, enabled ABS to achieve good performances across most regions, countering the weakness in the Brazilian market, where nevertheless we increased market share.

"In fiscal year 2024 we expect to perform in line with our medium-term growth expectations in constant currency. Based on the recent strengthening of sterling against certain key currencies and higher interest rates in the current year, we expect modest growth in adjusted profit before tax in actual currency. The Board remains confident in the Group's strategy and the many opportunities for Genus."

Results presentation today

A pre-recorded investors, analysts and bankers briefing to discuss the preliminary results for the year ended 30 June 2023 will be accessible via the following link from 7:01am UK time today:

<https://stream.buchanan.uk.com/broadcast/64d23b9607eccc4a190b942c>

This will be followed by a live Q&A session by invitation. Those unable to attend in person can also join via Zoom at 10:30am UK time. Please contact Verity Parker at Buchanan for details: verity.parker@buchanancomms.co.uk

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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 statutory measures, and not as a substitute for or as superior to them. For more information on APMs, see the APM Glossary.

² Constant currency percentage movements are calculated by representing the results for the year ended 30 June 2023 at the average exchange rates applied to adjusted operating profit for the year ended 30 June 2022.

³ The primary intensity ratio is a measure of the Group's Scope 1 and 2 emissions per tonne of animal weight

Chief Executive Officer's Review

I am pleased to be reporting to you for the first time as CEO of Genus. Since joining the Company in May this year, I have been deeply impressed by what I have seen, including the strong competitive position of our businesses, the depth of the Group's talent, its cutting-edge science and the quality of investment in the Group's facilities. It is very clear to me that Genus has a significant growth opportunity ahead of it and I am looking forward to progressing our growth strategy in the years to come.

In the year to 30 June 2023, the Group faced challenging conditions in several markets, notably for PIC China and ABS Brazil. Nevertheless, PIC and ABS achieved geographically broad-based profit growth, enabling the Group to deliver solid results, and we have continued to invest in the growth drivers of our business, positioning ourselves for sustainable success.

Group Performance

Revenue for the year was £689.7m, up 16% (10% in constant currency), with adjusted profit before tax stable at £71.5m (-8% in constant currency), reflecting investment in our gene editing programme and higher interest costs.

PIC's global volumes were up 5% and revenue rose by 7% in constant currency, with strategically important royalty revenue up 10%. Adjusted operating profit (including joint ventures) was 11% higher in constant currency. The North and Latin America businesses continued to perform strongly, while the European business saw an improvement in trading in the second half of the year, after being affected by difficult market conditions in some countries in the first six months.

PIC China saw a significant swing in its performance during the year, as the market recovery in the first half stalled. The market was weak from December 2022, reflecting high supply of slaughter pigs due to ASF and weak consumer demand. As a result, pig prices fell to a point where producers were unprofitable, with many delaying rebuilding their sow herds. After an operating profit of £8.8m in the first half, PIC China had only a modest profit in the second half of the year. We remain confident that our investments in PIC China give us a strong platform to capture the growth opportunities in China and build a strong predictable royalty-based business, including commercialising PRRSv-resistant pigs.

ABS saw trading improve as the year progressed. Volumes increased by 3%, revenue was 12% higher in constant currency and adjusted operating profit grew by 5%. The North American business had a strong year and Europe delivered good growth, although in Latin America, market conditions remained challenging in Brazil, particularly in the first half. Volumes in ABS continued to benefit from take-up of sexed genetics.

Strategic Progress

Our PRRSv-resistant pig programme is reaching an exciting stage, as we have continued to deliver important milestones. During the year we finished the final regulatory animal studies and since the year end we have completed our submissions to the FDA. We expect the FDA's approval in the first half of 2024. In preparation for commercialising our gene-edited animals, we continue to engage with customers and industry participants, and are seeing high interest. In China, the regulatory environment is developing, with the publication of regulations on gene-edited animals, and we also gained consent to import PRRSv-resistant pigs to China, for in-country regulatory assessment. We also made progress towards obtaining regulatory approval in Colombia and Brazil.

In addition to PRRSv, we have active research programmes using gene editing to produce animals resistant to other diseases. Elsewhere in our R&D programme, we have seen encouraging progress in reproductive biology and have further enhanced our IntelliGen capabilities and technology, to deliver continuous improvement and efficiency gains.

After a peak year of investment in the 2022 fiscal year, we have invested further to complete multi-year investments in our facilities and systems. In the porcine business, our Atlas facility in Canada came into operation in the year, Granja Genesis in Brazil was stocked and we have started stocking Ankang in China. We used the opportunity of the new capacity in North America to temporarily destock the Aurora farm to enable facility and health upgrades to be made, which will further strengthen our porcine supply capability. We have continued to build out ABS's facilities in Leeds, Wisconsin. We have also completed the majority of the rollout of GenusOne in Europe, with Latin America and Asia to follow. The system is already giving us much greater visibility of performance in the countries where we are using it, giving us access to data we did not have before, identifying further opportunities within the business.

Sustainability

We made further progress with our sustainability agenda as we continued to work through our plan, delivering real reductions in our carbon footprint. In the year our scope 1 and 2 carbon footprint reduced by 5% and since 2019 has reduced by 14%, while continuing to grow our business, resulting in a 36% improvement in our primary intensity ratio over this period, ahead of our original target. At the same time, we see sustainability as a business opportunity, as our customers look to use genetics to reduce emissions from their herds. Genus recently received a grant of £3m from Innovate UK to further our work on Climate-Smart Genetics in beef, which is a validation of the work we have been doing to show that genetics can make an important difference. In addition, we are working in collaboration with the Gates Foundation and other partners to improve dairy genetics in East Africa.

People

As previously announced, my predecessor Stephen Wilson will retire from Genus at the end of September 2023. We have been working closely together on the transition and I thank him for his support and his significant contribution to the Group during his decade on the Board.

Dr Bill Christianson has also retired as Chief Operating Officer of Genus PIC. He joined our porcine business 30 years ago and has been instrumental in its success. We were delighted to fill this key position internally and I look forward to working with Dr Matt Culbertson, previously Global Product Development and Technical Services Director, who was the outstanding candidate for the role.

Genus employs highly talented people at all levels of the business and around the world, and I thank them all on the Board's behalf for their contribution this year. We continue to invest in learning and development, strengthen our approach to diversity and inclusion and enable our people to share in the Group's success through a new employee share scheme.

Outlook

Genus achieved a strong adjusted operating profit performance in fiscal year 2023, despite challenging conditions for our customers in several parts of the world. Over a five-year period we have delivered performance in line with our stated medium term objective of a 10% CAGR in adjusted operating profit excluding gene editing, in constant currency. We remain confident that Genus is well placed to continue gaining market share through our world class team, market leading genetics, global supply chain and pioneering technology.

We have a clear focus on continuing to drive growth through leveraging the significant investments the Group has made in recent years. The PRRSv-resistant pig represents the most substantial opportunity in the medium term with FDA approval expected in the first half of 2024, having completed our submissions ahead of schedule.

We anticipate that the China porcine market will continue to be volatile, reflecting continued disease outbreaks, a less consolidated industry structure and weak consumer demand. We remain confident PIC China will be a resilient

growth business over the medium-term through offering the best genetics, customer service and increasing the penetration of our royalty-based model.

In fiscal year 2024 we expect to continue to perform in line with our expectations for adjusted operating profit excluding gene editing, in constant currency. However, the recent strengthening of the pound sterling relative to several of our key trading currencies is currently anticipated to lead to a currency translation headwind of approximately £5-6m in the year. In addition, we expect finance costs to increase by approximately £2m as a result of the higher interest rate environment. The Board therefore expects modest growth in adjusted profit before tax in actual currency for fiscal year 2024.

The Board remains confident in the Group's strategy and our medium-term growth expectations remain unchanged.

Financial and Operating Review

Financial Review

In the year ended 30 June 2023, the Group achieved revenue growth of 16% in actual currency (10% in constant currency). Adjusted operating profit including joint ventures was up 10% (3% in constant currency), reflecting good profit growth across our businesses, and was 17% higher (9% in constant currency) before gene editing costs. R&D investment increased by 29% (19% in constant currency), as planned, due to an increase in gene editing costs as we move closer to commercialisation of the PRRSv-resistant pig and higher porcine product development costs, primarily due to the start of operations at our Atlas facility in Canada.

On a statutory basis, profit before tax was £39.4m (2022: £48.4m). The difference between the movement in statutory and adjusted profit before tax was mainly due to a reduction in the non-cash fair value of IAS 41 porcine biological assets, and a higher share-based payment charge. Basic earnings per share on a statutory basis were 50.8 pence (2022: 62.5 pence).

Adjusted profit before tax remained at £71.5m (down 8% in constant currency), with the improved trading performance being offset by higher interest expense, which increased from £6.2m to £14.3m (up 124% 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 £5.4m compared with 2022, primarily due to the strength of the Brazilian Real and Mexican Peso against Sterling during the year. 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 2023 at the average exchange rates applied to adjusted operating profit for the year ended 30 June 2022.

Revenue

Revenue increased by 16% (10% in constant currency) to £689.7m (2022: £593.4m). PIC's revenue rose by 14% (7% in constant currency) with growth across all regions and a double-digit increase in strategically important royalty revenue. In ABS, revenue was up 17% (12% in constant currency), reflecting the continuing success of Genus's sexed genetics and NuEra beef genetics as well as the implementation of robust prices increases to offset the effects of cost inflation.

Adjusted Operating Profit Including JVs

Year ended 30 June	Actual currency			Constant currency change
	2023	2022	Change	
	£m	£m	%	%
Adjusted Profit Before Tax¹				
Genus PIC	145.3	121.2	20	11
Genus ABS	43.6	40.5	8	5
R&D	(86.3)	(67.1)	(29)	(19)
Central costs	(16.8)	(16.9)	1	1
Adjusted operating profit inc JVs	85.8	77.7	10	3
Net finance costs	(14.3)	(6.2)	(131)	(124)
Adjusted profit before tax	71.5	71.5	0	(8)

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 £85.8m (2022: £77.7m), 3% higher in constant currency. The Group's share of adjusted joint venture operating profit, primarily from our Brazilian joint venture with Agroceres, was higher at £10.8m (2022: £9.2m).

Gene editing investment, which is primarily focused on the PRRSv-resistant pig programme, increased to £14.3m (2022: £7.9m) as planned. This enabled us to continue expanding our population of gene-edited animals and increase preparation for commercialisation. Adjusted operating profit including joint ventures and excluding gene editing investment was £100.1m (2022: £85.6m), 9% higher in constant currency. Over the last five years, our

compound annual growth rate in this profit measure remains at 10% in constant currency, in line with our medium-term objective.

PIC's performance was a record level, with adjusted operating profit including joint ventures up 11% in constant currency. Volumes were up by 5% and strategically important royalty revenue was up 10%, with increases across all regions.

ABS's volumes rose by 3% and adjusted operating profit also rose by 5%. Demand for Sexcel, our proprietary bovine sexed product, continued to increase, as well as our IntelliGen third party sexed processing, supporting an 18% rise in sexed volumes and further growth in our proprietary NuEra beef genetics. There was adjusted operating profit growth across most regions, with North America increasing adjusted operating profit by 17% in constant currency. Latin America's profits were stable, despite the region continuing to suffer from challenging market conditions. Europe's adjusted operating profit grew by 7%, due to growth across most countries, and in Asia adjusted operating profit was 4% higher, due to growth in our India IntelliGen business.

Central costs were stable, at £16.8m (2022: £16.9m) in constant currency, primarily due to prudent cost management.

