Immediate 9 September 2021

Genus plc

Preliminary results for the year ended 30 June 2021

VERY STRONG PERFORMANCE and SIGNIFICANT STRATEGIC PROGRESS

Year ended 30 June	Adjusted results[1]				Statutory results		
	Actual currency			Constant currency change[2]	Actual currency		
	2021	restated 2020[3]	Change		2021	restated 2020[3]	Change
	£m	£m	%	%	£m	£m	%
Revenue	**574.3**	551.4	4	10	**574.3**	551.4	4
Operating profit exc JVs	**76.9**	60.1	28	34	**47.7**	42.4	13
Operating profit inc JVs exc gene editing	**97.4**	76.0	28	37	**n/a**	n/a	n/a
Profit before tax	**84.8**	65.8	29	38	**55.8**	46.3	21
Profit before tax excluding SaaS impact[3]	**87.5**	71.0	23	32			
Free cash flow	**37.5**	35.2	7	n/m[4]			
Basic earnings per share (pence)	**100.9**	77.3	31	40	**72.6**	54.4	33
Dividend per share (pence)					**32.0**	29.1	10

Revenue growth of 4% in actual currency and 10% in constant currency[2]

- Strong revenue growth of 11%[2] in PIC, our porcine genetics business; royalty revenue up 11%[2], with royalty revenue in China more than doubling and good growth in Latin America and Europe
- Continued royalty growth and high breeding stock sales in China contributed to PIC volume growth of 11% (up 5% excluding China)
- Excellent revenue growth of 13%[2] in ABS, our bovine genetics business, particularly in Brazil, Russia, India and China; continued success with Sexcel® (sexed genetics) and NuEra® (beef genetics)
- Record ABS volume growth of 15%, with sexed volumes up 29% and beef up 22%

Very strong adjusted profit before tax ('PBT')[1] growth, up 38% in constant currency[2]; statutory PBT at £55.8m

- Adjusted operating profit including joint ventures and excluding gene editing cost[1] up 37%[2]
- Double digit adjusted operating profit growth[1] in PIC (up 16%[2]) and ABS (up 21%[2]); R&D investment increased 2%[2]
- Statutory PBT increased 21% to £55.8m, adversely impacted by a reduced net IAS 41 non-cash fair value biological asset valuation, offset by lower exceptional costs
- Foreign currency translation adverse impact on adjusted PBT of £6.3m, primarily reflecting weakness in LATAM currencies

Strong cash generation, earnings momentum and increased dividend

- Strong free cash flow[1] of £37.5m, net debt[1] of £105.6m, net debt to EBITDA[1] ratio remains strong at 0.9x
- Adjusted earnings per share[1] up 40% in constant currency[2]
- Recommended final dividend up 10% with 3.2x adjusted earnings cover[1]

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

[2] Constant currency percentage movements are calculated by restating the results for the year ended 30 June 2021 at the average exchange rates applied to adjusted operating profit for the year ended 30 June 2020.

[3] The Group has changed its accounting policy related to the capitalisation of certain software assets following the IFRIC Interpretation Committee's agenda decision published in April 2021. This change in accounting policy led to an increase in operating expenses of £2.7m in the current year and £5.2m for FY20. All FY20 results are restated and for details of the full impact see Note 2 Basis of Preparation. Profit before tax excluding SaaS impact' is presented only this year to demonstrate the impact of our change in accounting policy and will not be presented in future in the years.

[4] n/m = not meaningful

Significant strategic progress

- Continued to win new customers globally, due to our leading porcine and bovine genetics; genetic improvements contributing to the reduction in use of energy, water and land in animal protein production
- PIC China continues to win customers; five new key accounts in FY21; now serving over one third of top Chinese producers
- Continued shift in ABS's product mix; 23% of global sales volume comprising sexed genetics and embryos reflecting Sexcel's® continued success; 29% beef genetics reflecting the growing use of NuEra beef genetics in dairy herds
- Acquisition in Spain of Sergal (total consideration £7.7m) expands supply chain and sireline market share in world's fourth largest pig market
- GenusOne enterprise system successful roll-out continues, with North America completed and Spain now live
- Significant capex investment underway, to support expansion of best-in-industry facilities for PIC and ABS
- Good progress with carbon reduction with the primary intensity ratio[5] reduced by 11% cumulative compared with FY19 baseline

Building R&D capabilities and opportunity pipeline

- Good progress with the Porcine Reproductive Respiratory Syndrome virus ('PRRSv') resistance development programme, with two successful disease trials and a defined path to regulatory approval
- Next generation of IntelliGen, Gen2 ('Gen2') sexing technology launched; more compact, effective and efficient than the previous generation technology
- Rapidly built world class reproductive biology team and secured strategic partnerships with leading external collaborators
- Strategic minority investment in Xelect (£2.4m), a genetics improvement consultancy in the fast-growing aqua genetics market

Stephen Wilson, Chief Executive, commenting on the performance and outlook said:

"Genus performed very strongly and made significant strategic progress in the 2021 fiscal year. The Group continued to show its resilience during the COVID-19 pandemic and I would like to thank our people who have shown great dedication to our customers whilst navigating the many challenges that the pandemic has caused.

"Both PIC and ABS grew adjusted operating profits in double digits, with China, Brazil, India and Russia being notably high growth markets. PIC continued its expansion in China and gained further share with large producers, as they continued to rebuild as a result of African Swine Fever. PIC had success around the world with key accounts as a result of our leading genetics and supply chain. The acquisition of Sergal in June 2021 will further strengthen our supply chain and market share in the important Spanish market.

"ABS's volume growth in the year was a record, driven by the continued success of Sexcel®, and strong performance by our proprietary NuEra® beef genetics. Latin America, Europe and Asia all grew strongly, and ABS's adjusted operating margin improved through better product mix and operating leverage.

"We also made significant progress across many fronts in our R&D programmes, with for example successful disease trials of our PRRSv resistant pigs, and the establishment of a new world leading team in reproductive biology.

"Looking ahead, the outlook for the Group remains positive and we are confident in our strategy and the many opportunities for Genus. Group performance in FY20 and FY21 was very strong, with good growth across both ABS and PIC, led in particular by strong growth in PIC China, where the opportunity remains large. However, recent volatility in the Chinese porcine market is expected to continue for some months, creating a short-term headwind in FY22, primarily for PIC China. As a result of this headwind, and despite an expected strong performance in the other areas of the business, we expect Genus's growth to be lower than our medium-term goal in the current year before increasing again in FY23."

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

Results presentation today

A pre-recorded analysts and bankers briefing to discuss the preliminary results for the year ended 30 June 2021 will be held via a video webcast facility and will be accessible via the following link from 7:01am today:

https://webcasting.buchanan.uk.com/broadcast/611b87c8c97de6636c2d95db

This will be followed by a live Q&A session to be held by invitation via Zoom at 10:30am.

Enquiries:

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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 80 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.

Chief Executive's Review

Significant progress

This was a very successful year for Genus. We delivered a very strong operational and financial performance, made further significant progress with our strategy and continued to drive our innovation agenda, as we strive to fulfil our vision of 'Pioneering animal genetic improvement to help nourish the world'. Advancing sustainability has always been fundamental to our business and vision, and we made good progress with our ESG agenda in the year.

Group Performance

The Group's financial performance was excellent, with Genus achieving its fastest profit before tax growth rate in over 10 years despite the currency headwinds. Revenue rose by 4% and adjusted profit before tax of £84.8m was 29% higher, or 38% in constant currency.

Both businesses achieved growth in their key metrics. In constant currency, Genus PIC's revenue increased by 11% and the strategically important porcine royalty revenue was 11% higher. This contributed to adjusted operating profit including joint ventures being 16% up in constant currency. All regions contributed to this growth, with China a key driver as producers restocked as a result of African Swine Fever. Russia and Brazil were also particularly strong.

Genus ABS increased revenue and adjusted operating profit by 13% and 21% respectively, in constant currency. This was underpinned by a 15% increase in volumes. Sexed volumes grew by 29%, reflecting the ongoing success of Sexcel, and global beef volumes were 22% higher, supported by increased use of NuEra beef genetics in dairy herds. Again, growth was broadly spread geographically, with Brazil, Russia, India and China all performing well.

We continued to invest significantly in R&D, so we can bring the benefits of the latest and best science to our customers. Net R&D expenditure was £62.5m in the year (up 2% in constant currency), with primary research expenditure in addition to gene editing increasing 42% in constant currency to £13.3m. We have further strengthened our differentiated and proprietary offerings and invested in key strategic initiatives, including gene editing, the next generation of IntelliGen technology ('Gen2'), and reproductive biology, as well as further developing our R&D pipeline.

Strategic Progress

Our PRRSv-resistance programme is making pleasing progress, with the successful completion of two rounds of disease trials of our gene-edited pigs. We have a defined path to regulatory approval, including the timeline to complete our Food and Drug Administration (FDA) submissions and the steps we need to take to achieve this. In China, we are collaborating successfully with our partner BCA, which is engaging positively with the Chinese regulatory authorities.

We continue to drive innovation across the Group, including delivering further improvements to our IntelliGen technology. We have now launched Gen2 of IntelliGen, which is more compact, effective and efficient than the previous generation technology. It has been introduced in our Dekorra, Wisconsin facility and we plan to introduce it shortly to our new facility at Leeds, Wisconsin, which started to receive bulls in the summer of 2021. In addition, we have launched a major new R&D programme in reproductive biology and have established a new world-class team in this area.

The implementation of GenusOne, our new enterprise system, is continuing. We completed the roll out in North America and in Spain during the year and are now working on the roll out to the remainder of the Group over the next two years. GenusOne will be a key enabler of leveraging our scale at a Group level and giving greater visibility of business data. As we roll out GenusOne, we are also introducing a new target operating model to standardise our procurement and financial processes and reporting worldwide.

Investing in our digital capabilities in our interactions with customers is another important theme. Our ABS business in Latin America has had great success through digital sales during COVID-19 and we will introduce more digital customer engagement across ABS, to enhance the customer experience. To support our scientific programmes, we are also investing in data science, to help us extract new insights from the rapidly expanding sources of data being generated by farmers.

Spain is the world's fourth largest porcine market and we have expanded our supply chain and market share in the male side of the business, through the acquisition of Sergal, a leading Spanish boar stud operator. In addition, we have taken a minority stake in Xelect, an aqua genetic improvement consultancy based in Scotland. We are pleased to have started a partnership in this space and look forward to the opportunities this may open up to gain a presence in the fast-growing aqua genetics market.

Finally, we are investing at a record pace in new facilities to lay the foundations for continuing future growth, including new bull housing and Intelligen production facilities, a major new porcine nucleus in Canada, a boar stud in Russia and new porcine capacity in China.

Advancing ESG

Sustainability in particular, is at the core of our business. The ongoing genetic improvement we deliver helps farmers to produce more protein with fewer resources and a lower carbon footprint, whether that is through producing pigs which convert feed more efficiently into growth or enhancing the productivity of dairy cows. We have commitments to reduce our own carbon footprint by 25% by 2030 and have a roadmap and planned investments to achieve this. In the year our carbon emissions reduced by 6.8% and our primary intensity ratio[6] reduced by 0.2%, with a cumulative primary intensity ratio reduction against the 2019 base year of 11.3% achieved towards the 2030 goal.

People

To achieve our vision of pioneering animal genetic improvement to help nourish the world, we need to attract, develop and retain outstanding people. The Genus Executive Leadership Team was unchanged during the year and we continued to add to our strength in depth, hiring talented leaders to head up data science, reproductive biology and genomics. Our AWAKE programme, which aims to empower women to succeed in Genus, is gathering momentum, reflecting the importance we place on diversity. We have rolled out improvements in learning and development, to help our people thrive. Employee engagement measured through surveys remains high.

While the Group has demonstrated its resilience in the face of COVID-19, we know that the pandemic has placed a significant strain on our people. We have consistently focused on protecting their health and wellbeing and they in turn have risen to the challenge of serving our customers and keeping the business moving ahead. As a gesture of gratitude, I was pleased to announce a special additional payment of £500 to all employees around the world to thank them for their commitment and contribution this year.

Outlook

Looking ahead, the outlook for the Group remains positive and we are confident in our strategy and the many opportunities for Genus. Group performance in FY20 and FY21 was very strong, with good growth across both ABS and PIC, led in particular by strong growth in PIC China, where the opportunity remains large. However, recent volatility in the Chinese porcine market is expected to continue for some months, creating a short-term headwind in FY22, primarily for PIC China. As a result of this headwind, and despite expected strong performance in the other

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

areas of the business, we expect Genus's growth to be lower than our medium-term goal in the current year before increasing again in FY23.

Financial and Operating Review
Financial Review

In the year ended 30 June 2021, the Group's overall performance was very strong despite some ongoing impacts from COVID-19. The resilience of our operations was reflected in revenue growth of 4% (10% in constant currency) and adjusted operating profit growth including joint ventures of 27% (36% in constant currency) on a restated basis (see below). This was after another year of significant investment in R&D of £62.5m (up 2% in constant currency, down 4% in actual currency). Excluding gene editing costs, adjusted operating profit including joint ventures increased by 37% in constant currency and adjusted profit before tax was up 38% (29% in actual currency).

In line with the IFRIC Interpretation Committee's new agenda decision published in April 2021, the Group has changed its accounting policy related to the capitalisation of certain software assets. This change relates to the capitalisation of costs of configuring or customising application software under 'Software as a Service' (SaaS) arrangements. As a result, we are capitalising less of our GenusOne costs as the system is a Microsoft Dynamics 365 SaaS solution. This change in accounting policy led to an increase in operating expenses amounting to £2.7m in the current year and £5.2m for FY20. All FY20 results are restated. For full details of the impact see Note 2 Basis of Preparation.

On a statutory basis, profit before tax was £55.8m (2020 restated: £46.3m). The difference between statutory and adjusted profit before tax principally reflected the reduction in the non-cash fair value net IAS 41 biological assets, versus an increase last year, and lower exceptional items, principally due to the prior year reflecting £16.4m of litigation fees and damages. Basic earnings per share on a statutory basis were 72.6 pence (2020 restated: 54.4 pence).

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

The effect of exchange rate movements on the translation of our overseas profits was to reduce the Group's adjusted profit before tax for the year by £6.3m compared with 2020, primarily due to weakness in Latin American currencies. 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 2021 at the average exchange rates applied to adjusted operating profit for the year ended 30 June 2020.

Revenue

Revenue increased by 10% in constant currency and 4% in actual currency to £574.3m (2020: £551.4m). PIC's revenue growth of 11% in constant currency (up 6% in actual currency) continued to be underpinned by China, as the strong pig price for much of the year supported growth in royalty revenue and breeding stock sales, as customers expanded production. In ABS, revenue was up 13% in constant currency (5% in actual currency) reflecting continuing success of our sexed and beef genetics, particularly across Brazil, Russia, India and China.

Adjusted Operating Profit Including JVs

Year ended 30 June	Actual currency 2021	restated 2020	Change	Constant currency change
Adjusted Profit Before Tax[1]	**£m**	**£m**	**%**	**%**
Genus PIC	**135.9**	124.3	9	16
Genus ABS	**36.4**	32.5	12	21
R&D	**(62.5)**	(65.2)	4	(2)
Central costs	**(20.0)**	(20.8)	4	-

Adjusted operating profit inc JVs	**89.8**	70.8	27	36
Net finance costs	**(5.0)**	(5.0)	0	(2)
Adjusted profit before tax	**84.8**	65.8	29	38

[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 £89.8m (2020 restated: £70.8m), reflecting a high growth rate of 36% in constant currency as mentioned above. Within this, Genus's share of adjusted joint venture operating profit was higher at £13.0m (2020: £11.3m), primarily due to strong results in the PIC Agroceres JV in Brazil and our JV in China. Amounts attributable to non-controlling interests were lower at £0.1m (2020: £0.6m) due to lower third-party royalty income and a ramp up in dairy product development within our De Novo joint venture. Our gene editing investment, which is primarily focused on creating resistance in pigs against the devastating PRRSv disease, increased £2.4m to £7.6m, largely because FY20 included net income of £3.2m from BCA, our Chinese partner. Excluding this, gene editing expenditures reduced through efficiencies gained from internalising our capability to produce gene edited animals. Adjusted operating profit including joint ventures and excluding gene editing investment increased by 37% in constant currency to £97.4m (2020 restated: £76.0m), which far exceeded our medium-term objective to achieve growth of 10%. The impact to profit from COVID-19 effects on trading across the Group were largely offset by short-term travel savings of approximately £5m compared to the prior year.

PIC performed strongly, with adjusted operating profit including joint ventures up 16% in constant currency, particularly benefitting from continued strong demand in China. Volumes were up 11% (5% excluding China) with all regions contributing. Strategically important royalty revenues were up 11%, supported by strong growth in China of 121% and Europe of 11%. However North America declined 1%, due to some customers' breeding activities being impacted by COVID-19 related packing plant slowdowns in the first half of the year and PRRSv disease outbreaks in the second half of the year.

ABS had a particularly strong year, with adjusted operating profit increasing 21% and record volume growth of 15%. Sexcel continued to demonstrate that it is the sexed product of choice for progressive dairy farmers, driving overall sexed volume growth of 29%. The growing use of NuEra beef genetics in dairy herds supported beef volume growth of 22%. The COVID-19 pandemic continued to cause challenges to our customers and adjusted operating profit growth was achieved in all regions except North America. Both Asia and Latin America achieved strong double-digit growth, with the latter continuing to benefit from innovative digital sales campaigns.

Central costs were stable in constant currency at £20.0m (2020 restated: £20.8m). This included a one-time £500 award to every employee for recognition of their effort through the COVID-19 pandemic, as well as investments to design and start implementing a new target operating model for our global finance and procurement functions. Our GenusOne enterprise system roll-out continues to make good progress. As reported above, under new IFRIC guidance, the continuing costs to configure and implement the GenusOne cloud environment during the year of £2.7m (FY20: £5.2m) are now being expensed rather than capitalised, with FY20 also being restated. As these costs are one-off in nature, we have determined to keep them in Central, with the reduction over the prior year due to less configuration work as the roll-out progresses.

Statutory Profit Before Tax

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

	2021	**restated 2020**
	£m	**£m**
Adjusted Profit Before Tax	**84.8**	65.8
Operating profit attributable to non-controlling interest	**0.1**	0.6
Net IAS 41 valuation movement on biological assets in JVs and associates	**3.1**	(0.1)
Tax on JVs and associates	**(3.0)**	(2.3)
Adjusting items:		
Net IAS 41 valuation movement on biological assets	**(10.8)**	15.8
Amortisation of acquired intangible assets	**(7.4)**	(8.5)
Share-based payment expense	**(7.7)**	(5.8)
Exceptional items	**(3.3)**	(19.2)
Statutory Profit Before Tax	**55.8**	46.3

Our statutory profit before tax was £55.8m (2020 restated: £46.3m), largely reflecting the increase in the underlying trading performance and the reduction in exceptional items, partially offset by the non-cash fair value net IAS 41 biological asset movement. Within this, there was a £6.4m uplift (2020: £13.2m uplift) in porcine biological assets and a £17.2m reduction (2020: £2.6m uplift) in bovine biological assets, due to certain fair value model estimate changes. Share-based payment expense was £7.7m (2020: £5.8m). 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 £3.3m net exceptional expense in the year (2020: £19.2m expense), which included legal fees of £2.5m (2020: £5.6m) and with the prior year also being impacted by £10.8m of damages and costs in relation to Genus ABS's litigation with STGenetics. A non-cash Guaranteed Minimum Pension ('GMP') equalisation charge of £2.3m in respect of pension schemes has also been recognised, due to a High Court ruling on 20 November 2020, which ruled individual transfer payments made by UK pension schemes since 17 May 1990 need to be equalised for the effects of GMP. Also included is a credit of £2.0m in relation to a share forfeiture exercise.