Statutory Profit Before Tax

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

	2023	2022
	£m	£m
Adjusted Profit Before Tax	71.5	71.5
Operating profit attributable to non-controlling interest	(0.4)	0.3
Net IAS 41 valuation movement on biological assets in JVs and associates	3.6	(1.4)
Tax on JVs and associates	(3.9)	(2.6)
Adjusting items:		
Net IAS 41 valuation movement on biological assets	(16.9)	(5.4)
Amortisation of acquired intangible assets	(7.7)	(8.3)
Share-based payment expense	(6.0)	(3.7)
Other gains and losses	2.7	-
Exceptional items	(3.5)	(2.0)
Statutory Profit Before Tax	39.4	48.4

Statutory profit before tax was £39.4m (2022: £48.4m), with improved trading performance being offset by higher interest expense, a higher non-cash fair value net charge for IAS 41 biological asset movement, higher share-based payment expenses and higher net exceptional items. Within this, there was a £24.9m reduction (2022: £24.5m uplift) in porcine biological assets, primarily due to the temporary destocking of the Aurora farm in Canada to complete a facility and health upgrade, and a £8.0m uplift (2022: £29.9m reduction) in bovine biological assets, due to certain fair value model estimate changes. Share-based payment expense was £6.0m (2022: £3.7m). 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 £3.5m net exceptional expense in the year (2022: £2.0m net expense), which included legal fees of £5.4m (2022: £1.4m) primarily related to Genus ABS's ongoing litigation with STgenetics and a £0.9m credit for a part that was settled during the year. It also included a £1.7m credit relating to an in-year sale of our Canadian ABS facilities, following the prior year ABS production restructuring.

The prior year benefited from a £3.3m credit relating to a non-refundable cash receipt related to a legacy legal claim in Brazil, £2.8m of restructuring expense principally related to the closure of ABS supply chain barns in Canada and £0.5m of one-time costs to resolve an IT security incident.

Net Finance Costs

Net finance costs increased to £14.3m (2022: £6.2m), primarily due to interest rate rises during the year. Average interest rates more than doubled to 4.94% (2022: 2.27%), raising the cost of like-for-like borrowings by £4.6m. Average borrowings increased by 30% to £226.9m (2022: £173.9m), primarily due to the cash investments in the prior period on supply chain capacity and the acquisition of Olymel's AlphaGene programme, resulting in a further £2.6m increase in interest costs in this year. The interest rate increases were partially mitigated by the company's fixed interest cover, which reduced the impact of rate increases by around £1.0m.

Amortisation costs in the year were £1.1m (2022: £0.9m) and within other interest there was IFRS 16 finance lease interest of £1.2m (2022: £1.1m) and both a discount interest unwind on the Group's pension liabilities and put options totalling £0.5m (2022: £0.4m). Foreign interest in the year was an expense of £0.2m (2022: £0.3m income).

Taxation

The statutory profit tax charge for the period, including share of income tax of equity accounted investees, of £11.5m (June 22: £14.3m) represents an effective tax rate (ETR) of 26.6% (June 22: 28.0%). The reduction in the statutory ETR of 1.4 points results from the recognition of additional deferred tax assets, net of increased UK and foreign tax rates, as explained further below.

The adjusted profit tax charge for the year of £15.9m (June 22: £17.4m) represents an ETR on adjusted profits of 22.2% (June 22: 24.3%), a reduction of 2.1 points. Of this, a decrease of 6.2 points is due to the recognition of deferred tax assets for brought forward losses in Genus's Australia and France subsidiaries. This is offset by a 1.5 point increase, due to the rise in the UK and Consolidation Tax rates from 19% to 20.5%, and by a further 2.6 point increase in overseas taxes during the year. These higher overseas taxes are due to an increased share of Group profits in higher tax jurisdictions and reduced tax credits relating to agricultural activity in China. The Group's anticipated adjusted ETR for 2024 is 24% to 27%, which is higher than the current year due to the full year impact of the UK tax rate increase to 25% that took effect from April 2023 and the above noted change in profit mix to higher tax rate jurisdictions.

Earnings Per Share

Adjusted basic earnings per share increased by 3% (5% reduction in constant currency) to 84.8 pence (2022: 82.7 pence), reflecting the improved trading performance and lower effective tax rate, and offset by higher interest expenses. Basic earnings per share on a statutory basis were 50.8 pence (2022: 62.5 pence), taking into account the factors above and the impact of a higher non-cash fair value net charge for IAS 41 biological asset movement, higher share-based payment expenses and higher net 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 2023, the carrying value of biological assets was £364.7m (2022: £387.7m), as set out in the table below:

	2023	2022
	£m	£m
Non-current assets	318.2	333.7
Current assets	23.8	33.1
Inventory	22.7	20.9
	364.7	387.7
Represented by:		
Porcine	242.7	278.8
Dairy and beef	122.0	108.9
	364.7	387.7

The movement in the overall balance sheet carrying value of biological assets of £23.0m includes the effect of an exchange rate translation decrease of £17.2m. Excluding the translation effect there was:

- a £23.7m reduction in the carrying value of porcine biological assets, due principally to the depopulation of animals held in Aurora, our genetic nucleus farm in Canada, in preparation for an upgrade to the farm facilities and health status, and higher global interest rates which impact the valuation discount rates; and
- a £17.9m increase in the bovine biological assets carrying value, primarily reflecting increases in average selling prices.

The historical cost of these assets, less depreciation, was £83.4m at 30 June 2023 (2022: £77.2m), which is the basis used for the adjusted results. The historical cost depreciation of these assets included in adjusted results was £13.4m (2022: £10.7m).

Retirement Benefit Obligations

The Group's retirement benefit obligations at 30 June 2023 were £6.9m (2022: £8.3m) before tax and £5.6m (2022: £7.0m) net of related deferred tax. The largest element of this liability now relates to some legacy unfunded pension commitments dating prior to Genus's acquisition of PIC.

Despite difficult stock market conditions, robust investment strategies and higher bond yields during the year mean our two main defined benefit obligation schemes have remained in sound financial positions. Prior to any IFRIC 14 amendments, both the Dalgety Pension Fund and our share of the Milk Pension Fund reported IAS 19 surpluses.

Cash Flow

	2023	2022
	£m	£m
Cash flow (before debt repayments)		
Cash generated by operations	78.7	56.6
Interest and paid taxes	(28.3)	(22.3)
Capital expenditure	(35.2)	(50.9)
Net cash received from JVs	0.7	3.2
Other	2.3	(0.1)
Free cash flow	18.2	(13.5)
Acquisitions and investments	1.2	(19.5)
Dividends	(21.0)	(20.9)
Net cash outflow (before debt repayments)	(1.6)	(53.9)

Cash generated by operations of £78.7m (2022: £56.6m) represented cash conversion of 105% (2022: 82%) of adjusted operating profit excluding joint ventures. The cash conversion rate of adjusted operating profit to cash exceeded our objective to achieve conversion of at least 90% annually. We expect to continue meeting this objective in the coming year. The increase in cash generation primarily reflected a record adjusted EBITDA performance of £110.6m (2022: £99.9m), along with lower working capital and biological asset outflows. Working capital improvement was aided particularly by focused accounts receivable collections, which improved days sales outstanding by 8 days to 48 days.

Capital expenditure cash flow of £35.2m (2022: £50.9m) was significantly lower as planned, after our peak year of investment in 2022. Spend included £19.8m of continued investment in our global facilities, as well as work to upgrade our Whenby UK facility, further investment in global IntelliGen capabilities and investment in software development, including the continued rollout of our GenusOne platform and improvements to our digital platform.

Net cash inflow from joint ventures was £0.7m (2022: £3.2m). After interest and tax paid, total free cash flow was £18.2m inflow (2022: £13.5m outflow).

The cash inflow from investments was £1.2m (2022: £19.5m outflow), with proceeds from the sale of Caribou shares of £3.4m being offset by investments in our China joint ventures of £1.0m, to increase production capacity, and £0.8m of deferred consideration payments from previous acquisitions. The prior-year investments included £14.5m to acquire the intellectual property in Olymel's elite porcine genetics.

Net Debt and Credit Facilities

Net debt increased to £195.8m at 30 June 2023 (2022: £185.0m). Cash inflows and outflows in the year largely balanced, with the increase in net debt primarily driven by new lease agreements. The ratio of net debt to EBITDA as calculated under our financing facilities at the year-end has reduced to 1.6 times (2022: 1.7 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 2023, interest cover was at 10 times (2022: 27 times).

During the year, the Group's principal credit facilities comprised a £190m multi-currency revolving credit facility (RCF), a USD 150m RCF and a USD 20m bond and guarantee facility. An additional £40m of accordion facility remains available for the duration of the facility agreement. The maturity date of the facility was extended by a further year in August 2022, 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. On 30 June 2023, the Group had headroom of £118.7m (2022: £77.8m) under its available credit facilities.

Capital allocation priorities and return on adjusted invested capital

Our capital allocation prioritises the investment of cash in areas that will deliver future earnings growth and strong cash returns on a sustainable basis. This includes investment for organic growth as a first priority through investment in our existing businesses, including capital expenditure in infrastructure, innovation in new products and the development of our people. We supplement organic growth with value enhancing acquisitions in current and adjacent market niches, aligned with our purpose. This brings new technology, intellectual property and talent into the Group and expands our market reach, keeping Genus well-positioned in growing markets over the long term.

The return on adjusted invested capital, as defined in the alternative performance measures glossary, was higher at 14.7% (2022: 13.9%), reflecting growth of 14% in adjusted operating profit including joint ventures after tax to £66.8m (2022: £58.8m), due to the 10% increase in operating profit including joint ventures, and a 2.1 point improvement in the adjusted effective tax rate. Adjusted invested capital increased at a slower rate, by 8% to £455.0m (2022: £422.0m), as we continued to invest in facilities, IntelliGen capacity, digital capability and our biological assets.

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 (2022: 32.0 pence per share). Dividend cover from adjusted earnings of 2.7 times (2022: 2.6 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 8 December 2023 to the shareholders on the register at the close of business on 10 November 2023.

Genus PIC – Operating Review

Year ended 30 June	Actual currency			Constant
	2023	2022	Change	currency
	£m	£m	%	change
Revenue	349.5	306.6	14	7
Adjusted operating profit exc JV	135.0	112.3	20	11
Adjusted operating profit inc JV	145.3	121.2	20	11
Adjusted operating margin exc JV	38.6%	36.6%	2.0pts	1.6pts

Porcine markets around the world continued to face challenging conditions during the year. These included economic uncertainty, volatile pig prices and outbreaks of disease, especially African Swine Fever (ASF) and PRRSv. China, the world's largest porcine market, experienced greater volatility than other markets. Pig prices in China averaged 18.8 RMB/kg through the year and were much weaker than expected in the second half, averaging 14.7 RMB/kg since January.

Price declines in many regions caused significant pressure on producer margins. This, together with inflation increasing input costs, drove some producers to reduce or delay replenishing their herds.

Despite such challenging conditions impacting porcine markets, PIC increased adjusted operating profit by 11% as the business continued to expand and strengthen commercial relationships with producers around the world. Volumes rose by 5%, aided by increased breeding stock sales in Europe and further growth in market share within North America. Revenue growth across all regions resulted in overall revenue increasing by 7% and strategically important royalty revenue rising by 10%.

North America

The US breeding herd declined slightly, with slower production growth in the second half of the year as domestic demand was lower in the face of rising inflation and competition from other proteins. Pig prices fell sharply as a result, reducing producer margins already under pressure from high input costs. However, exports continued to grow, aided by lower prices compared with some other markets and a weakening US dollar. This was driven particularly by strong demand from China and Mexico.

Performance: The business performed strongly throughout the year, with market share gains across our customer base through sales of both sireline and damline products (volumes up 4% and 15% respectively). This was aided particularly by the continuing popularity of the PIC 800 sire and Camborough sow. The increases in market share and contributions from Olymel's AlphaGene programme drove strong royalty revenue growth and a double-digit increase in adjusted operating profit.

- volumes +9%
- revenue +4% and royalty revenue +8%
- adjusted operating profit +9%

Latin America

In Mexico, pork prices were lower than the previous year but remained well above the five-year average and rose again in the final quarter. Production increased slightly, as expected, but weaker domestic demand meant many producers made losses for much of the year, although they are now approaching or above breakeven. In Brazil, declining feed prices fuelled an increase in production and helped to meet rising export demand, particularly from

China. These exports, when combined with seasonal domestic demand, helped pig prices rise by over 10% in the final quarter, strengthening producer margins.