Net Finance Costs

Net finance costs were unchanged at £5.0m (2020: £5.0m). Average facility borrowings were comparable year on year, with reductions in market interest rates being largely offset by increased bank margins in relation to the Group's new Facility Agreement, which was executed in August 2020, as well as higher commitment and utilisation fees.

Amortisation costs in the year included £0.2m written off in respect of the previous facility, at the commencement of the new Facility Agreement, and £0.3m from the higher monthly amortisation costs of the new facility, which are being spread over a shorter three-year duration.

Other interest included £0.8m (2020: £1.0m) of IFRS 16 finance lease interest and £0.9m (2020: £0.9m) relating to the unwind of discount interest on the Group's pension liabilities and put options.

Taxation

The tax charge on the statutory profit in the year of £12.0m (2020: £12.9m) represented an effective tax rate ('ETR') of 20.4% (2020 restated: 26.5%) with the prior year from 24.0% as a consequence of the SaaS accounting restatement. This prior year increase was due to non-recognition of the related deferred tax asset, as the losses created were considered not to be utilisable on a timely basis.

The statutory tax charge reduced by 3.6% due to the revaluation (from 19% to 25%) of deferred tax assets expected to crystallise post April 2022 in the UK and further reduced by 2.0% for additional future utilisation of previously incurred losses, particularly in Germany which has an improved trading and profitability outlook. These credits were offset by movements in tax provisions of 1.2% and a charge for prior year tax expenses of 0.5%.

The tax charge on adjusted profits in the year was £19.1m (2020: £15.6m), which represented a tax rate of 22.5% (2020 restated: 23.7%). The adjusted tax rate reduced by 3.3% by the revaluation of UK deferred tax assets previously mentioned, offset by a charge of 0.8% primarily resulting from the provision for State Aid on CFC Finance Companies. In March 2021, HMRC issued Genus with a charging notice for £1.2m in respect of its assessment of the state aid due to be recovered. During the year, Genus has provided a further £0.4m (2020: £1.0m) in respect of its exposure to the repayment of previously claimed tax benefits under this State Aid challenge but will continue to pursue various avenues of appeal against both the EU Commission's original decision and HMRC's interpretation of that decision, as calculated in the charging notice received.

The outlook for the Group ETR is in the range of 23%-25%, consistent with the current year, excluding the one-off change of rate benefit and provision increase.

Earnings Per Share

Adjusted basic earnings per share increased by 31% (40% in constant currency) to 100.9 pence (2020 restated: 77.3 pence) as a result of the strong trading performance and lower tax rate. Basic earnings per share on a statutory basis were 72.6 pence (2020 restated: 54.4 pence), reflecting the strong trading performance and lower exceptional charges, partially offset by the non-cash fair value net IAS 41 biological asset movement.

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 2021, the carrying value of biological assets was £337.3m (2020: £370.2m), as set out in the table below:

	2021	2020
	£m	£m
Non-current assets	**279.9**	310.1
Current assets	**39.6**	39.8
Inventory	**17.8**	20.3
	337.3	370.2
Represented by:		
Porcine	**227.4**	242.7
Dairy and beef	**109.9**	127.5
	337.3	370.2

The movement in the overall balance sheet carrying value of biological assets of £32.9m includes the effect of exchange rate translation decreases of £35.3m. Excluding the translation effect there was:

- a £9.1m increase in the carrying value of porcine biological assets, due principally to an increase in the number of animals held, as well as to the mix of animals held; and
- a £6.7m reduction in the bovine biological assets carrying value, primarily due to current estimates, based on market data, of the semen sales price attributable to the biological asset value.

The historical cost of these assets, less depreciation, was £65.1m at 30 June 2021 (2020: £57.5m), which is the basis used for the adjusted results. The historical cost depreciation of these assets included in adjusted results was £10.0m (2020: £11.0m).

Retirement Benefit Obligations

The Group's retirement benefit obligations at 30 June 2021 were £11.1m (2020: £18.1m) before tax and £9.0m (2020: £14.6m) net of related deferred tax. The largest element of this liability now relates to some legacy unfunded pension commitments dating prior to the acquisition of PIC by Genus.

During the year, contributions payable in respect of the Group's defined benefit schemes amounted to £7.4m (2020: £8.4m). Contributions to the Milk Pension Fund ('MPF') are scheduled to finish in September 2021 which will reduce the amounts payable going forwards.

As the impact of COVID-19 on asset valuations reduced, robust investment strategies and higher bond yields during the year for our two main defined benefit obligation schemes have led to strengthened financial positions. Both the Dalgety Pension Fund and our share of the MPF reported IAS 19 surpluses, prior to any IFRIC 14 amendments, despite an additional GMP equalisation charge of £2.3m.

Cash Flow

Cash generated by operations of £86.6m (2020 restated: £77.2m) represented cash conversion of 113% (2020 restated: 128%) of adjusted operating profit excluding joint ventures. The strong conversion of adjusted operating profit to cash is aligned to our medium-term objective to achieve conversion of at least 90%. The increase in cash generation was primarily due to the strong trading performance and a continued focus on working capital management.

Capital expenditure cash flows of £33.8m (2020 restated: £29.7m) included continued investment in the ABS supply chain, with state-of-the-art new bull housing in Wisconsin, increasing PIC's supply chain capacity, with a new genetic nucleus farm being constructed in Canada, and investment in software development. Cash inflows from joint ventures were higher at £3.7m (2020: £3.7m). After interest and tax paid, total free cash flow was £37.5m (2020: £35.2m).

The cash outflow from investments was £16.9m (2020: £0.1m). This included an upfront payment of £6.9m as part of the £7.7m consideration to acquire the trade and assets of Sergal, a leading Spanish porcine semen distributor, £2.4m to acquire a 39% minority shareholding in Xelect, an aquaculture genetics services company, and deferred consideration payments from previous acquisitions of £6.7m.

The net cash inflow after investments and dividends was £1.2m (2020: £16.9m), reflecting the additional investments and deferred consideration payments made during the year.

		restated
	2021	2020
Cash flow (before debt repayments)	**£m**	£m
Cash generated by operations	**86.6**	77.2
Interest and tax paid	**(19.1)**	(17.1)
Capital expenditure	**(33.8)**	(29.7)
Cash received from JVs	**3.7**	3.7
Other	**0.1**	1.1
Free cash flow	**37.5**	35.2
Acquisitions and investments	**(16.9)**	(0.1)
Dividends	**(19.5)**	(18.3)
Share issued	**0.1**	0.1
Net cash inflow (before debt repayments)	**1.2**	16.9

Net Debt and Credit Facilities

Net debt increased slightly to £105.6m at 30 June 2021 (2020: £102.6m) primarily due to new financing leases. At the end of June 2021 there was substantial headroom of £130m under the Group's renewed credit facilities of £240m. The new facility was originally for a three-year term to 24 August 2023, but the Group exercised the first of two available extension options, extending the maturity date to 24 August 2024. The facility also includes an uncommitted £100m accordion option, which can be requested on a maximum of three occasions over the lifetime of the facility to fund the Group's business development plans.

The Group's financial position and borrowing ratios remain very robust, with sufficient cash flows available to fund internal investments and sufficient debt finance available to pursue acquisition opportunities. At the end of June 2021, interest cover was at 45 times (2020: 35 times). EBITDA, as calculated under our financing facilities, includes cash received from joint ventures. Net debt as calculated under our financing facilities excludes IFRS 16 lease liabilities up to a cap of £30m but includes bank guarantees. The ratio of net debt to EBITDA on this basis at the year-end has remained stable at 0.9 times (2020 restated[7]: 0.8 times). This level of leverage is just below our medium-term objective of having a ratio of net debt to EBITDA of between 1.0 – 2.0 times.

Return on Adjusted Invested Capital

We measure the Group's return on adjusted invested capital using adjusted operating profit including joint ventures after tax, divided by the operating net assets of the business on the historical cost basis and excluding net debt and pension liabilities. This removes the impact of IAS 41 fair value accounting, the related deferred tax and goodwill. The post-tax return on adjusted invested capital was higher at 23.0% (2020 restated: 20.1%), reflecting the strong profit growth and lower tax rate. This was partially offset by an increased asset base from the capital investments in supply chain capacity and the increased values of our Brazilian joint venture, Agroceres, and our Caribou shareholding.

Dividend

Recognising the importance of balancing our 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, an increase of 10% over the prior year final dividend. When combined with the interim dividend increase of 10%, this will result in a total dividend for the year of 32.0 pence per ordinary share (2020: 29.1 pence per share), an increase of 10% for the year. Dividend cover from adjusted earnings remains strong at 3.2 times (2020 restated: 2.7 times), slightly above 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 10 December 2021 to the shareholders on the register at the close of business on 19 November 2021.

[7] FY20 Net Debt to EBITDA has been restated to reflect the revised credit facility terms completed in August 2020

Genus PIC – Operating Review

Year ended 30 June	Actual currency 2021	Actual currency 2020	Actual currency Change	Constant currency change
	£m	£m	%	%
Revenue	**315.6**	298.8	6	11
Adjusted operating profit exc JV	**122.9**	113.3	8	14
Adjusted operating profit inc JV	**135.9**	124.3	9	16
Adjusted operating margin exc JV	**38.9%**	37.9%	1.0pts	1.0pts

Market

African Swine Fever ('ASF') remains the largest threat and opportunity for pig producers, both in terms of the impact of the spread of the disease, in particular in China, and the resulting volatility in supply and demand in global markets. Whilst ASF continues to cause challenges in Asia, the disease has continued to spread west across Europe with Eastern Germany recently announcing the first cases of ASF in its swine population. Complications from COVID-19 including labour shortages, meat packing capacity, retail food service demand and international logistics delays also continued to impact global pig production. Feed input costs rose due to weather patterns and robust demand, resulting in the highest grain prices in recent years. In the near-term, ASF, feed input costs and COVID-19 implications will continue to exert pressure on the global porcine industry.

China's pork sector is experiencing uncertainty affecting production and profitability due to market price volatility, stagnant demand and ongoing challenges with the ASF recovery. Soaring pork prices in 2020 suppressed demand, whilst domestic supply increased as production recovered, and foreign imports continued. Outbreaks of ASF during the winter months also resulted in a surge of slaughter of animals in 2021, further contributing to increased supply. Consequently, domestic pig prices have dropped approximately 50% since the beginning of 2021, which combined with high input costs, caused a collapse of producers' margins. Despite China's efforts to rebuild its herd, Rabobank estimates that inventory still remains below 2018 pre-ASF numbers due to ASF outbreaks in 2020 and 2021. Prices are expected to remain volatile for some months reflecting producers' investments in production capacity coming on stream, seasonal demand trends and the release of inventories of frozen pork accumulated by importers.

In Europe, the outbreak of ASF in Eastern Germany, the COVID-19 pandemic and new regulations have collectively resulted in challenging market conditions for producers. However, pig prices recovered in early 2021 due to the inventory reductions from sow liquidations in several countries, as well as ongoing demand from China. European pork exports increased by 24% versus the prior year, with China being the key driver. New animal welfare and environmental management standards have also caused large concerns in parts of the European industry, especially in Germany and Netherlands. These standards will require additional investments and may well result in further sow inventory reductions. Recent cancellation of certain export licences granted by China, in reaction to the supply imbalance currently experienced in China, is expected to have an adverse impact on European producers due to the reduction of exports to China.

The US industry has experienced sustained high pig prices throughout 2021, due to strong domestic and international demand, with the latter exceeding expectations. Spot pig prices have increased more than $75/cwt in the US since the start of the year. US pork exports were 1% higher than the prior year, totalling 3.83 billion lbs through June 2021. China was the largest buyer of US pork (23% of total exports), with Mexico close behind. According to USDA projections, total US pork exports for 2021 are expected to be flat to marginally lower year on year, while pig production is forecast to be largely unchanged from 2020.

Brazil's pork exports are the largest in the South American pork industry. Its share of global pork exports is forecast to be 11% in 2021, with the primary destination being China.

Performance

Genus PIC's adjusted operating profits for the year were £135.9m, up 16% in constant currency. This performance was driven by very strong growth in many countries, in particular China, Russia and Brazil. Volumes were up 11%, with all regions contributing and the highest growth in Asia and Europe. Total revenue increased by 11% in constant currency and strategically important porcine royalty revenue was also up 11% in constant currency.

In North America, COVID-19 caused packing plant slowdowns in the first half of FY21. Market conditions improved in the second half, contributing to full year adjusted operating profit growth of 1% in constant currency. Volumes grew by 3% but royalty revenue declined 1%, due to reduced breeding activities by certain customers affected by the impact of plant slowdowns, and certain customers experiencing PRRSv outbreaks in the second half of FY21. However, key account wins on our damline products and strong sales growth on the PIC800 sireline, provides momentum going into FY22.

Latin America's adjusted operating profit grew by 17% in constant currency, with all the major countries contributing. Volumes were up 7% and royalty revenues were up 9% in constant currency. In Brazil, strong export demand from China fuelled significant industry expansion and drove almost 40% operating profit growth in our joint venture with Agroceres. To continue to meet increasing demand, Agroceres PIC has begun constructing a new genetic nucleus farm to house 3,600 elite animals and produce up to 110,000 breeding animals per year.

Although revenue in Europe was essentially unchanged, adjusted operating profit rose by 13% in constant currency. Breeding stock sales were lower due to large key account stockings in the prior year. However, royalty revenues were up 11% in constant currency, with nearly all countries achieving growth. Expansion projects in Russia continued to drive strong royalty growth and delivered profit growth of 24% in constant currency. In Spain, Genus PIC entered into a strategic relationship with Sergal, a leading porcine distributor, to acquire and integrate its semen supply chain. This will support continued long-term growth with pork producers in the important Spanish market.

Asia's adjusted operating profit grew by 49% in constant currency. The strength in pig prices for the majority of the year supported continued growth in customer breeding projects, and improved margins from by-product sales in Genus PIC's owned farms in China. China's royalty revenues grew strongly and were 121% higher. However, country-wide health challenges in the second half of the year, along with a sharp decline in market pig prices, resulted in some near-term sales volatility as well as impacting owned farm profit margins from the sale of by-product slaughter pigs. This volatility is expected to continue through FY22. In the Philippines, the industry has started to show signs of recovery following the impacts of COVID-19 and ASF. Despite a volume decline of 3%, operating profit increased by 48% in constant currency.

Genus ABS - Operating Review

Year ended 30 June	Actual currency 2021	2020	Change	Constant currency change
	£m	**£m**	**%**	**%**
Revenue	**250.1**	237.6	5	13
Adjusted operating profit	**36.4**	32.5	12	21
Adjusted operating margin	14.6%	13.7%	0.9pts	1.0pts

Market

Strong global demand for dairy products and the easing of COVID-19 lockdowns helped drive up the Fonterra Whole Milk Powder auction price by 25% over the last 12 months. Increased demand in China and other Asian markets was important in supporting these prices. Markets such as Brazil saw record milk prices, underpinned by government initiatives to counter the COVID-19 pandemic and inflationary pressures.

This strong demand boosted EU dairy production in the first half of 2021, with prices up 9% over the prior year. However, unfavourable weather during planting resulted in higher feed costs, dampening profitability. The US dairy herd was 9.5 million cows by May 2021, its highest level in over 20 years. Along with higher yields, this is expected to increase milk production by 2.4% during 2021.

China dairy imports were also up through the year, particularly in Q1 2021 which saw milk and cream, whey and cheese imports rise more than 50% over the prior year, when COVID-19 hampered international trade. These imports were mainly fulfilled by New Zealand, Germany, the US and Australia.

Industry forecasts suggest 1% growth in 2021 for milk production in regions where supply exceeds domestic demand. This compares with 1.4% growth in 2020, with most coming from the US and EU. However, continued feed cost increases in these regions will put pressure on production margins and likely restrict short-term supply growth.

Worldwide beef demand was particularly strong throughout the year. ASF's impact on pork in China has increased import demand for beef and the post-COVID-19 reopening of US foodservice and retail over the last six months also contributed. This has significantly increased beef prices, particularly in Brazil (up 40%) and the US (up 10%). In Brazil, this has been exacerbated by lower supply levels due to poor pasture growth, COVID-19 disruptions and farmers holding onto cattle until they reached their desired weights.

However, Brazil still reached a new global record for beef exports in 2020, due to rising production, a weak domestic market, a much lower exchange rate and strong demand from China. Brazilian beef remains very price competitive given its large production capacity and heavily depressed economy and currency. USDA forecasts indicate that Brazilian beef exports could grow by 5% in 2021, further challenging Australia's market share.

In the bovine genetics marketplace, the significant investment required to run competitive breeding programmes saw a number of trading partnerships develop during the year, particularly between European co-operatives. This trend is likely to continue, as a smaller number of growing dairy and beef producers want to partner with world-class genetics companies, to help them grow sustainable protein production.

Performance

The COVID-19 pandemic continued to challenge our customers, despite the pandemic easing in some countries. However, overall demand for ABS's products has remained resilient with the ABS salesforce focus on obtaining all of their customers' business. This has included good uptake on new partnership contracts which include an outcome-based pricing model.

ABS's adjusted operating profit increased by 21%, with volumes up 15% and revenue up 13% in constant currency. Dairy customers continued to demand sexed and beef genetics, with sexed volumes up 29% and beef volumes being 22% higher. This is reflected in Sexcel's continued success, the growing use of NuEra beef genetics in dairy herds and customer growth in the traditional beef segment.

Europe grew both volumes and revenue by 7%, with adjusted operating profit 14% higher in constant currency. Sexed semen volumes rose by 43%, with the UK, Italy and the European distributor business growing fastest. In Russia, the business made strategic progress with key accounts and delivered strong operating profit growth of 117% in constant currency. We also achieved strong growth in other distributor markets, however COVID-19 lockdowns in January and February significantly reduced customer access, and with dairy producers limiting their herd growth, conditions in the UK and continental Europe were challenging during the second half of the year. Good progress was made on moving customers to partnership-based contracts and the ABS breeder tag system uptake has been very encouraging. A new third party IntelliGen production facility that opened in Europe in the first half of the year was successfully validated and put into full operation.

North American revenue was unchanged and adjusted operating profit fell by 13% in constant currency. We increased investment in strategic key account management and marketing during the year, however COVID-19 travel restrictions continued to have a short-term impact on sales. Volumes declined by 2% due to reduced face-to-face customer interactions and uncertain market conditions causing dairy producers to rationalise their genetic inventory on-farm. Beef-on-dairy volumes rose 19%, supported by proprietary NuEra genetics selected for cross-bred beef-on-dairy performance and sexed volumes were 1% higher, however customers used less conventional product. There was also lower IntelliGen profit due to a planned technology transfer in the prior year.

In Latin America, revenue grew by 32% and adjusted operating profit increased by 67% in constant currency. Performance in Brazil was particularly good, reflecting the strength of the Brazilian beef market, the team's innovative digital sales campaigns and our robust pricing policies. Overall volumes in Latin America were 20% higher, with sexed volumes up 36% and beef volumes up 37%, utilising NuEra genetics selected for cross-bred performance of North American sires with tropical cows. Embryo volumes increased by 36%.

In Asia, adjusted operating profit was up 53% and volumes grew 36%. Trading grew in China, following a period of vertical integration among customers, as dairy processors acquired farms. After the end of a multi-year drought and bushfires in 2019/20, Australia's customer demand bounced back strongly. Sexed volumes in Asia rose 64%, with strong Sexcel sales in China. The year also saw strong performance in our India business and the signing of our fourth government sexed semen contract in India.