Performance: Lower breeding stock sales meant sales revenue declined. However, strong royalty revenue from Mexico, Chile and Colombia, as well as 14% growth in income from our joint venture with Agrocere, drove a double-digit increase in adjusted operating profit, with all the larger countries contributing.

- volumes 0%
- revenue -6% and royalty revenue +12%
- adjusted operating profit +12%

Europe

The region experienced the greatest reduction in its breeding herd for 10 years and production contracted in major markets, due to the ongoing economic, geopolitical and regulatory challenges impacting the agricultural sector. This led to tight supply, driving pig prices to record highs and significantly improving producer margins. These factors, along with high feed costs, disease challenges and declining pork exports, are likely to constrain industry recovery and sow herd growth in the future.

Performance: Despite challenging market conditions, breeding stock sales in relation to royalty contracts rose and led to revenue growing 20%. Rising royalty revenue, including double-digit growth in Spain, PIC's largest European market, and Russia, from previous expansion projects, helped the business deliver further growth in adjusted operating profit.

- volumes +8%
- revenue +20% and royalty revenue +9%
- adjusted operating profit +6%

Asia

Volatility in the China porcine market continued through this fiscal year, with pig prices declining from a high of 28 RMB/kg in October 2022 to 14 RMB/kg by the end of June 2023. In addition, China experienced significant ASF outbreaks, which created high levels of pork inventory, and there was a slow recovery in domestic demand following the relaxation of COVID-19 restrictions. All these factors resulted in many producers operating at a loss and remaining cautious. Elsewhere in the region, ASF outbreaks affected both Vietnam and the Philippines, although pork production is gradually growing in both markets.

Performance: Rising sales in the Philippines and Asia franchise businesses, including Vietnam and South Korea, led to increased revenue. In China, market volatility caused a decline in breeding stock sales, but overall revenue remained stable, aided in particular by solid growth in royalty revenue. The growth in royalty revenue, as well as the impact of a one-time £4m customer credit in the prior year, meant there was a double-digit rise in adjusted operating profit despite lower breeding stock margins and the impact of two disease outbreaks on joint venture farms in the second half of the year. Continued investment in China's supply chain and biosecurity means Genus is well-positioned to benefit as the market stabilises.

- volumes 0% (PIC China -1%)
- revenue +3% (PIC China stable) and royalty revenue +20% (PIC China +26%)
- adjusted operating profit +32% (PIC China +62%)

Genus ABS - Operating Review

Year ended 30 June	Actual currency			Constant
	2023	2022	Change	currency
	£m	£m	%	change
Revenue	318.8	272.0	17	12
Adjusted operating profit	43.6	40.5	8	5
Adjusted operating margin	13.7%	14.9%	(1.2)pts	(1.1)pts

Declining feed costs encouraged producers in Europe to maintain high levels of milk production, but markets in Latin America were affected by high costs, drought and limited forage. Growth in China was more modest than expected due to slow recovery following the relaxation of COVID-19 restrictions. High inventory and weaker consumer demand led to reduced milk prices in Brazil and China, and prices in the US declined significantly in the second half of the year.

Global beef production remained steady, with dips in the US and Europe offset by rises in Brazil and Australia. Beef prices remained high in the US but declined year-on-year in Brazil, due to high inventory and lower consumer spending power. Prices in Europe declined as more animals were sent to slaughter in response to the falling milk prices.

Despite the challenging market conditions, ABS continued to expand and strengthen its partnerships with strategic accounts around the world. Through these exclusive relationships, ABS is developing and delivering bespoke genetic plans and growing sales of Sexcel and NuEra beef genetics to accelerate customer success. These relationships drove a 3% increase in volumes, which more than offset lower sales of conventional beef and dairy genetics in some markets. More widely, the business continued to follow robust pricing strategies to mitigate the impact of cost inflation and exercised effective cost management. Such factors helped to deliver a 12% rise in revenue, which translated into 5% growth in adjusted operating profit, after taking account of the impact of higher supply chain costs following an IT incident in June 2022.

North America

Dairy demand remained stable but milk prices fell significantly in the second half of the year. This reduced producer margins, leading to higher herd culling and feed ration changes, which is likely to slow growth in milk production. The US beef herd contracted due to drought conditions and production has declined during 2023 to date, with tighter supply driving wholesale prices to approach record highs. These have yet to impact retail demand but the high prices and lower domestic production have significantly reduced export volumes.

Performance: Double-digit growth in revenue was driven by robust price increases, rising sales of sexed genetics and ancillary products and services. This more than offset lower volumes of conventional and beef genetics as customers used sexed genetics to invest in more replacement heifers, rather than beef by-product income. These activities, along with continued expansion of our IntelliGen sexed processing for third-party customers, achieved a 17% increase in adjusted operating profit.

- volumes +5%
- revenue +15%
- adjusted operating profit +17%

Latin America

High costs, drought and limited forage availability affected milk production in Argentina and Uruguay, reducing producer margins. Milk production in Brazil remained subdued and previously rising prices are now declining due to lower consumer demand and the increase in supply following imports. Strong beef exports from Brazil were driven by growing demand from China in particular, but high inventory and lower consumer purchasing power impacted the domestic market. Demand for beef in Mexico remains steady and exports have recently improved after a slow start to 2023.

Performance: A transition from conventional to sexed genetics across the region, along with robust price increases, led to a 12% rise in revenue on broadly stable volumes comparable to the previous year. Growth and effective cost management in Argentina supported an increase in adjusted operating profit there, although this was offset by declines in other countries, primarily Brazil, where there were challenging market conditions that particularly impacted the embryo business, along with high business cost inflation.

- volumes -1%
- revenue +12%
- adjusted operating profit 0%

Europe

Lower input costs encouraged producers to maintain milk production levels. Following highs in the previous year, milk prices declined amid concerns over weakening consumer demand in the face of inflationary pressure. Beef production across the region dipped and carcass prices have begun to decline as more cows are sent for slaughter in response to the falling milk price, although it remains well above the five-year average. Beef exports fell by more than 20% during the year, as high carcass prices led customers in some markets to source cheaper alternatives.

Performance: Increased sales in most retail markets, particularly France and Russia, were partially offset by lower volumes in some distributor-led markets, due to economic conditions and limited availability of certain types of bulls for those markets. However, both revenue and adjusted operating profit rose following targeted price increases and the expansion of GeneAdvance long-term contracts with strategic accounts. IntelliGen third-party business in the region continued to grow, with new customers in Italy, the Netherlands, and Israel.

- volumes +1%
- revenue +8%
- adjusted operating profit +7%

Asia

Milk production in China continued to grow, albeit more slowly in the second half of the year, but high domestic inventory and weak consumer demand meant that milk prices declined. This led to growing numbers of animals being sent to slaughter, boosting beef production. Slaughter volumes also increased in Australia, but lower domestic milk production contributed to a double-digit reduction in exports. Growth in India's milk production slowed, despite increasing consumer demand, due to the impact of disease outbreaks and rising costs, particularly for feed. Demand for beef in Japan continued to fall.

Performance: Overall volumes rose by 8%, with double-digit growth in sales of sexed genetics in Australia, China and India tempered by fewer deliveries through our distributor network, particularly in Japan due to a market slowdown in the second half of the year. Growth in volumes in India were driven by a contract with the Government of India and support for third-party customers through IntelliGen technology. These increases in volumes, together with significant strategic account growth in China, drove a 20% rise in revenue and 4% increase in adjusted operating profit.

- volumes +8%
- revenue +20%
- adjusted operating profit +4%

Research and Development - Operating Review

Year ended 30 June	Actual currency			Constant
	2023	2022	Change	currency
	£m	£m	%	change
Porcine product development	29.7	22.5	32	24
Bovine product development	24.9	22.7	10	1
Gene editing	14.3	7.9	81	66
Other research and development	17.4	14.0	24	13
Net expenditure in R&D	86.3	67.1	29	19

During the year, net research and development expenditure rose by 19% in constant currency, as planned. This increase enabled further investment in a wide range of areas, including the research and development pipeline, new technologies, gene editing projects and product development initiatives.

Porcine product development

Porcine product development made further progress on genomic selection and enhanced genetic gain for target traits, including prolificacy, throughput, carcass value and efficiency. We also expanded our use of digital phenotyping to four further sites, helping us identify patterns in movement and behaviour to aid improvement of robustness and longevity. These advances, along with continued expansion of our global supply chain (including the addition of three facilities to our nucleus network) enabled us to enhance resilience of supply for customers around the world. Product development costs increased by 24% during the year, due principally to the start of operations at our Atlas facility in Canada. Higher feed prices during the year also contributed to the increase in expenditure.

Bovine product development

We continued to strengthen our proprietary range of NuEra beef genetics and to invest in further product trials, from which preliminary data shows positive performance against competitor genetics in areas such as feed efficiency and growth rates.

We made further investments in our proprietary bovine sexing technology, enabling us to continue strengthening our capability to produce sexed genetics for ABS and for third-party customers through IntelliGen technology.

Gene editing

We made significant progress on our PRRSv-resistant pig programme, as we seek regulatory approval for our gene-edited animals in target markets around the world. This included completing data submissions to the FDA ahead of schedule and we expect approval in the first half of 2024. We are also making regulatory progress in Brazil and Colombia and we gained consent to import PRRSv-resistant pigs to China, for in-country regulatory assessment. In parallel, we continued to expand capacity across our nucleus network in preparation for the potential marketing of our gene-edited animals. We also continued to explore how responsible use of gene editing could combat other porcine diseases. This included evaluating potential target edits and establishing further collaborations with academic partners.

Other research and development

Other research and development expenditure increased by 13%, compared to the previous year. This enabled us to make further progress with our pioneering work on reproductive biology, including collaborating with the University of Florida to explore how embryonic stem cells could enhance genetic gain, and introducing a new medium for embryo culture, which improves the quantity and quality of embryos produced in commercial laboratories.

The increased investment also helped us develop our work on biosystems engineering and data analytics, with progress in the latter area enabling us to link and query different data sets simultaneously and elicit faster and deeper insights to inform genetic improvement. We also continued to collaborate with external partners on a series of discovery projects.

GENUS RISK MANAGEMENT

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 our business operations, 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 attributed to the ongoing Russia-Ukraine conflict and slow economic recovery in China post Covid-19.

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 of risks focused on:

- the continued impact of the Russia-Ukraine conflict;
- geopolitical tensions across the globe;
- macroeconomic conditions;
- impacts of climate change;
- carbon pricing; and
- cyber security.

There have been two changes to our principal risks this year. The first is an increase to our Sustainability risk given increased regulations, reporting requirements and carbon pricing. The second is a reduction in our Hiring and Retaining Talented People risk based on our successful recruitment and succession planning for key positions. Last year we elevated cyber security to a principal risk and we continue to see an increase in the sophistication and frequency of cyber-crime across industries.

From our broad risk universe, we have identified 11 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.