Research and Development - Operating Review

Year ended 30 June	Actual currency 2021	Actual currency 2020	Actual currency Change	Constant currency change
	£m	**£m**	**%**	**%**
Porcine product development	**21.9**	28.9	(24)	(20)
Bovine product development	**19.7**	20.9	(6)	1
Gene editing	**7.6**	5.2	46	54
Other research and development	**13.3**	10.2	30	42
Net expenditure in R&D[8]	**62.5**	65.2	(4)	2

Performance

During the year, Genus continued to strengthen its proprietary differentiated offerings and to invest in key strategic initiatives, including gene editing, IntelliGen production capacity and porcine elite farm nucleuses, as well as further developing its research and development pipeline. Net research and development investment increased by 2% in constant currency, with the prior year having included large investments to expand the porcine elite nucleus populations. External research collaboration spend was lower, due to delays in spending caused by COVID-19 constraints, and the Group also benefited from efficiencies in its gene editing programme, by internalising gene editing capabilities.

Porcine product development continues to deliver high rates of genetic improvement, driven by the combination of our expanded genetic production, implementation of best science and our capture of accurate and meaningful data. Ongoing improvement initiatives are focused on further refining our genomic evaluation, exploring precision measurement tools utilising new technologies such as video imaging, and continuing the integration of Møllevang genetics for maximum product differentiation. Rates of genetic gain and the results from product validation trials demonstrate that these investments are increasing our realised rates of improvement. The decrease in porcine product development expenditures are primarily related to one-time projects in FY20, which expanded capacity in Genus PIC's elite farms, along with favourable market conditions which reduced running costs.

Bovine product development continued to generate an industry leading Holstein dairy bull portfolio, which supported strong volume growth in ABS. The De Novo joint venture continued to produce more than 50% of these animals and the strong pipeline of young bulls will help sustain our leadership position. Global demand for NuEra genetics grew further and represented more than 30% of our total beef volumes. Recent validation trials in customer systems have demonstrated NuEra's significant superiority to competitor genetics. In addition, we have now validated and launched our IntelliGen Gen 2.0 ('Gen2') equipment at our Dekorra facility, which will provide further production efficiencies and further strengthen our product quality. We continue to invest in IntelliGen with the launch of Gen2, while amortising previously capitalised development costs. We expect to expand our production capacity further, to meet increasing demand for sexed semen.

Net gene editing expenditure rose by 54% in the year, mainly due to FY20 having included net income of £3.2m recognised for a milestone payment received from our Chinese partner, BCA. Excluding BCA income, gene editing expenditures were 5% lower. Our work with Caribou completed and we internalised our capability for producing gene edited animals, as intended. The PRRSv programme is progressing as planned, and we maintained our engagement with the FDA, with whom we have a constructive and positive relationship. We also initiated conversations, both directly and with local partners, on regulatory and market acceptance in key global markets, including China and Japan.

Other research and development expenditure increased by 42%. This included initiating work on reproductive biology and data science objectives, and continuing efforts in our bioinformatics platform and genome science. External collaborations in a variety of discovery areas also continued, though at a slower pace due to institutions prioritising COVID-19 research and vaccines.

[8] Excluding profit attributable to non-controlling interest

Principal risks and uncertainties

Genus is exposed to a wide range of risks and uncertainties as it fulfils its purpose of providing farmers with superior genetics, which in turn supports the fulfilment of its vision. Some of these risks relate to the current business operations in our global agricultural markets, while others relate to future commercial exploitation of our leading-edge R&D programmes. We are also exposed to global economic and political risks such as trade restrictions.

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 we updated our evaluation of two of our emerging risks. The first is changing consumption patterns and the emergence of alternative proteins such as lab-based meat. The second is our ability to continue to support sustainable protein production, while reducing the environmental impact of our own operations. We determined that Sustainability has become a principal risk due to the growing global focus on climate change and is explained further in the table below. Additionally, due to the improved funding position of our pension plans, we no longer consider pension funding as a principal risk.
In considering our risks during the year, we also performed detailed assessments of the impact of the global outbreak of COVID-19 and Brexit. The assessment covered the impact of these two risks on our people, our customers and our supply chain. We also assessed the short- and long-term risks associated with the expected global economic disruption affecting our industry and the markets where we operate. Whilst we continue to evaluate the impact of these two risks, our assessment is that they are not principal risks for Genus.

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

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

Risk	**Risk description**	**How we manage risk**	**Risk change in 2021**
DEVELOPING PRODUCTS WITH COMPETITIVE ADVANTAGE	• Development programmes fail to produce best genetics for customers. • Increased competition to secure elite genetics.	Dedicated teams align our product development to customer requirements. We use large-scale data and advanced genomic analysis to ensure we meet our breeding goals. We frequently measure our performance against competitors in customers' systems, to ensure the value added by our genetics remains competitive.	No change.
CONTINUING TO SUCCESSFULLY DEVELOP INTELLIGEN TECHNOLOGY	• Failure to manage the technical, production and financial risks associated with the rapid development of the IntelliGen business.	Our continued development of the technology and its deployment to new markets is supported by dedicated internal resources and agreements with suppliers. Further patent infringement proceedings initiated by ST in the US are being vigorously defended.	No change. We continue to improve our technology and to innovate, enhancing fertility outcomes and processing efficiency, with the next generation of Intelligen, Gen2 recently launched. We also continue to increase IntelliGen's global deployment, securing new third-party customers.
DEVELOPING AND COMMERCIALISING GENE EDITING AND OTHER NEW TECHNOLOGIES	• Failure to develop successfully and commercialise gene-editing technologies due to technical, intellectual property ('IP'), market, regulatory or financial barriers.	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	No change. Key initiatives continue to progress through the R&D lifecycle, and we maintain the high level of investment needed to bring the end products to market.

	• Competitors secure ‘game-changing’ new technology.	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.	
CAPTURING VALUE THROUGH ACQUISITIONS	• Failure to identify appropriate investment opportunities or to perform sound due diligence. • Failure to successfully integrate an acquired business.	We have a rigorous acquisition analysis and due diligence process, with the Board reviewing and signing off all material projects. We also have a structured post-acquisition integration planning and execution process.	No change. We continue to work diligently to identify areas of opportunity consistent with our strategic plans and our aim to accelerate growth and create value for our shareholders. Our experiences with post-acquisition integration provide a platform for integrating newly acquired businesses.
GROWING IN EMERGING MARKETS	• Failure to appropriately develop our business in China and other emerging 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. We also establish local partnerships where appropriate, to increase market access.	Increased. This is due to market price volatility and uncertainty affecting production and profitability in the China pork market.
SUSTAINABILITY	• Failure to lead the market in sustainable animal protein production and help our customers to meet the challenge of producing meet and milk efficiently and sustainably. • Failure to fulfil our commitment to reduce the environmental impact of our own operations and implement our Climate Change Policy.	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 monitors progress using key performance indicators. The Board is updated regularly on the progress of the key initiatives and our progress against the annual targets.	New principal risk. There has been a substantial increase in consumer and investor focus on climate change during the year.
PROTECTING IP	• Failure to protect our IP could mean Genus-developed genetic material, methods, systems and technology become freely available to third parties.	We have a global, cross-functional process to identify and protect our IP. Our customer contracts and our selection of multipliers and joint venture partners include appropriate measures to protect our IP. We maintain IP appropriate landscape watches and where necessary conduct robust ‘freedom to operate’ searches, to identify third-party rights to technology.	No change.

ENSURING BIOSECURITY AND CONTINUITY OF SUPPLY	• Loss of key livestock, owing to disease outbreak. • Loss of ability to move animals or semen freely (including across borders) due to disease outbreak, environmental incident or international trade sanctions and disputes. • Lower demand for our products, due to industry-wide disease outbreaks.	We have stringent biosecurity standards, with independent reviews throughout the year to ensure compliance. We investigate biosecurity incidents, to ensure learning across the organisation. We regularly review the geographical diversity of our production facilities, to avoid over-reliance on single sites.	Increased. This is due to the continued global supply chain challenges imposed by the COVID-19 outbreak, the continued spread of ASF, as well as the rising geopolitical tension. Our geographically diverse production facilities and the expert knowledge of our supply chain and commercial teams allowed for a swift and comprehensive response to these challenges, which helped to reduce their impact.
HIRING AND RETAINING TALENTED PEOPLE	• Failure to attract, recruit, develop and retain the global talent needed to deliver our growth plans and R&D programmes.	We have a robust talent and succession planning process, including annual assessments of our global talent pool and active leadership development programmes. The Group's reward and remuneration policies are reviewed regularly, to ensure their competitiveness. We work closely with several specialist recruitment agencies, to identify candidates with the skills we need.	No change. We have been largely successful in recruiting and retaining the appropriate skills at all levels, to meet our business growth plans.
MANAGING AGRICULTURAL MARKET AND COMMODITY PRICES VOLATILITY	• Fluctuations in agricultural markets affect customer profitability and therefore demand for our products and services. • Increase in our operating costs, due to commodity pricing volatility. • The COVID-19 outbreak increased volatility and introduced significant new financial and operational pressure across agricultural markets.	We continuously monitor markets and seek to balance our costs and resources in response to market demand. We actively monitor and update our hedging strategy to manage our exposure. Our porcine royalty model and extensive use of third-part multipliers mitigates the impact of cyclical price and/or cost changes in pig production.	Increased. This is due to increased feed input costs as a result of higher grain prices triggered by weather patterns and strong demand. In addition, the China pork market continued to deal with the challenges of ASF, price decline and higher input costs.

GROUP INCOME STATEMENT
For the year ended 30 June 2021

	Note	2021 £m	(restated)[1] 2020 £m
REVENUE	3	**574.3**	551.4
Adjusted operating profit	3	**76.9**	60.1
Adjusting items:			
– Net IAS 41 valuation movement on biological assets	11	**(10.8)**	15.8
– Amortisation of acquired intangible assets	10	**(7.4)**	(8.5)
– Share-based payment expense		**(7.7)**	(5.8)
		(25.9)	1.5
– Exceptional items:	4		
– Litigation		**(2.5)**	(16.4)
– Acquisition and integration		**(0.3)**	(2.1)
– Pension related		**(2.3)**	–
– Other		**1.8**	(0.7)
Total exceptional items		**(3.3)**	(19.2)
Total adjusting items		**(29.2)**	(17.7)
OPERATING PROFIT		**47.7**	42.4
Share of post-tax profit of joint ventures and associates retained		**13.1**	8.9
Finance costs	5	**(5.4)**	(5.3)
Finance income	5	**0.4**	0.3
PROFIT BEFORE TAX		**55.8**	46.3
Taxation	6	**(9.0)**	(10.6)
PROFIT FOR THE YEAR		**46.8**	35.7
ATTRIBUTABLE TO:			
Owners of the Company		**47.3**	35.3
Non-controlling interest		**(0.5)**	0.4
		46.8	35.7
EARNINGS PER SHARE			
Basic earnings per share	7	**72.6p**	54.4p
Diluted earnings per share	7	**72.0p**	54.0p

	Note	2021 £m	(restated)[1] 2020 £m
Alternative Performance Measures			
Adjusted operating profit		**76.9**	60.1
Adjusted operating profit attributable to non–controlling interest		**(0.1)**	(0.6)
Pre–tax share of profits from joint ventures and associates excluding net IAS 41 valuation movement		**13.0**	11.3
Gene editing costs		**7.6**	5.2
Adjusted operating profit including joint ventures and associates, excluding gene editing costs		**97.4**	76.0
Gene editing costs		**(7.6)**	(5.2)
Adjusted operating profit including joint ventures and associates		**89.8**	70.8
Net finance costs	5	**(5.0)**	(5.0)
Adjusted profit before tax		**84.8**	65.8
Adjusted earnings per share			
Basic adjusted earnings per share	7	**100.9p**	77.3p
Diluted adjusted earnings per share	7	**100.1p**	76.7p

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.

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

GROUP STATEMENT OF COMPREHENSIVE INCOME
For the year ended 30 June 2021

	Note	2021 £m	2021 £m	(restated)[1] 2020 £m	(restated)[1] 2020 £m
PROFIT FOR THE YEAR			**46.8**		35.7
Items that may be reclassified subsequently to profit or loss					
Foreign exchange translation differences		**(45.2)**		(4.9)	
Fair value movement on net investment hedges		**0.4**		(0.1)	
Fair value movement on cash flow hedges		**0.2**		(0.4)	
Tax relating to components of other comprehensive expense		**7.6**		(1.4)	
			(37.0)		(6.8)
Items that may not be reclassified subsequently to profit or loss					
Actuarial gain/(loss) on retirement benefit obligations	14	**22.3**		(16.6)	
Movement on pension asset recognition restriction	14	**(0.1)**		10.4	
(Recognition)/release of additional pension liability	14	**(19.9)**		4.7	
Gain on equity instruments measured at fair value		**6.7**		–	
Tax relating to components of other comprehensive income/(expense)		**(2.0)**		0.8	
			7.0		(0.7)
OTHER COMPREHENSIVE EXPENSE FOR THE YEAR			**(30.0)**		(7.5)
TOTAL COMPREHENSIVE INCOME FOR THE YEAR			**16.8**		28.2
ATTRIBUTABLE TO:					
Owners of the Company		**17.1**			27.9
Non-controlling interest		**(0.3)**			0.3
			16.8		28.2

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

GROUP STATEMENT OF CHANGES IN EQUITY
For the year ended 30 June 2021

	Note	Called up share capital £m	Share premium account £m	Own shares £m	Translation reserve £m	Hedging reserve £m	Retained earnings £m	Total £m	Non-controlling interest £m	Total equity £m
BALANCE AT 30 JUNE 2019 (as previously reported)		6.5	179.0	(0.1)	35.8	0.2	267.0	488.4	(1.3)	487.1
Prior period restatement	2	–	–	–	–	–	(8.1)	(8.1)	–	(8.1)
BALANCE AT 30 JUNE 2019 (restated)		6.5	179.0	(0.1)	35.8	0.2	258.9	480.3	(1.3)	479.0
Foreign exchange translation differences, net of tax		–	–	–	(6.4)	–	–	(6.4)	(0.1)	(6.5)
Fair value movement on net investment hedges, net of tax		–	–	–	0.1	–	–	0.1	–	0.1
Fair value movement on cash flow hedges, net of tax		–	–	–	–	(0.4)	–	(0.4)	–	(0.4)
Actuarial gain on retirement benefit obligations, net of tax		–	–	–	–	–	(10.4)	(10.4)	–	(10.4)
Movement on pension asset recognition restriction, net of tax		–	–	–	–	–	6.8	6.8	–	6.8
Release of additional pension liability, net of tax		–	–	–	–	–	2.9	2.9	–	2.9
Other comprehensive (expense)/income for the year		–	–	–	(6.3)	(0.4)	(0.7)	(7.4)	(0.1)	(7.5)
Profit for the year		–	–	–	–	–	35.3	35.3	0.4	35.7
Total comprehensive (expense)/income for the year		–	–	–	(6.3)	(0.4)	34.6	27.9	0.3	28.2
Recognition of share-based payments, net of tax		–	–	–	–	–	5.5	5.5	–	5.5
Dividends	8	–	–	–	–	–	(18.3)	(18.3)	–	(18.3)
Issue of ordinary shares		–	0.1	–	–	–	–	0.1	–	0.1
BALANCE AT 30 JUNE 2020 (restated)		6.5	179.1	(0.1)	29.5	(0.2)	280.7	495.5	(1.0)	494.5
Foreign exchange translation differences, net of tax		**–**	**–**	**–**	**(37.7)**	**–**	**–**	**(37.7)**	**0.2**	**(37.5)**
Fair value movement on net investment hedges, net of tax		**–**	**–**	**–**	**0.3**	**–**	**–**	**0.3**	**–**	**0.3**
Fair value movement on cash flow hedges, net of tax		**–**	**–**	**–**		**0.2**	**–**	**0.2**	**–**	**0.2**
Gain on equity instruments measured at fair value, net of tax		**–**	**–**	**–**	**–**	**–**	**5.0**	**5.0**	**–**	**5.0**
Actuarial gains on retirement benefit obligations, net of tax		**–**	**–**	**–**	**–**	**–**	**19.8**	**19.8**	**–**	**19.8**
Movement on pension asset recognition restriction, net of tax		**–**	**–**	**–**	**–**	**–**	**(0.1)**	**(0.1)**	**–**	**(0.1)**
Recognition of additional pension liability, net of tax		**–**	**–**	**–**	**–**	**–**	**(17.7)**	**(17.7)**	**–**	**(17.7)**
Other comprehensive (expense)/income for the year		**–**	**–**	**–**	**(37.4)**	**0.2**	**7.0**	**(30.2)**	**0.2**	**(30.0)**
Profit/(loss) for the year		**–**	**–**	**–**	**–**	**–**	**47.3**	**47.3**	**(0.5)**	**46.8**
Total comprehensive (expense)/income for the year		**–**	**–**	**–**	**(37.4)**	**0.2**	**54.3**	**17.1**	**(0.3)**	**16.8**
Recognition of share-based payments, net of tax		**–**	**–**	**–**	**–**	**–**	**4.9**	**4.9**	**–**	**4.9**
Dividends	8	**–**	**–**	**–**	**–**	**–**	**(19.5)**	**(19.5)**	**–**	**(19.5)**
Adjustment arising from change in non-controlling interest and written put option		**–**	**–**	**–**	**–**	**–**	**–**	**–**	**(0.2)**	**(0.2)**
Issue of ordinary shares		**0.1**	**–**	**–**	**–**	**–**	**–**	**0.1**	**–**	**0.1**
BALANCE AT 30 JUNE 2021		**6.6**	**179.1**	**(0.1)**	**(7.9)**	**–**	**320.4**	**498.1**	**(1.5)**	**496.6**

GROUP BALANCE SHEET
As at 30 June 2021

	Note	**2021 £m**	(restated)[1] 2020 £m	(restated)[1] 2019 £m
ASSETS				
Goodwill	9	**101.5**	105.6	106.3
Other intangible assets	10	**56.3**	62.9	72.0
Biological assets	11	**279.9**	310.1	287.1
Property, plant and equipment	12	**123.0**	117.9	86.0
Interests in joint ventures and associates		**34.1**	22.7	23.6
Other investments		**14.7**	6.9	7.4
Derivative financial assets		**–**	–	0.4
Other receivables	13	**1.8**	1.8	–
Deferred tax assets		**8.0**	3.7	3.5
TOTAL NON-CURRENT ASSETS		**619.3**	631.6	586.3
Inventories		**37.0**	37.4	36.0
Biological assets	11	**39.6**	39.8	40.1
Trade and other receivables	13	**106.2**	100.8	98.0
Cash and cash equivalents		**46.0**	41.3	30.5
Income tax receivable		**2.6**	3.1	3.3
Derivative financial assets		**0.1**	1.2	1.1
Asset held for sale		**0.2**	0.2	0.2
TOTAL CURRENT ASSETS		**231.7**	223.8	209.2
TOTAL ASSETS		**851.0**	855.4	795.5
LIABILITIES				
Trade and other payables		**(110.3)**	(95.0)	(87.7)
Interest-bearing loans and borrowings		**(13.9)**	(9.2)	(2.1)
Provisions		**(1.3)**	(4.0)	(3.1)
Deferred consideration	17	**(1.6)**	(7.5)	(2.0)
Obligations under leases		**(9.0)**	(10.0)	(2.2)
Tax liabilities		**(6.4)**	(4.0)	(6.1)
Derivative financial liabilities		**–**	(0.5)	(1.0)
TOTAL CURRENT LIABILITIES		**(142.5)**	(130.2)	(104.2)
Trade and other payables		**(1.4)**	(3.3)	–
Interest-bearing loans and borrowings		**(109.4)**	(103.6)	(101.9)
Retirement benefit obligations	14	**(11.1)**	(18.1)	(24.2)
Provisions		**(11.1)**	(11.8)	(5.7)
Deferred consideration	17	**(0.5)**	(1.2)	(4.2)
Deferred tax liabilities		**(53.0)**	(65.5)	(66.7)
Derivative financial liabilities		**(6.1)**	(6.1)	(5.7)
Obligations under leases		**(19.3)**	(21.1)	(3.9)
TOTAL NON-CURRENT LIABILITIES		**(211.9)**	(230.7)	(212.3)
TOTAL LIABILITIES		**(354.4)**	(360.9)	(316.5)
NET ASSETS		**496.6**	494.5	479.0
EQUITY				
Called up share capital		**6.6**	6.5	6.5
Share premium account		**179.1**	179.1	179.0
Own shares		**(0.1)**	(0.1)	(0.1)
Translation reserve		**(7.9)**	29.5	35.8
Hedging reserve		**–**	(0.2)	0.2
Retained earnings		**320.4**	280.7	258.9
EQUITY ATTRIBUTABLE TO OWNERS OF THE COMPANY		**498.1**	495.5	480.3
Non-controlling interest	18	**3.6**	4.6	4.2
Put option over non-controlling interest	18	**(5.1)**	(5.6)	(5.5)
TOTAL NON-CONTROLLING INTEREST		**(1.5)**	(1.0)	(1.3)
TOTAL EQUITY		**496.6**	494.5	479.0