RISK	RISK DESCRIPTION	HOW WE MANAGE RISK	RISK CHANGE IN FY23
Strategic Risks			
DEVELOPING PRODUCTS WITH COMPETITIVE ADVANTAGE	<ul style="list-style-type: none"> 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 our performance against competitors in customers' systems, to ensure the value added by our genetics remains competitive. We also partner with universities and other bodies to further our developments.	No change. Our analysis and benchmarking continue to support our genetic improvements.
CONTINUING TO SUCCESSFULLY DEVELOP INTELLIGEN TECHNOLOGY	<ul style="list-style-type: none"> Failure to manage the technical, production and financial risks associated with the rapid development of the IntelliGen business. 	<p>Our continued development of the technology and its deployment to new markets is supported by dedicated internal resources and agreements with suppliers. To ensure optimum performance we provide maintenance and specialist training to our customers.</p> <p>Current patent infringement proceedings initiated by STgenetics in the US continue to be vigorously defended.</p>	<p>No change. We have expanded the number of machines in our customer base this year and continue to optimise performance.</p> <p>There continues to be uncertainty over further legal actions and uncertainties in relation to patent infringements.</p>
DEVELOPING AND COMMERCIALISING GENE EDITING AND OTHER NEW TECHNOLOGIES	<ul style="list-style-type: none"> 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.	<p>No change. Key initiatives continue to progress through the R&D life cycle, and we maintain the high level of investment needed to bring the end products to market.</p> <p>We work closely with regulators to ensure our products meet exacting standards. We are expecting FDA regulatory approval for our PRRSv resistant pigs in the first half of 2024.</p>
CAPTURING VALUE THROUGH ACQUISITIONS	<ul style="list-style-type: none"> 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 focused on maximising value	<p>No change. We continue to work diligently to identify areas of opportunity consistent with our strategic plans, values and our aim to accelerate growth and create value for our shareholders.</p> <p>Our experiences with post-acquisition integration provide a platform for successfully integrating newly acquired businesses.</p>
SUCCEEDING IN GROWTH MARKETS	<ul style="list-style-type: none"> 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 with sanctions. We also establish local partnerships where appropriate, to increase market access.	No change. The global macroeconomic conditions driven by post Covid-19 recovery and the Russia-Ukraine conflict have driven market price volatility. This has been especially felt in the China porcine market.

RISK	RISK DESCRIPTION	HOW WE MANAGE RISK	RISK CHANGE IN FY23
Strategic Risks continued			
SUSTAINABILITY	<ul style="list-style-type: none"> • 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. 	<p>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 and our sustainability risk register. 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.</p>	<p>Increased. There is increasing regulation and demand for transparency and accuracy of reporting on sustainability targets. There is an increase in carbon cost and a notable change in more frequent weather-related events across the globe.</p> <p>Our carbon reduction plans are on track to meet our 2030 goals and we have achieved a significant reduction in our intensity measures since 2019.</p>
Operational Risks			
PROTECTING IP	<ul style="list-style-type: none"> • Failure to protect our IP could mean Genus-developed genetic material, methods, systems and technology become freely available to third parties. 	<p>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.</p>	<p>No change. We continue actively to protect our IP by filing patents attributed to our R&D activity.</p>
ENSURING BIOSECURITY AND CONTINUITY OF SUPPLY	<ul style="list-style-type: none"> • 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. 	<p>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.</p>	<p>No change. There continue to be global supply chain challenges driven by the current economic climate, increased trade sanctions, and the continued spread of ASF, especially in China.</p>
HIRING AND RETAINING TALENTED PEOPLE	<ul style="list-style-type: none"> • Failure to attract, recruit, develop and retain the global talent needed to deliver our growth plans and R&D programmes. 	<p>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, and we have a long-term retention incentive scheme. We work closely with several specialist recruitment agencies, to identify candidates with the skills we need.</p>	<p>Reduced. We have been able to attract and recruit key talent to critical roles including the new CEO. Post-COVID employee turnover in certain areas has now returned to normal levels.</p>

RISK	RISK DESCRIPTION	HOW WE MANAGE RISK	RISK CHANGE IN FY23
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Operational Risks continued

CYBER SECURITY	<ul style="list-style-type: none"> • 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 and systems from an attack. 	<p>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 and have a programme focused on continued cyber security improvements. Our GenusOne programme continues to progress well, improving our operational controls and IT security as we move to the cloud.</p>	<p>No change. There has been a continued rise in the sophistication, methods of attack and frequency of cyber-crime. Increased geopolitical tensions also heighten the risks of a targeted cyber-attack. To mitigate these risks, our programme of enhancing cyber protection following the IT security incident in June 2022 was successfully implemented in the year.</p>
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Financial Risks

MANAGING AGRICULTURAL MARKET AND COMMODITY PRICES VOLATILITY	<ul style="list-style-type: none"> • Fluctuations in agricultural markets affect customer profitability and therefore demand for our products and services. • Commodity pricing volatility may increase our operating costs. • Climate factors may have a longer-term influence on the cost and availability of agricultural inputs (animal feed). • Geopolitical tensions and the Russia-Ukraine conflict may impact on agricultural markets. 	<p>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.</p>	<p>No change. There has been a slow post Covid-19 economic recovery and global inflationary pressure, however agricultural input prices are now reducing for producers in many of our markets. The China pork market continues to deal with the challenges of ASF, volatile prices and weak demand.</p>
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GROUP INCOME STATEMENT

For the year ended 30 June 2023

	Note	2023 £m	2022 £m
REVENUE	3	689.7	593.4
Adjusted operating profit	3	74.6	68.8
Adjusting items:			
– Net IAS 41 valuation movement on biological assets	11	(16.9)	(5.4)
– Amortisation of acquired intangible assets	10	(7.7)	(8.3)
– Share-based payment expense		(6.0)	(3.7)
		(30.6)	(17.4)
Exceptional items (net)	4	(3.5)	(2.0)
Total adjusting items		(34.1)	(19.4)
OPERATING PROFIT		40.5	49.4
Share of post-tax profit of joint ventures and associates retained	13	10.5	5.2
Other gains and losses	5	2.7	-
Finance costs	6	(15.4)	(6.6)
Finance income	6	1.1	0.4
PROFIT BEFORE TAX		39.4	48.4
Taxation	7	(7.6)	(11.7)
PROFIT FOR THE YEAR		31.8	36.7
ATTRIBUTABLE TO:			
Owners of the Company		33.3	40.9
Non-controlling interest		(1.5)	(4.2)
		31.8	36.7
EARNINGS PER SHARE			
Basic earnings per share	8	50.8p	62.5p
Diluted earnings per share	8	50.5p	62.2p
	Note	2023 £m	2022 £m
Alternative Performance Measures			
Adjusted operating profit		74.6	68.8
Adjusted operating loss/(profit) attributable to non-controlling interest		0.4	(0.3)
Pre-tax share of profits from joint ventures and associates excluding net IAS 41 valuation movement		10.8	9.2
Gene editing costs		14.3	7.9
Adjusted operating profit including joint ventures and associates, excluding gene editing costs		100.1	85.6
Gene editing costs		(14.3)	(7.9)
Adjusted operating profit including joint ventures and associates		85.8	77.7
Net finance costs	6	(14.3)	(6.2)
Adjusted profit before tax		71.5	71.5
Adjusted earnings per share			
Basic adjusted earnings per share	8	84.8p	82.7p
Diluted adjusted earnings per share	8	84.2p	82.3p

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 2023

	Note	2023 £m	2023 £m	2022 £m	2022 £m
PROFIT FOR THE YEAR			31.8		36.7
Items that may be reclassified subsequently to profit or loss					
Foreign exchange translation differences		(27.2)		66.6	
Fair value movement on net investment hedges		-		(0.7)	
Fair value movement on cash flow hedges		0.8		1.9	
Tax relating to components of other comprehensive expense/(income)		3.1		(8.2)	
			(23.3)		59.6
Items that may not be reclassified subsequently to profit or loss					
Actuarial (loss)/gains on retirement benefit obligations	17	(40.4)		27.3	
Movement on pension asset recognition restriction	17	38.3		(69.8)	
Release of additional pension liability	17	3.0		43.7	
Gain/(loss) on equity instruments measured at fair value		1.7		(6.1)	
Tax relating to components of other comprehensive (income)/expense		(1.2)		1.1	
			1.4		(3.8)
OTHER COMPREHENSIVE (EXPENSE)/INCOME FOR THE YEAR			(21.9)		55.8
TOTAL COMPREHENSIVE INCOME FOR THE YEAR			9.9		92.5
ATTRIBUTABLE TO:					
Owners of the Company		11.1		97.3	
Non-controlling interest		(1.2)		(4.8)	
			9.9		92.5

GROUP STATEMENT OF CHANGES IN EQUITY

For the year ended 30 June 2023

	Note	Called up share capital £m	Share premium account £m	Own shares £m	Trans- lation reserve £m	Hedging reserve £m	Retained earnings £m	Total £m	Non- controlling interest £m	Total equity £m
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 income/(expense) 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 income/(expense) 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	9	–	–	–	–	–	(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
Foreign exchange translation differences, net of tax		–	–	–	(24.2)	–	–	(24.2)	0.3	(23.9)
Fair value movement on net investment hedges, net of tax		–	–	–	–	–	–	–	–	–
Fair value movement on cash flow hedges, net of tax		–	–	–	–	0.6	–	0.6	–	0.6
Gain on equity instruments measured at fair value, net of tax		–	–	–	–	–	0.7	0.7	–	0.7
Actuarial loss on retirement benefit obligations, net of tax		–	–	–	–	–	(30.3)	(30.3)	–	(30.3)
Movement on pension asset recognition restriction, net of tax		–	–	–	–	–	28.7	28.7	–	28.7
Recognition of additional pension liability, net of tax		–	–	–	–	–	2.3	2.3	–	2.3
Other comprehensive (expense)/income for the year		–	–	–	(24.2)	0.6	1.4	(22.2)	0.3	(21.9)
Profit/(loss) for the year		–	–	–	–	–	33.3	33.3	(1.5)	31.8
Total comprehensive income/(expense) for the year		–	–	–	(24.2)	0.6	34.7	11.1	(1.2)	9.9
Recognition of share-based payments, net of tax		–	–	–	–	–	6.3	6.3	–	6.3
Dividends	9	–	–	–	–	–	(21.0)	(21.0)	–	(21.0)
Adjustment arising from change in non-controlling interest and written put option		–	–	–	–	–	–	–	(0.1)	(0.1)
BALANCE AT 30 JUNE 2023		6.6	179.1	(0.1)	26.7	2.0	360.6	574.9	(7.7)	567.2

GROUP BALANCE SHEET

As at 30 June 2023

	Note	2023 £m	2022 £m
ASSETS			
Goodwill		107.8	111.0
Other intangible assets	10	66.2	72.0
Biological assets	11	318.2	333.7
Property, plant and equipment	12	164.4	171.4
Interests in joint ventures and associates	13	53.5	41.2
Other investments		8.8	10.2
Derivative financial assets		4.9	2.2
Other receivables	15	8.2	8.6
Deferred tax assets		16.5	10.1
TOTAL NON-CURRENT ASSETS		748.5	760.4
Inventories	14	61.3	50.9
Biological assets	11	23.8	33.1
Trade and other receivables	15	132.1	129.5
Cash and cash equivalents		36.3	38.8
Income tax receivable		4.0	4.0
Derivative financial assets		1.5	1.0
Asset held for sale		-	0.2
TOTAL CURRENT ASSETS		259.0	257.5
TOTAL ASSETS		1,007.5	1,017.9
LIABILITIES			
Trade and other payables	16	(122.0)	(124.7)
Interest-bearing loans and borrowings		(4.2)	(7.1)
Provisions		(1.8)	(1.9)
Deferred consideration		-	(0.8)
Obligations under leases		(10.0)	(10.1)
Tax liabilities		(7.4)	(4.9)
Derivative financial liabilities		(1.8)	(1.8)
TOTAL CURRENT LIABILITIES		(147.2)	(151.3)
Trade and other payables	16	-	(0.2)
Interest-bearing loans and borrowings		(196.0)	(182.1)
Retirement benefit obligations	17	(6.9)	(8.3)
Provisions		(10.3)	(12.0)
Deferred consideration		(0.6)	(0.7)
Deferred tax liabilities		(51.2)	(60.3)
Derivative financial liabilities		(6.2)	(6.4)
Obligations under leases		(21.9)	(24.5)
TOTAL NON-CURRENT LIABILITIES		(293.1)	(294.5)
TOTAL LIABILITIES		(440.3)	(445.8)
NET ASSETS		567.2	572.1
EQUITY			
Called up share capital		6.6	6.6
Share premium account		179.1	179.1
Own shares		(0.1)	(0.1)
Translation reserve		26.7	50.9
Hedging reserve		2.0	1.4
Retained earnings		360.6	340.6
EQUITY ATTRIBUTABLE TO OWNERS OF THE COMPANY		574.9	578.5
Non-controlling interest		(2.2)	(0.7)
Put option over non-controlling interest		(5.5)	(5.7)
TOTAL NON-CONTROLLING INTEREST		(7.7)	(6.4)
TOTAL EQUITY		567.2	572.1