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

GROUP STATEMENT OF CASH FLOWS
For the year ended 30 June 2021

	Note	2021 £m	(restated)[1] 2020 £m
NET CASH FLOW FROM OPERATING ACTIVITIES	15	**67.5**	60.1
CASH FLOWS FROM INVESTING ACTIVITIES			
Dividends received from joint ventures and associates		**4.1**	2.5
Joint venture loan (payment)/repayment		**(0.4)**	1.2
Disposal of joint venture		**–**	3.8
Acquisition of joint venture and associate		**(2.4)**	(2.2)
Acquisition of trade and assets	20	**(6.9)**	–
Acquisition of investments		**(0.9)**	–
Payment of deferred consideration	17	**(6.7)**	(1.7)
Purchase of property, plant and equipment		**(28.7)**	(24.6)
Purchase of intangible assets		**(5.1)**	(5.1)
Proceeds from sale of property, plant and equipment		**0.3**	1.1
NET CASH OUTFLOW FROM INVESTING ACTIVITIES		**(46.7)**	(25.0)
CASH FLOWS FROM FINANCING ACTIVITIES			
Drawdown of borrowings		**195.1**	80.0
Repayment of borrowings		**(176.1)**	(73.8)
Payment of lease liabilities		**(11.7)**	(11.1)
Equity dividends paid		**(19.5)**	(18.3)
Dividend to non-controlling interest		**(0.2)**	–
Debt issue costs		**(1.9)**	–
Issue of ordinary shares		**0.1**	0.1
NET CASH OUTFLOW FROM FINANCING ACTIVITIES		**(14.2)**	(23.1)
NET INCREASE IN CASH AND CASH EQUIVALENTS		**6.6**	12.0
Cash and cash equivalents at start of the year		**41.3**	30.5
Net increase in cash and cash equivalents		**6.6**	12.0
Effect of exchange rate fluctuations on cash and cash equivalents		**(1.9)**	(1.2)
TOTAL CASH AND CASH EQUIVALENTS AT 30 JUNE		**46.0**	41.3

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

NOTES TO THE PRELIMINARY RESULTS
For the year ended 30 June 2021

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 2021 or the year ended 30 June 2020, but is derived from those financial statements. The financial statements for the year ended 30 June 2020 have been delivered to the Registrar of Companies and those for the year ended 30 June 2021 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 2021 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') adopted pursuant to Regulation (EC) No 1606/2002 as it applies in the European Union. 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		
	2021	2020	2019	**2021**	2020	2019
US Dollar/£	**1.36**	1.26	1.29	**1.38**	1.24	1.27
Euro/£	**1.13**	1.14	1.13	**1.17**	1.10	1.12
Brazilian Real/£	**7.33**	5.74	4.99	**6.87**	6.77	4.89
Mexican Peso/£	**28.15**	26.08	25.04	**27.57**	28.52	24.40
Chinese Yuan/£	**8.94**	8.89	8.83	**8.93**	8.75	8.72
Russian Rouble/£	**102.04**	85.17	84.93	**101.10**	88.19	80.30

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 2021. These financial statements have also been prepared in accordance with the accounting policies set out in the 2020 Annual Report and Financial Statements, as amended by the following new accounting standards.

Change in accounting policy - Software-as-a service (SaaS) arrangements
The Company has changed its accounting policy related to the capitalisation of certain software costs; this change follows the IFRIC Interpretation Committee's agenda decision published in April 2021 and relates to the capitalisation of costs of configuring or customising application software under 'Software as a Service' (SaaS) arrangements.

The Group's accounting policy has historically been to capitalise costs directly attributable to the configuration and customisation of SaaS arrangements as intangible assets in the Balance Sheet, irrespective of whether the services were performed by the SaaS supplier or third party. Following the adoption of the above IFRIC agenda guidance, current SaaS arrangements were identified and assessed to determine if the Group has control of the software. For those arrangements where we do not have control of the developed software, to the extent that the services were performed by third parties, the Group derecognised the intangible asset previously capitalised. Amounts paid to the supplier in advance of the commencement of the service period, including for configuration or customisation, are treated as a prepayment.

This change in accounting policy led to adjustments amounting to a £13.3m and £8.1m reduction in the intangible assets recognised in the 30 June 2020 and 30 June 2019 Balance Sheets respectively, and to a £5.2m and £5.9m increase in operating expenses within administrative expenses, in those respective years.

Accordingly, the prior period Balance Sheets at 30 June 2020 and 30 June 2019 have been restated in accordance with IAS 8, and, in accordance with IAS 1 (revised), a Balance Sheet at 30 June 2019 is also presented, together with related notes. The tables below show the impact of the change in accounting policy on previously reported financial results:

Impact on the Group Balance Sheet

	(As previously reported) 2020 £m	Impact of restatement £m	(restated) 2020 £m
Intangible assets	76.2	(13.3)	62.9
Other net assets/(liabilities)	431.6	–	431.6
Net assets	507.8	(13.3)	494.5
Retained earnings	294.0	(13.3)	280.7
Other equity balances	213.8	–	213.8
Net equity	507.8	(13.3)	494.5

In segment assets and non-current assets (excluding deferred taxation and financial instruments), the central asset value within the UK is reduced by £13.3m. Additions to central non-current assets reduced by £5.7m and the central amortisation charge reduced by £0.5m.

Impact on Group's Income Statement and Statement of Comprehensive Income

	(As previously reported) 2020 £m	Impact of restatement £m	(restated) 2020 £m
Adjusted segment operating profit	80.9	–	80.9
Central	(15.6)	(5.2)	(20.8)
Adjusted operating profit	65.3	(5.2)	60.1
Operating profit	47.6	(5.2)	42.4
Profit before tax	51.5	(5.2)	46.3
Profit for the year	40.9	(5.2)	35.7
Attributable to owners of the Company	40.5	(5.2)	35.3
Non-controlling interest	0.4	–	0.4
Total comprehensive income for the year	33.4	(5.2)	28.2

Impact on basic and diluted earnings per share and adjusted earnings per share

	(As previously reported) 2020 Pence	Impact of restatement Pence	(restated) 2020 Pence
Basic EPS	62.4	(8.0)	54.4
Diluted EPS	61.9	(7.9)	54.0
Basic adjusted EPS	85.4	(8.1)	77.3
Diluted adjusted EPS	84.7	(8.0)	76.7

Impact on statutory tax rate and effective tax rate on adjusted profit

	(As previously reported) 2020 £m	Impact of restatement £m	(restated) 2020 £m
Profit before tax excluding share of income tax of equity accounted investees	53.8	(5.2)	48.6
Total income tax expense	(12.9)	–	(12.9)
Profit after tax	40.9	(5.2)	35.7
Statutory tax rate (%)	24.0	2.6	26.6
Adjusted profit before tax	71.0	(5.2)	65.8
Adjusted tax charge	(15.6)	–	(15.6)
Adjusted profit after tax	55.4	(5.2)	50.2
Effective tax rate on adjusted profit (%)	22.0	1.7	23.7

Impact on Group's Statement of Cash Flows

	(As previously reported) 2020 £m	Impact of restatement £m	(restated) 2020 £m
Net cash from operating activities	65.8	(5.7)	60.1
Net cash outflow from investing activities	(30.7)	5.7	(25.0)
Net cash outflow from financing activities	(23.1)	–	(23.1)
Net increase in cash and cash equivalents	12.0	–	12.0

No impact on the overall increase in cash and cash equivalent for the year.

New standards and interpretations
In the current period, 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 2020 and have been implemented with effect from 1 July 2020. These are:

> Amendments to References to the Conceptual Framework in IFRS;
> Amendments to IAS 1 and IAS 8 - 'Definition of Material';
> Amendments to IFRS 9, IAS 39 and IFRS 7 - 'Interest Rate Benchmark Reform';
> Amendments to IFRS 3 - 'Definition of a Business'; and
> Amendment to IFRS 16 - 'COVID-19-Related Rent Concessions'.

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

In April 2021, the IFRIC Interpretation Committee published guidance in relation to the capitalisation of costs of configuring or customising application software under 'Software as a Service' (SaaS) arrangements. See note 2 for the full impact of the new interpretation.