GROUP STATEMENT OF CASH FLOWS

For the year ended 30 June 2023

	Note	2023 £m	2022 £m
NET CASH FLOW FROM OPERATING ACTIVITIES	18	50.4	34.3
CASH FLOWS FROM INVESTING ACTIVITIES			
Dividends received from joint ventures and associates	13	2.6	3.2
Joint venture and associate loan investment	13	(1.9)	–
Acquisition of joint venture and associate	13	(1.0)	(2.2)
Acquisition of trade and assets		-	(0.8)
Acquisition of Olymel AlphaGene assets		-	(14.5)
Sale of other investments		3.4	-
Acquisition of other investments		(0.4)	(1.0)
Payment of deferred consideration		(0.8)	(1.0)
Purchase of property, plant and equipment		(25.9)	(42.1)
Purchase of intangible assets		(9.3)	(8.8)
Proceeds from sale of property, plant and equipment		2.4	–
NET CASH OUTFLOW FROM INVESTING ACTIVITIES		(30.9)	(67.2)
CASH FLOWS FROM FINANCING ACTIVITIES			
Drawdown of borrowings		126.8	138.7
Repayment of borrowings		(111.7)	(83.9)
Payment of lease liabilities		(11.1)	(11.3)
Equity dividends paid		(21.0)	(20.9)
Dividend to non-controlling interest		(0.1)	(0.1)
Debt issue costs		(1.1)	(0.6)
Issue of ordinary shares		-	–
NET CASH (OUTFLOW)/INFLOW FROM FINANCING ACTIVITIES		(18.2)	21.9
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS		1.3	(11.0)
Cash and cash equivalents at start of the year		38.8	46.0
Net increase/(decrease) in cash and cash equivalents		1.3	(11.0)
Effect of exchange rate fluctuations on cash and cash equivalents		(3.8)	3.8
TOTAL CASH AND CASH EQUIVALENTS AT 30 JUNE		36.3	38.8

NOTES TO THE GROUP FINANCIAL STATEMENTS

For the year ended 30 June 2023

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 2023 or the year ended 30 June 2022, but is derived from those financial statements. The financial statements for the year ended 30 June 2022 have been delivered to the Registrar of Companies and those for the year ended 30 June 2023 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 2023 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		
	2023	2022	2021	2023	2022	2021
US Dollar/£	1.21	1.32	1.36	1.27	1.22	1.38
Euro/£	1.15	1.18	1.13	1.16	1.16	1.17
Brazilian Real/£	6.20	6.94	7.33	6.08	6.39	6.87
Mexican Peso/£	22.84	26.97	28.15	21.74	24.45	27.57
Chinese Yuan/£	8.44	8.55	8.94	9.21	8.15	8.93
Russian Rouble/£	86.29	98.75	102.04	112.79	66.73	101.10

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 2023. These financial statements have also been prepared in accordance with the accounting policies set out in the 2022 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 2022 and have been implemented with effect from 1 July 2022. These are:

- > Amendments to IFRS 3 - 'Business Combinations' - References to the Conceptual Framework;
- > Amendments to IAS 12 - 'Income Taxes' - International tax reform - Pillar two model rules;
- > Amendments to IAS 16 - 'Property, Plant and Equipment' - Proceeds before Intended Use;
- > Amendments to IAS 37 - 'Onerous Contracts' - Cost of Fulfilling a Contract; and
- > Annual Improvements 2018-2020 Cycle.

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 IFRS 16 - 'Lease Liability in a Sale and Leaseback';
- > Amendments to IAS 1 - 'Classification of Liabilities as Current or Non-Current';
- > Amendments to IAS 1 and IFRS Practice Statement 2 - 'Disclosure of Accounting Policies';
- > Amendments to IAS 7 and IFRS 7 - 'Disclosures: Supplier Finance Arrangements';
- > Amendments to IAS 8 - 'Definition of Accounting Estimates'; and
- > Amendments to IAS 12 - 'Deferred Tax related to Assets and Liabilities arising from a Single Transaction'.

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 on our business has been to categorise 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 His 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 to HMT for a licence 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; to allow the use of 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.

The UK Office of Financial Sanctions Implementation ('OFSI') issued a general licence for trading in agricultural commodities in Russia effective on the 4 November 2022 which provides exemptions to the sanctions regime in connection with the export, production and transport of agricultural commodities. This definition includes reproductive materials such as are supplied by Genus. Under this general licence, receipts from non-sanctioned customers received from and before 4 November 2022 from sanctioned banks no longer need to be frozen and can be freely used. Also receipts from a sanctioned customer, if made through a non-sanctioned bank, no longer need to be frozen and can be freely used. If any customer is or becomes sanctioned and pays through a sanctioned bank, these funds would still need to be frozen even after 4 November 2022.

Under the requirements of IAS 7, where there is cash that is not available to be used by the rest of the Group this needs to be disclosed. On 24 February 2023, the UralSib bank was put on the UK financial sanctions list and as such ABS and PIC Russia subsequently opened new bank accounts with the OTP Bank on 21 March 2023 and on 16 May 2023 respectively. Any receipts from sanctioned banks into the sanctioned UralSib account have been frozen and are not used for business disbursements.

As at 30 June 2023, we had a cash balance of £3.1m (30 June 2022 £4.5m) in the Russian entities of which £0.8m (30 June 2022: £0.2m) is not currently available to be used by the Group due to being received from sanctioned banks and held in a sanctioned bank. Management has reviewed the operations and cash flow over a period of 18 months from 30 June 2023 to 31 December 2024, based upon the 2024 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 their 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. Genus PLC applied for a licence to the Department for International Trade ('DIT') on 22 September 2022, to allow for UK-based employees within the Genus group to provide accounting, business and management consulting services to the Russian-based subsidiaries, for the purpose of helping them carry out business operations in Russia, delivery of humanitarian assistance activity and for the production or distribution of food, provided that it is for the benefit of the civilian population.

The licence was authorised by the DIT and came into force on 11 January 2023. It authorises the following services:

- > The fullest possible range of accounting services, business and management consulting services, to include advisory, guidance and operational assistance services provided for business policy and strategy, and the overall planning, structuring, and control of the organisation.
- > The oversight that a parent company would typically provide to its subsidiaries in the areas of accounting, financial controls, tax, treasury, finance and human resources, along with similar oversight in the areas of information technology, supply chain and other types of technology.

The licence expires on 11 January 2025 and, provided the facts and circumstances surrounding the issuance of the licence currently in place do not change materially we do not foresee any reasons why the licence could not be renewed.

We have concluded that we do have control over the Russian-based subsidiaries for the year ended 30 June 2023, as defined under IFRS 10 'Consolidated financial statements', and we are still able to consolidate them despite short-term restrictions on extracting cash. We have also assessed each of the asset balances for impairment. The material areas that could give rise to impairment are:

- > PIC Russia farm: £2.4m (30 June 2022: £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 property's open market price (less cost to sell) would support the carrying value.
- > Trade receivables: £2.7m (30 June 2022: £6.0m) – the ongoing financial sanctions may affect our customers ability to pay us for their goods. If determined that our customers are unlikely to repay these amounts, then they should be provided for.
- > IAS 41 valuation: £3.9m (30 June 2022: £2.8m) – 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.

Management's impairment analysis indicates that, under the current business environment and based on the plans for the Financial Year 2024 no impairment is required as at 30 June 2023.

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. 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 £11.7m (2022: £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 from the date of any deconsolidation. Revenues from the Russian entities were £21.7m in the year ended 30 June 2023 (2022: £14.6m).

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 2026, 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.

Genus's credit facility agreement which consists of a £190m multi-currency RCF, a 150m US dollar RCF and a US 20m USD bond guarantee. The term of the facility is for four years to August 2025 having already exercised both extension options. Additionally, there is an uncommitted £40m accordion option which can be requested a further two occasions over the remaining lifetime of the facility. The group have yet to enter discussions with the banking syndicate regarding a new facility, however given the current standing of our business relationship with the syndicate we have a reasonable expectation that a new facility would be offered on appropriate terms.

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 2026. There are no indications from this assessment that change this expectation when looking beyond 30 June 2026 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.

Change in trade and other receivables

It was identified that certain contract assets were previously incorrectly classified as current trade receivables. The prior periods have been restated, reducing current trade receivables by £9.6m in June 2022, with a corresponding increase in current contract assets.

Climate change

In preparing these consolidated 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 2023. 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 6 September 2023.

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.

	2023 £m	2022 £m
Revenue		
Genus PIC	349.5	306.6
Genus ABS	318.8	272.0
Genus Research and Development		
Porcine product development	18.5	12.4
Bovine product development	2.8	1.7
Gene editing	0.1	0.7
Other research and development	–	–
	21.4	14.8
	689.7	593.4

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.

	2023 £m	2022 £m
Adjusted operating profit		
Genus PIC	135.0	112.3
Genus ABS	43.4	40.5
Genus Research and Development		
Porcine product development	(29.7)	(22.4)
Bovine product development	(25.6)	(22.8)
Gene editing	(14.3)	(7.9)
Other research and development	(17.4)	(14.0)
	(87.0)	(67.1)
Adjusted segment operating profit	91.4	85.7
Central	(16.8)	(16.9)
Adjusted operating profit	74.6	68.8

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 £3.5m net expense (2022: £2.0m net expense) relate to Genus ABS (£2.7m net expense) (2022: £4.2m net expense), Genus PIC (£nil) (2022: £0.6m net expense) and our central segment (£0.8m net expense) (2022: £2.8m net credit). 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)	
	2023 £m	2022 £m	2023 £m	2022 £m	2023 £m	2022 £m
Genus PIC	5.0	4.5	6.8	7.4	6.8	45.2
Genus ABS	16.0	14.3	4.4	3.4	21.8	25.4
Genus Research and Development						
Research	1.3	1.0	–	–	1.6	3.3
Porcine product development	4.5	2.2	–	–	1.2	1.3
Bovine product development	1.7	2.0	0.4	0.2	4.9	2.7
	7.5	5.2	0.4	0.2	7.7	7.3
Segment total	28.5	24.0	11.6	11.0	36.3	77.9
Central	1.7	2.4	1.8	1.6	7.0	5.8
Total	30.2	26.4	13.4	12.6	43.3	83.7

	Segment assets		Segment liabilities	
	2023	2022	2023	2022
	£m	£m	£m	£m
Genus PIC	265.4	305.4	(66.0)	(73.4)
Genus ABS	281.7	261.4	(72.5)	(78.9)
Genus Research and Development				
Research	11.4	14.7	(4.5)	(4.4)
Porcine product development	269.1	275.0	(55.3)	(57.7)
Bovine product development	125.0	119.6	(19.6)	(16.7)
	405.5	409.3	(79.4)	(78.8)
Segment total	952.6	976.1	(217.9)	(231.1)
Central	54.9	41.8	(222.4)	(214.7)
Total	1,007.5	1,017.9	(440.3)	(445.8)

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

	2023 £m	2022 £m
North America	288.5	238.5
Latin America	105.6	94.6
UK	93.1	88.7
Rest of Europe, Middle East, Russia and Africa	109.6	88.3
Asia	92.9	83.3
Total revenue	689.7	593.4

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.

	2023 £m	2022 £m
North America	508.6	529.6
Latin America	69.6	56.7
UK	71.5	69.8
Rest of Europe, Middle East, Russia and Africa	43.8	45.7
Asia	33.6	46.3
Non-current assets (excluding deferred taxation and financial instruments)	727.1	748.1

Revenue by type

	2023 £m	2022 £m
Genus PIC	173.5	158.4
Genus ABS	307.8	262.5
Genus Research and Development	21.4	14.8
Sale of animals, semen, embryos and ancillary products and services	502.7	435.7
Genus PIC	176.0	148.2
Genus ABS	1.4	1.1
Genus Research and Development	—	—
Royalties	177.4	149.3
Genus PIC	—	—
Genus ABS	9.6	8.4
Genus Research and Development	—	—
Consulting services	9.6	8.4
Total revenue	689.7	593.4

Revenue from contracts with customers

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

	2023 £m	2022 £m
Genus PIC	343.7	303.2
Genus ABS	293.0	247.2
Genus Research and Development	21.3	14.1

Recognised at a point in time	658.0	564.5
Genus PIC	5.8	3.4
Genus ABS	25.8	24.8
Genus Research and Development	0.1	0.7
Recognised over time	31.7	28.9
Total revenue	689.7	593.4

4. EXCEPTIONAL ITEMS

	2023 £m	2022 £m
Operating (expense)/credit		
Litigation	(4.5)	(1.4)
Acquisition and integration	(0.4)	(0.3)
Pension related	–	(0.4)
Legacy legal claim	–	3.3
ABS production restructuring	1.7	(2.8)
Other	(0.3)	(0.4)
Net exceptional items	(3.5)	(2.0)

Litigation

Litigation includes legal fees and related costs of £4.5m (2022: £1.4m) related to the actions between ABS Global, Inc. and certain affiliates ('ABS') and Inguran, LLC and certain affiliates (also known as STgenetics ('ST')). The net expense comprises £5.4m of legal costs and a £0.9m settlement credit (see below for further details).

Material litigation activities to 31 August 2023

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.

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 United States Patent and Trademark Office ('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 20 September 2022 the USPTO issued patent 11,446,665 (the '665 patent') and ST subsequently sought a third-party supplement of ABS III by adding a claim of infringement of the '665 patent. ABS has opposed this action as well, and sought dismissal of all infringement claims.

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. ABS has appealed the '439 patent decision (the '439 Appeal').

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 in favour of ABS. ST appealed certain aspects of the decision relating to technology transfer to third parties, one of the three arguments put forward by ST in ABS III (the 'ABS III Appeal'). On 5 July 2023, the Court of Appeals accepted ST's argument that claim preclusion from the ABS I decision did not apply against ABS III in relation to technology transfer, and that the Federal court improperly broadened the scope of the ABS I judgment to address induced infringement.

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, and 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's 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. ABS filed counterclaims alleging, among other things, anti-competitive conduct and infringement of four ABS patents, later narrowed to three ABS patents. The hearing date of 15 July 2024 has been confirmed for ABS IV. Appeals were filed by ABS on the validity and infringement of the '987 patent (the '987 Appeal'), the '476 and the '309 patents (the 'ABS II Appeal') and ST has appealed the award of the \$5.3m costs (the 'Fee Award Appeal').

On 27 December 2022, ABS and ST settled the 987 Appeal, the Fee Award Appeal and the Indian Patent Proceedings (along with related patent oppositions in India), delivering lower patent royalty payments for ABS and a settlement exceptional credit of £0.9m. The ABS II Appeal, the ABS III Appeal, the ABS IV litigation, the 439 Appeal, and the CCI Appeal remain ongoing. The 439 Appeal is scheduled for hearing on 5 September 2023 and the ABS II appeal is likely to be heard before the end of the year.

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 '476, '309 patents and 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 (the "Indian Patent Proceedings"). In June 2021, ST appealed the decision of the Competition Commission of India ('CCI') which had confirmed that ABS India had not breached the Indian Competition Act in relation to its participation in a sexed semen tender offered by the Uttar Pradesh Livestock Development Board (the "CCI Appeal"). The CCI Appeal is scheduled for 11 October 2023.

NZ litigation: On 14 June 2023, ST initiated proceedings against ABS, Genus, ABS Genus (NZ) Limited, CRV International BV and CRV Limited (together 'CRV') in New Zealand, alleging patent infringement and seeking a preliminary injunction. ABS had previously been awarded the semen sexing services for CRV's bovine semen in New Zealand and other jurisdictions. ABS has sought a stay of the New Zealand proceedings while the US court's consider whether the settlement agreement between ABS and ST dated 27 December 2022 precludes the New Zealand proceedings. The hearing of the ABS's stay application and ST's preliminary injunction application is scheduled for 27 November 2023.

Acquisitions and integration

During the year, £0.4m (2022: £0.3m) of expenses were incurred in relation to potential acquisitions.

ABS production restructuring

A one-off credit of £1.7m primarily related to the sale of our Canadian ABS facilities as part of a production restructuring. The cash inflow of £1.8m is included in investing activities.

Other

Included in Other is an expense of £0.3m relating to the sign-on bonus of the newly appointed CEO, a £0.2m credit resulting from a share forfeiture exercise and £0.2m in relation to the prior year IT incident. In the prior year, a £0.5m expense relating to legal advice, IT consultancy and one-time costs was incurred as the direct result of an IT security incident in June 2022.

5. OTHER GAINS AND LOSSES

Included with other gains and losses is a £2.7m gain on the mark to market valuation (MTM) in relation to £60m of SONIA interest rate swaps executed in April 2023. Whilst the interest rate swaps are a perfect commercial hedge of a similar amount of our GBP borrowings for at least a three-year period, as the executing banks have a written option at the three-year point to unilaterally terminate the swaps at no cost, the transaction does not qualify for hedge accounting treatment. Accordingly the MTM gain on the valuation of these swaps as at 30 June 2023 is recognised in the Group Income Statement.

	2023 £m	2022 £m
Gain on derivative	2.7	—
Other gains and losses	2.7	—

6. NET FINANCE COSTS

	2023 £m	2022 £m
Interest payable on bank loans and overdrafts	(12.3)	(4.1)
Amortisation of debt issue costs	(1.1)	(0.9)
Other interest payable	(0.3)	(0.1)
Unwinding of discount on put options	(0.3)	(0.2)
Net interest cost in respect of pension scheme liabilities	(0.2)	(0.2)
Interest on lease liabilities	(1.2)	(1.1)
Total interest expense	(15.4)	(6.6)
Interest income on bank deposits	0.1	0.4
Net interest income on derivative financial instruments	1.0	—
Total interest income	1.1	0.4
Net finance costs	(14.3)	(6.2)

7. TAXATION AND DEFERRED TAXATION

Income tax expense

	2023 £m	2022 £m
Current tax expense		
Current period	20.6	13.6
Adjustment for prior periods	0.9	1.8
Total current tax expense in the Group Income Statement	21.5	15.4
Deferred tax expense		
Origination and reversal of temporary differences	(9.2)	(0.5)
Adjustment for prior periods	(4.7)	(3.2)
Total deferred tax credit in the Group Income Statement	(13.9)	(3.7)
Total income tax expense excluding share of income tax of equity accounted investees	7.6	11.7
Share of income tax of equity accounted investees (see note 13)	3.9	2.6
Total income tax expense in the Group Income Statement	11.5	14.3

Reconciliation of effective tax rate

	2023 %	2023 £m	2022 %	2022 £m
Profit before tax		39.4		48.4
Add back share of income tax of equity accounted investees		3.9		2.6
Profit before tax excluding share of income tax of equity accounted investees		43.3		51.0
Income tax at UK corporation tax of 20.5% (2022: 19.0%)	20.5	8.9	19.0	9.7
Effect of tax rates in foreign jurisdictions	13.6	5.9	9.2	4.7
Non-deductible expenses	6.7	2.9	4.3	2.2
Tax exempt income and incentives	(3.0)	(1.3)	(1.8)	(0.9)
Change in tax rate	(1.2)	(0.5)	2.5	1.3
Movements in recognition of tax losses	(5.0)	(2.2)	0.2	0.1
Change in unrecognised temporary differences	(7.8)	(3.4)	(3.7)	(1.9)
Tax over / (under) provided in prior periods	1.8	0.8	(2.1)	(1.1)
Change in provisions	0.5	0.2	(0.2)	(0.1)
Tax on undistributed reserves	0.5	0.2	0.6	0.3
Total income tax expense in the Group Income Statement	26.6	11.5	28.0	14.3

8. 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

	2023 (pence)	2022 (pence)
Basic earnings per share	50.8	62.5

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 £33.3m (2022: £40.9m) and a weighted average number of ordinary shares outstanding of 65,557,000 (2022: 65,395,000), which is calculated as follows:

Weighted average number of ordinary shares (basic)

	2023 000s	2022 000s
Issued ordinary shares at the start of the year	65,774	65,761
Effect of own shares held	(468)	(373)
Shares issued on exercise of stock options	1	7
Shares issued in relation to Employee Benefit Trust	250	–
Weighted average number of ordinary shares in year	65,557	65,395

Diluted earnings per share from continuing operations

	2023 (pence)	2022 (pence)
Diluted earnings per share	50.5	62.2

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 £33.3m (2022: £40.9m) and a weighted average number of ordinary shares outstanding, after adjusting for the effects of all potential dilutive ordinary shares, of 65,988,000 (2022: 65,714,000), which is calculated as follows:

Weighted average number of ordinary shares (diluted)

	2023 000s	2022 000s
Weighted average number of ordinary shares (basic)	65,557	65,395
Dilutive effect of share awards and options	441	319
Weighted average number of ordinary shares for the purposes of diluted earnings per share	65,998	65,714

Adjusted earnings per share from continuing operations

	2023 (pence)	2022 (pence)
Adjusted earnings per share	84.8	82.7
Diluted adjusted earnings per share	84.2	82.3

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, other gains and losses and exceptional items, after charging taxation associated with those profits, of £55.6m (2022: £54.1m), which is calculated as follows:

	2023 £m	2022 £m
Profit before tax from continuing operations	39.4	48.4
Add/(deduct):		
Net IAS 41 valuation movement on biological assets (see note 11)	16.9	5.4
Amortisation of acquired intangible assets (see note 10)	7.7	8.3
Share-based payment expense	6.0	3.7
Exceptional items (see note 4)	3.5	2.0
Other gains and losses (see note 5)	(2.7)	-
Net IAS 41 valuation movement on biological assets in joint ventures (see note 13)	(3.6)	1.4
Tax on joint ventures and associates (see note 13)	3.9	2.6
Attributable to non-controlling interest	0.4	(0.3)
Adjusted profit before tax	71.5	71.5
Adjusted tax charge	(15.9)	(17.4)
Adjusted profit after tax	55.6	54.1
Effective tax rate on adjusted profit	22.2%	24.3%

9. 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

	2023 £m	2022 £m
Final dividend		
Final dividend for the year ended 30 June 2022 of 21.7 pence per share	14.3	-
Final dividend for the year ended 30 June 2021 of 21.7 pence per share	-	14.2
Interim dividend		
Interim dividend for the year ended 30 June 2023 of 10.3 pence per share	6.7	-
Interim dividend for the year ended 30 June 2022 of 10.3 pence per share	-	6.7
Total dividend	21.0	20.9

The Directors have proposed a final dividend of 21.7 pence per share for 2023. 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 2023 is 32.0 pence per share (2022: 32.0 pence per share).

10. 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 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
Additions	–	–	–	–	9.3	–	–	9.3
Transfers	–	–	–	5.9	(5.9)	–	–	–
Effect of movements in exchange rates	(0.2)	(4.0)	(4.2)	(0.3)	(0.1)	(1.1)	–	(5.7)
Balance at 30 June 2023	56.3	98.9	155.2	34.5	7.0	25.7	4.4	226.8
Amortisation and impairment losses								
Balance at 1 July 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
Amortisation for the year	3.3	4.4	7.7	2.9	–	2.7	0.1	13.4
Effect of movements in exchange rates	0.1	(3.3)	(3.2)	(0.2)	–	(0.6)	–	(4.0)
Balance at 30 June 2023	42.5	81.2	123.7	18.2	–	14.4	4.3	160.6
Carrying amounts								
At 30 June 2023	13.8	17.7	31.5	16.3	7.0	11.3	0.1	66.2
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

Included within brands, multiplier contracts and customer relationships are carrying amounts for brands of £0.6m (2022: £0.5m), multiplier contracts of £9.2m (2022: £11.1m) and customer relationships of £7.9m (2022: £11.2m).

Included within the software class of assets is £9.5m (2022: £6.9m) and included in assets in the course of construction is £2.3m (2022: £2.7m) that relate to the ongoing development costs of GenusOne, our single global enterprise system and £1.6m (2022: £nil) that relate to IntelliGen.

11. BIOLOGICAL ASSETS

	Bovine £m	Porcine £m	Total £m
Fair value of biological assets			
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
Increases due to purchases	23.2	228.9	252.1
Decreases attributable to sales	–	(259.4)	(259.4)
Decrease due to harvest	(14.6)	(31.4)	(46.0)
Changes in fair value less estimated sale costs	6.6	38.2	44.8
Effect of movements in exchange rates	(3.9)	(12.4)	(16.3)
Balance at 30 June 2023	99.3	242.7	342.0
Non-current biological assets	99.3	218.9	318.2
Current biological assets	–	23.8	23.8
Balance at 30 June 2023	99.3	242.7	342.0

Bovine

Bovine biological assets include £8.9m (2022: £6.9m) 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 13.2% (2022: 12.5%) 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 in note 14.

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 £91.5m (2022: £101.2m).

Decreases attributable to sales during the year of £259.4m (2022: £234.8) include £104.6m (2022: £74.0m) 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 £96.5m (2022: £119.0m) 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 £281.9m (2022: £231.4m) in respect of these contracts, comprising £105.9m (2022: £83.2m) on initial transfer of animals and semen to customers and £176.0m (2022: £148.2m) in respect of royalties received.

A risk-adjusted rate of 12.9% (2022: 10.3%) 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 (2022: seven) and their estimated useful lifespan is 1.4 years (2022: 1.4 years).

Year ended 30 June 2023

	Bovine £m	Porcine £m	Total £m
Changes in fair value of biological assets	6.6	38.2	44.8
Inventory transferred to cost of sales at fair value	1.4	(31.4)	(30.0)
Biological assets transferred to cost of sales at fair value	–	(31.4)	(31.4)
	8.0	(24.6)	(16.6)
Fair value movement in related financial derivative	–	(0.3)	(0.3)
Net IAS 41 valuation movement on biological assets ¹	8.0	(24.9)	(16.9)

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)

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)

12. 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 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
Additions	0.2	3.1	19.8	23.1	2.0	8.9	10.9	34.0
Transferred from assets held for sale	0.2	–	–	0.2	–	–	–	0.2
Transfers	18.3	12.1	(30.4)	–	–	–	–	–
Disposals	(1.3)	(3.7)	(0.3)	(5.3)	–	(4.9)	(4.9)	(10.2)
Effect of movements in exchange rates	(6.4)	(5.4)	(1.8)	(13.6)	(1.8)	(0.8)	(2.6)	(16.2)
Balance at 30 June 2023	111.2	119.7	16.9	247.8	31.7	31.6	63.3	311.1
Depreciation and impairment losses								
Balance at 1 July 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
Depreciation for the year	5.6	12.8	–	18.4	4.6	7.2	11.8	30.2
Disposals	(1.1)	(2.7)	–	(3.8)	–	(4.7)	(4.7)	(8.5)
Impairment	–	–	–	–	–	–	–	–
Effect of movements in exchange rates	(2.2)	(3.6)	–	(5.8)	(0.7)	(0.4)	(1.1)	(6.9)
Balance at 30 June 2023	34.5	79.8	–	114.3	15.3	17.1	32.4	146.7
Carrying amounts								
At 30 June 2023	76.7	39.9	16.9	133.5	16.4	14.5	30.9	164.4
At 30 June 2022	68.0	40.3	29.6	137.9	20.1	13.4	33.5	171.4

13. EQUITY ACCOUNTED INVESTEEES

	2023 £m	2022 £m
Balance at 1 July	41.2	34.1
Share of post-tax retained profits of joint ventures and associates	10.5	5.2
Additions	1.0	2.2
Long term loan investment	1.9	–
Dividends received from Agrocere – PIC Genética de Suínos Ltda (Brazil)	(2.4)	(3.1)
Dividends received from Società Agricola GENEETIC S.r.l (Italy)	(0.2)	(0.1)
Effect of other movements including exchange rates	1.5	2.9
Balance at 30 June	53.5	41.2

The additions in the year solely relate to cash injections made to Inner Mongolia Haoxiang Pig Breeding Co. Ltd. to fund their operation.

There are no significant restrictions on the ability of the joint ventures and associates to transfer funds to the Parent, other than those imposed by the Companies Act 2006 or equivalent government rules within the joint venture's jurisdiction.

Summary unaudited financial information for equity accounted investees, adjusted for the Group's percentage ownership, is shown below:

Income Statement	Revenue £m	Net IAS 41 valuation movement on biological assets £m	Expenses £m	Taxation £m	Profit after tax £m
Year ended 30 June 2023	48.1	3.6	(37.3)	(3.9)	10.5
Year ended 30 June 2022	39.9	(1.4)	(30.7)	(2.6)	5.2

14. INVENTORIES

	2023 £m	2022 £m
Biological assets' harvest classed as inventories	22.7	20.9
Raw materials and consumables	3.9	3.6
Goods held for resale	34.7	26.4
Inventories	61.3	50.9

15. TRADE AND OTHER RECEIVABLES

	2023 £m	(restated ¹) 2022 £m
Trade receivables (restated ¹)	95.4	95.7
Less expected credit loss allowance	(3.9)	(4.3)
Trade receivables net of impairment	91.5	91.4
Other debtors	8.1	10.7
Prepayments	7.7	8.5
Contract assets (restated ¹)	22.4	17.3
Other taxes and social security	2.4	1.6
Current trade and other receivables	132.1	129.5
Other debtors	3.0	3.7
Contract assets	5.2	4.9
Non-current other receivables	8.2	8.6
Trade and other receivables	140.3	138.1

1 See note 2 for details of the prior period restatement.

Trade receivables

The average credit period our customers take on the sales of goods is 48 days (2022 (restated¹): 56 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 (2022: no more than 5%).

16. TRADE AND OTHER PAYABLES

	2023 £m	2022 £m
Trade payables	34.8	36.0
Other payables	11.6	8.2
Accrued expenses	58.1	61.4
Contract liabilities	9.8	10.1
Other taxes and social security	7.7	9.0
Current trade and other payables	122.0	124.7
Contract liabilities	–	0.2
Non-current trade and other payables	–	0.2

The average credit period taken for trade purchases is 32 days (2022: 39 days).

17. 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/(asset) split by principal scheme is set out below.

	2023 £m	2022 £m
The Milk Pension Fund – Genus's share	–	–
The Dalgety Pension Fund	–	–
National Pig Development Pension Fund	(0.2)	0.1
Post-retirement healthcare	0.5	0.6
Other unfunded schemes	6.6	7.6
Overall net pension liability	6.9	8.3

Overall, we expect to pay £0.9m (2022: £1.0m) in contributions to defined benefit plans in the 2024 financial year.

Aggregated position of defined benefit schemes

	2023 £m	2022 £m
Present value of funded obligations (includes Genus's 86% share of MPF (2022: 86%))	746.8	857.6
Present value of unfunded obligations	7.4	8.4
Total present value of obligations	754.2	866.0
Fair value of plan assets (includes Genus's 86% share of MPF (2022: 86%))	(787.6)	(936.3)
Restricted recognition of asset (MPF and DPF)	40.3	78.6
Recognition of additional liability (MPF)	–	–
Recognised liability for defined benefit obligations	6.9	8.3

Summary of movements in Group deficit during the year

	2023 £m	2022 £m
Deficit in schemes at the start of the year	(8.3)	(11.1)
Administration expenses	(0.7)	(0.4)
Exceptional cost	–	(0.4)
Contributions paid into the plans	1.5	3.5
Net pension finance cost	(0.2)	(0.2)
Actuarial (losses)/gains recognised during the year	(40.4)	27.3
Movement in restriction of assets	38.3	(69.8)
Release of additional liability	3.0	43.7
Exchange rate adjustment	(0.1)	(0.9)
Deficit in schemes at the end of the year	(6.9)	(8.3)

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

	2023 £m	2022 £m
Administrative expenses	0.7	0.4
Exceptional cost	–	0.4
Net finance charge	0.2	0.2
	0.9	1.0

Actuarial assumptions and sensitivity analysis

Principal actuarial assumptions (expressed as weighted averages) are:

	2023	2022
Discount rate	5.25%	3.90%
Consumer Price Index	2.65%	2.40%
Retail Price Index	3.05%	2.90%

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 2023, the mortality tables used are 100% of the S3PMA (males)/S3PFA_M (females) all lives tables, with birth year and CMI 2022 projections with parameters of Sk=7.0 and A=0.5% and weighting parameters of w2020=0%, w2021=0% and w2022=25%, subject to a long-term rate of improvement of 1.50% per annum for males and females and 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% per annum for males and females.

18. NOTES TO THE CASH FLOW STATEMENT

	2023 £m	2022 £m
Profit for the year	31.8	36.7
Adjustment for:		
Net IAS 41 valuation movement on biological assets	16.9	5.4
Amortisation of acquired intangible assets	7.7	8.3
Share-based payment expense	6.0	3.7
Share of profit of joint ventures and associates	(10.5)	(5.2)
Other gains and losses	(2.7)	-
Finance costs (net)	14.3	6.2
Income tax expense	7.6	11.7
Exceptional items (net)	3.5	2.0
Adjusted operating profit from continuing operations	74.6	68.8
Depreciation of property, plant and equipment	30.2	26.4
Loss on disposal of plant and equipment	0.1	0.4
Amortisation and impairment of intangible assets	5.7	4.3
Adjusted earnings before interest, tax, depreciation and amortisation	110.6	99.9
Cash impact of exceptional items relating to operating activities	(7.1)	1.1
Other movements in biological assets and harvested produce	(11.1)	(19.1)
Decrease in provisions	(1.0)	-
Additional pension contributions in excess of pension charge	(0.6)	(3.1)
Other	0.2	0.2
Operating cash flows before movement in working capital	91.0	79.0
Increase in inventories	(9.6)	(6.1)
Increase in receivables	(9.3)	(18.5)
Increase in payables	6.6	2.2
Cash generated by operations	78.7	56.6
Interest received	0.1	0.4
Interest and other finance costs paid	(10.7)	(4.0)
Interest on leased assets	(1.2)	(1.1)
Cash flow from derivative financial instruments	1.3	(0.1)
Income taxes paid	(17.8)	(17.5)
Net cash from operating activities	50.4	34.3

Analysis of net debt

Total changes in liabilities due to financing activities are as follows:

	At 1 July 2022 £m	Net cash flows £m	Foreign exchange £m	Other non-cash movements £m	At 30 June 2023 £m
Cash and cash equivalents	38.8	1.3	(3.8)	-	36.3
Interest-bearing loans – current	(7.1)	3.8	0.2	(1.1)	(4.2)
Lease liabilities – current	(10.1)	11.1	0.5	(11.5)	(10.0)
	(17.2)	14.9	0.7	(12.6)	(14.2)
Interest-bearing loans – non-current	(182.1)	(17.8)	3.9	-	(196.0)
Lease liabilities – non-current	(24.5)	-	0.8	1.8	(21.9)
	(206.6)	(17.8)	4.7	1.8	(217.9)
Total debt financing	(223.8)	(2.9)	5.4	(10.8)	(232.1)
Net debt	(185.0)	(1.6)	1.6	(10.8)	(195.8)

Included within non-cash movements is £9.7m in relation to net new leases and £1.1m in the unwinding of debt issue costs.

	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.

19. 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 17 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% (2022: 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.

As described in note 4, 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 where 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 2023, we had entered into bank guarantees totalling £12.6m (2022: £20.2m).

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. <i>Closest equivalent IFRS measure: Operating profit¹</i> 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 but it is also a measure excluded from our managements remuneration assessment, as well as our debt agreements and banking covenants. It is also one requested and used by our investor group to evaluate our performance.; > 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. <i>Closest equivalent IFRS measure: Effective tax rate</i> 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.

Alternative Performance Measures	Calculation methodology and closest equivalent IFRS measure (where applicable)	Reasons why we believe the APMs are useful
Adjusted basic earnings per share	Adjusted profit after tax profit divided by the weighted basic average number of shares. <i>Closest equivalent IFRS measure: Earnings per share</i> See reconciliation 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. <i>Closest equivalent IFRS measure: Diluted earnings per share</i> See reconciliation below	
Adjusted earnings cover	Adjusted earnings per share divided by the expected dividend for the year. See reconciliation below.	The Board's dividend policy targets 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. <i>Closest equivalent IFRS measure: Operating profit¹</i> 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.
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 reconciliation 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. <i>Closest IFRS measure: Net cash flow from operating activities</i> 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.	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.

Alternative Performance Measures	Calculation methodology and closest equivalent IFRS measure (where applicable)	Reasons why we believe the APMs are useful
	<p><i>Closest equivalent IFRS components for the ratio: The equivalent IFRS components are finance costs, finance income and operating profit</i></p> <p>See reconciliation below</p>	
Ratio of net debt to adjusted EBITDA	<p>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.</p> <p><i>Closest equivalent IFRS components for the ratio: The equivalent IFRS components are gross debt, cash and cash equivalents and operating profit</i></p> <p>See reconciliation below</p>	<p>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.</p>
Return on adjusted invested capital	<p>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.</p> <p>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.</p> <p><i>Closest equivalent IFRS components for the ratio: Return on invested capital</i></p> <p>See reconciliation below</p>	<p>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.</p>

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

	2023		2022		
	£m	£m	£m	£m	Reference
Operating profit		40.5		49.4	Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	16.9		5.4		Group Income Statement
Amortisation of acquired intangible assets	7.7		8.3		Group Income Statement
Share-based payment expense	6.0		3.7		Group Income Statement
Exceptional items	3.5		2.0		Group Income Statement
Adjusted operating profit exc JVs		74.6		68.8	Group Income Statement
Amounts attributable to non-controlling interest		0.4		(0.3)	Group Income Statement
Operating profit from JVs and associates	10.5		5.2		Group Income Statement
Tax on JVs and associates	3.9		2.6		Note 7 – Income tax expense
Net IAS 41 valuation movement	(3.6)		1.4		Note 13 – Equity accounted investees
Adjusted operating profit inc JVs		85.8		77.7	
Gene editing costs		14.3		7.9	Note 3 – Segmental information
Adjusted operating profit inc JVs and exc gene editing costs		100.1		85.6	

Adjusted operating profit inc JVs after tax

	2023	2022	
	£m	£m	Reference
Adjusted operating profit inc JVs	85.8	77.7	See APM
Effective Tax Rate	22.2%	24.3%	Note 8 – Earnings per share
Adjusted tax	(19.0)	(18.9)	No direct reference
Adjusted operating profit inc JVs after tax	66.8	58.8	

Adjusted profit inc JVs before tax

Adjusted profit inc JVs after tax

	2023	2022	
	£m	£m	Reference
Adjusted operating profit inc JVs	85.8	77.7	See APM
Less net finance costs	(14.3)	(6.2)	Note 6 – Net finance costs
Adjusted profit inc JVs before tax	71.5	71.5	
Adjusted tax	(15.9)	(17.4)	Note 8 – Earnings per share
Adjusted profit inc JVs after tax	55.6	54.1	

Adjusted effective tax £m/rate

	2023		2022		
	£m	%	£m	%	Reference
Adjusted effective tax £m/rate	15.9	22.2	17.4	24.3	Note 8 – Earnings per share
Exceptional items	(0.9)	(25.7)	(0.8)	(40.0)	No direct reference
Share-based payment expense	(0.8)	(14.5)	(0.5)	(13.5)	No direct reference
Other gains and losses	0.7	25.0	-	-	No direct reference
Amortisation of acquired intangible assets	(1.9)	(24.7)	(3.3)	(39.8)	No direct reference
Net IAS 41 valuation movement on biological assets	(1.5)	(8.8)	1.5	27.8	No direct reference
Effective tax £m/rate	11.5	26.6	14.3	28.0	Note 7 – Taxation and deferred taxation

Adjusted basic earnings per share

	2023	2022	Reference
Adjusted profit inc JVs after tax (£m)	55.6	54.1	See APM
Weighted average number of ordinary shares (000s)	65.557	65.395	Note 8 – Earnings per share
Adjusted basic earnings per share (pence)	84.8	82.7	

Adjusted diluted earnings per share

	2023	2022	Reference
Adjusted profit inc JVs after tax (£m)	55.6	54.1	See APM
Weighted average number of diluted ordinary shares (000s)	65.998	65.714	Note 8 – Earnings per share
Adjusted diluted earnings per share (pence)	84.2	82.3	

Adjusted earnings cover

	2023	2022	
	pence	pence	Reference
Adjusted earnings per share	84.8	82.7	See APM
Dividend for the year	32.0	32.0	Note 9 – Dividends
Adjusted earnings cover	2.7	2.6	

Adjusted EBITDA – as calculated under our financing facilities

	2023		2022		Reference
	£m	£m	£m	£m	
Operating profit		40.5		49.4	Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	16.9		5.4		Group Income Statement
Amortisation of acquired intangible assets	7.7		8.3		Group Income Statement
Share-based payment expense	6.0		3.7		Group Income Statement
Exceptional items	3.5		2.0		Group Income Statement
Adjusted operating profit exc JVs	74.6		68.8		Group Income Statement
Adjust for:					
Cash received from JVs (dividend and loan investment)	0.7		3.2		Group Statement of Cash Flows
Depreciation: property, plant and equipment	30.2		26.4		Note 12 – Property, plant and equipment
Operational lease payments	(12.3)		(12.4)		No direct reference
Depreciation: historical cost of biological assets	13.4		10.7		No direct reference
Amortisation and impairment (excluding separately identifiable acquired intangible assets)	5.7		4.3		Note 10 – Intangible assets
Amounts attributable to non-controlling interest	0.4		(0.3)		Group Income Statement
Adjusted EBITDA – as calculated under our financing facilities		112.7		100.7	

BALANCE SHEET MEASURES

Net debt

Net debt as calculated under our financing facilities

	2023		2022		Reference
	£m	£m	£m	£m	
Current unsecured bank loans and overdrafts	4.2		7.1		
Non-current unsecured bank loans and overdrafts	196.0		182.1		
Unsecured bank loans and overdrafts		200.2		189.2	Group Balance Sheet
Current obligations under finance leases	10.0		10.1		
Non-current obligations under finance leases	21.9		24.5		
Obligations under finance leases		31.9		34.6	Group Balance Sheet
Total debt financing		232.1		223.8	Note 18 – Notes to the cash flow statement
Deduct:					
Cash and cash equivalents		(36.3)		(38.8)	Group Balance Sheet
Net debt		195.8		185.0	
Deduct:					
Lower of obligations under finance leases or £30m		(30.0)		(30.0)	
Add back:					
Guarantees		12.6		20.2	Note 19 – Contingencies and bank guarantees
Cash not available		0.8		–	No direct reference
Net debt – as calculated under our financing facilities		179.2		175.2	

CASH FLOW MEASURES

Cash conversion

	2023		2022		Reference
	£m	£m	£m	£m	
Cash generated by operations		78.7		56.6	Note 18 – Notes to the cash flow statement
Operating profit	40.5		49.4		Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	16.9		5.4		Group Income Statement
Amortisation of acquired intangible assets	7.7		8.3		Group Income Statement
Share-based payment expense	6.0		3.7		Group Income Statement
Exceptional items	3.5		2.0		Group Income Statement
Adjusted operating profit exc JVs		74.6		68.8	Group Income Statement
Cash conversion (%)		105%		82%	

Free cash flow

	2023		2022		Reference
	£m	£m	£m	£m	
Cash generated by operations		78.7		56.6	Note 18 – Notes to the cash flow statement
Net interest and tax paid		(28.3)		(22.3)	Note 18 – Notes to the cash flow statement
Capital expenditure		(35.2)		(50.9)	Group Statement of Cash Flows
Dividends received from JV and associates		2.6		3.2	Group Statement of Cash Flows
Joint venture and associate loan investment		(1.9)		–	Group Statement of Cash Flows
Proceeds from sale of property, plant and equipment		2.4		–	Group Statement of Cash Flows
Dividend to non-controlling interest		(0.1)		(0.1)	Group Statement of Cash Flows
Free cash flow		18.2		(13.5)	

OTHER MEASURES

Interest cover

	2023		2022		Reference
	£m	Times	£m	Times	
Finance costs	15.4		6.6		Group Income Statement
Finance income	(1.1)		(0.4)		Group Income Statement
Net finance costs	14.3		6.2		Note 6 – Net finance costs
Deduct:					
Pension interest	(0.2)		(0.2)		Note 6 – Net finance costs
Interest on lease liabilities	(1.2)		(1.1)		Note 6 – Net finance costs
Unwinding discount on put options	(0.3)		(0.2)		Note 6 – Net finance costs
Amortisation of refinancing fees	(1.1)		(0.9)		Note 6 – Net finance costs
Adjusted net finance costs	11.5		3.8		
Adjusted EBITDA – as calculated under our financing facilities	112.7		100.7		See APM
Interest cover		10		27	

Ratio of net debt to adjusted EBITDA

	2023		2022		Reference
	£m	Times	£m	Times	
Net debt – as calculated under our financing facilities	179.2		175.2		See APM
Adjusted EBITDA – as calculated under our financing facilities	112.7		100.7		See APM
Ratio of net debt to EBITDA		1.6		1.7	

Return on adjusted invested capital

	2023		2022		Reference
	£m	%	£m	%	
Adjusted operating profit inc JVs after tax	66.8		58.8		See APM
Equity attributable to owners of the Company	574.9		578.5		Group Balance Sheet
Add back:					
Net debt	195.8		185.0		Note 18 – Notes to the cash flow statement
Pension liability	6.9		8.3		Group Balance Sheet
Related deferred tax	(1.2)		(1.3)		No direct reference
Adjust for:					
Biological assets – carrying value	(342.0)		(366.8)		Note 11 – Biological assets
Biological assets' harvest classed as inventories	(22.7)		(20.9)		Note 14 – Inventories
Biological assets – historic cost	83.4		77.2		No direct reference
Goodwill	(107.8)		(111.0)		Group Balance Sheet
Related deferred tax	67.7		73.0		No direct reference
Adjusted invested capital	455.0		422.0		
Return on adjusted invested capital		14.7%		13.9%	

Return on invested capital

	2023		2022		Reference
	£m	%	£m	%	
Return on adjusted invested capital		14.7%		13.9%	See APM
Adjusted operating profit inc JVs after tax	66.8		58.8		See APM
Tax rate	19.0	22.2%	18.9	24.3%	Note 8 – Earnings per share
Adjusted operating profit inc JVs	85.8		77.7		Group Income Statement
Adjusted operating profit attributable to non-controlling interest	(0.4)		0.3		Group Income Statement
Pre-tax share of profits from JVs exc net IAS 41 valuation movement	(10.8)		(9.2)		Group Income Statement
Adjusted operating profit exc JVs	74.6		68.8		Group Income Statement
Fair value movement on biological assets	(16.9)		(5.4)		Group Income Statement
Amortisation of acquired intangibles	(7.7)		(8.3)		Group Income Statement
Share-based payment expense	(6.0)		(3.7)		Group Income Statement
Exceptional items	(3.5)		(2.0)		Group Income Statement
Share of post-tax profit of JVs	10.5		5.2		Group Income Statement
Other gains and losses	2.7		-		Group Income Statement
Finance costs	(14.3)		(6.2)		Group Income Statement
Profit before tax	39.4		48.4		Group Income Statement
Tax	(7.6)		(11.7)		Group Income Statement
Profit	31.8		36.7		Group Income Statement
Equity attributable to owners of the Company	574.9		578.5		Group Balance Sheet
Return on invested capital		5.5%		6.3%	