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 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 -' Interest Rate Benchmark Reform — Phase 2';
> Amendment to IFRS 16 - ' COVID-19-Related Rent Concessions beyond 30 June 2021';
> Amendments to IAS 1 - ' Classification of Liabilities as Current or Non-Current';
> Amendments to IAS 16 - ' Property, Plant and Equipment — Proceeds before Intended Use';
> Annual Improvements 2018-2020 Cycle;
> Amendments to IAS 37 - ' Onerous Contracts — Cost of Fulfilling a Contract';
> Amendments to IAS 1 and IFRS Practice Statement 2 - ' Disclosure of Accounting Policies';
> Amendments to IAS 12 - ' Deferred Tax related to Assets and Liabilities arising from a Single Transaction'; and
> Amendments to IAS 8- ' Definition of Accounting Estimates'.

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 a number of 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;
> Developing products with competitive advantage, modelled through reductions to short-term growth expectations as a result of failing to produce best genetics for our customers or to secure elite genetics;
> Managing agricultural market and commodity prices volatility, modelled through reductions in price expectations, particularly in China, and;
> Ensuring biosecurity or continuity of supply, which is modelled through one-off impacts of disease outbreaks or border closures.

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 above and 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 2024, is an appropriate period to adopt. This was based on the Group's visibility of its product development pipeline, for example, as a result of the genetic lag of approximately three years between the porcine nucleus herds and customers' production systems and the pipeline of young bulls. The Board also considered the nature of the principal risks affecting Genus, including the agricultural markets in which it operates.

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

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

Approval

This preliminary announcement was approved by the board on 8 September 2021.

3. SEGMENTAL INFORMATION

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

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

Revenue	**2021 £m**	2020 £m
Genus PIC	**315.6**	298.8
Genus ABS	**250.1**	237.6
Genus Research and Development		
Porcine product development	**7.3**	11.7
Bovine product development	**1.3**	3.3
Gene editing	**–**	–
Other research and development	**–**	–
	8.6	15.0
	574.3	551.4

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.

Adjusted operating profit	**2021 £m**	(restated)[1] 2020 £m
Genus PIC	**122.9**	113.3
Genus ABS	**36.4**	32.5
Genus Research and Development		
Porcine product development	**(21.9)**	(28.9)
Bovine product development	**(19.6)**	(20.6)
Gene editing	**(7.6)**	(5.2)
Other research and development	**(13.3)**	(10.2)
	(62.4)	(64.9)
Adjusted segment operating profit	**96.9**	80.9
Central	**(20.0)**	(20.8)
Adjusted operating profit	**76.9**	60.1

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

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 £3.3m expense (2020: £19.2m expense) relate to Genus ABS (£2.5m expense), Genus PIC (£0.3m expense) and our central segment (£0.5m expense). Note 4 provides details of these exceptional items.
We consider share-based payment expenses on a Group-wide basis and do not allocate them to reportable segments.

Other segment information

	Depreciation		**Amortisation**		**Additions to non-current assets (excluding deferred taxation and financial instruments)**	
	2021 £m	2020 £m	**2021 £m**	(restated)[1] 2020 £m	**2021 £m**	(restated)[1] 2020 £m
Genus PIC	**3.0**	4.5	**6.5**	7.6	**10.0**	2.7
Genus ABS	**13.3**	11.4	**2.8**	3.2	**26.8**	24.7
Genus Research and Development						
Research	**0.7**	0.5	**–**	0.9	**1.7**	1.5
Porcine product development	**1.9**	2.4	**–**	–	**7.1**	1.4
Bovine product development	**1.8**	1.5	**0.2**	0.2	**2.7**	4.2
	4.4	4.4	**0.2**	1.1	**11.5**	7.1
Segment total	**20.7**	20.3	**9.5**	11.9	**48.3**	34.5
Central	**3.3**	3.7	**1.6**	1.0	**3.9**	4.3
Total	**24.0**	24.0	**11.1**	12.9	**52.2**	38.8

	Segment assets			Segment liabilities		
	2021 £m	(restated)[1] 2020 £m	(restated)[1] 2019 £m	**2021 £m**	2020 £m	2019 £m
Genus PIC	**261.5**	247.6	262.1	**(57.4)**	(72.6)	(51.6)
Genus ABS	**203.1**	201.3	157.1	**(56.0)**	(52.9)	(41.9)
Genus Research and Development						
Research	**17.8**	7.2	7.4	**(6.1)**	(3.5)	(0.6)
Porcine product development	**213.6**	226.3	180.0	**(55.0)**	(56.3)	(50.8)
Bovine product development	**125.0**	146.5	161.5	**(25.5)**	(33.6)	(32.8)
	356.4	380.0	348.9	**(86.6)**	(93.4)	(84.2)
Segment total	**821.0**	828.9	768.1	**(200.0)**	(218.9)	(177.7)
Central	**30.0**	26.5	27.4	**(154.4)**	(142.0)	(138.8)
Total	**851.0**	855.4	795.5	**(354.4)**	(360.9)	(316.5)

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

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

	2021 £m	2020 £m
North America	**214.7**	226.4
Latin America	**83.8**	81.8
UK	**92.2**	94.4
Rest of Europe, Middle East, Russia and Africa	**82.1**	78.0
Asia	**101.5**	70.8
	574.3	551.4

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.

	2021 £m	(restated)[1] 2020 £m	(restated)[1] 2019 £m
North America	**419.5**	454.4	400.2
Latin America	**46.1**	37.3	45.7
UK	**73.3**	65.5	62.5
Rest of Europe, Middle East, Russia and Africa	**44.6**	41.5	59.3
Asia	**27.8**	29.2	14.7
	611.3	627.9	582.4

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

Revenue by type

	2021 £m	2020 £m
Genus PIC	**172.6**	162.6
Genus ABS	**242.2**	230.5
Genus Research and Development	**8.6**	15.0
Sale of animals, semen, embryos and ancillary products and services	**423.4**	408.1
Genus PIC	**143.0**	136.0
Genus ABS	**0.6**	0.2
Genus Research and Development	**–**	–
Royalties	**143.6**	136.2
Genus PIC	**–**	–
Genus ABS	**7.3**	7.1
Genus Research and Development	**–**	–
Consulting services	**7.3**	7.1
Total revenue	**574.3**	551.4

Revenue from contracts with customers

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

	2021 £m	2020 £m
Genus PIC	**312.8**	295.5
Genus ABS	**229.1**	217.7
Genus Research and Development	**8.6**	14.9
Recognised at a point in time	**550.5**	528.1
Genus PIC	**2.8**	3.3
Genus ABS	**21.0**	19.9
Genus Research and Development	**–**	0.1
Recognised over time	**23.8**	23.3
Total revenue	**574.3**	551.4

4. EXCEPTIONAL ITEMS

Operating (expense)/credit	2021 £m	2020 £m
Litigation and damages	**(2.5)**	(16.4)
Acquisition and integration	**(0.3)**	(2.1)
Pension related	**(2.3)**	–
Other	**1.8**	(0.7)
	(3.3)	(19.2)

Litigation and damages
Litigation includes legal fees of £2.5m (2020: £5.6m) related to the actions between ABS Global, Inc. and certain affiliates ('ABS') and Inguran, LLC and certain affiliates (aka Sexing Technologies ('ST')) and £nil (2020: £10.8m) for damages and costs related to patent infringement.

Material litigation activities during the year ended 30 June 2021
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. The parties await the court's decision.

On 10 March 2020, the USPTO issued patent 10,583,439 (the ''439 patent'), and subsequently ST asked the court for permission to file a supplemental complaint in ABS III asserting infringement of the '439 patent. ABS believes that ST's claim for infringement falls short and has filed an opposition to ST's request. 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 has 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 has opposed this action. The parties await the court's decision.

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, finding a likelihood of success on all challenged claims. A hearing and decision in the '439 patent IPR will be completed in the next 12 months. On 7 June 2021, PTAB declined to institute the '210 patent IPR without examining the merits of the case. PTAB's decision was based on its exercise of its discretion, concluding that the prior art referenced in the IPR was cited during the initial examination, therefore ABS could not demonstrate the examiner made a material error, notwithstanding that the relevant prior art was not addressed by the examiner. ABS has filed a rehearing application.

ABS has also sought judgments as a matter of law ('JMOL') in relation to the invalidity of all three of the patents considered in ABS II, JMOLs in relation to the non-infringement of two of those patents, and a reduction in damages awarded by the jury. The parties await the court's decision.

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

Acquisitions and integration
During the year, £0.3m (2020: £2.1m) of expenses were incurred in relation to acquisitions completed during the year.

Pension related
On 20 November 2020, the High Court ruled that individual transfer payments made since 17 May 1990 would need to be equalised for the effects of Guaranteed Minimum Pension ('GMP'). This judgment followed on from the previous judgment on 26 October 2018, where the High Court ruled that schemes had a legal obligation to pay benefits allowing for GMP equalisation, resulting in an additional liability being recognised. The previous judgment had not considered historic transfer values. Genus's pension schemes are also affected by this ruling, resulting in an aggregate past service charge of £2.3m in the period, being £0.9m for the Dalgety Pension Fund ('DPF') and £1.4m for the Milk Pension Fund ('MPF').

Other
Included within Other is a £2.0m credit resulting from a share forfeiture exercise, in accordance with the Articles of Association. As a three year liability period ended during the year, the related provision was no longer needed and was therefore released. Included in the prior year was £0.8m of expenses which relate to the costs of entering into our strategic porcine collaboration in China.

5. NET FINANCE COSTS

	2021 £m	2020 £m
Interest payable on bank loans and overdrafts	**(2.8)**	(2.9)
Amortisation of debt issue costs	**(0.9)**	(0.4)
Other interest payable	**–**	(0.1)
Unwinding of discount put options	**(0.6)**	(0.5)
Net interest cost in respect of pension scheme liabilities	**(0.3)**	(0.4)
Interest on lease liabilities	**(0.8)**	(1.0)
Total interest expense	**(5.4)**	(5.3)
Interest income on bank deposits	**0.4**	0.3
Total interest income	**0.4**	0.3
Net finance costs	**(5.0)**	(5.0)

6. TAXATION AND DEFERRED TAXATION

Income tax expense

	2021 £m	2020 £m
Current tax expense		
Current period	**18.3**	13.8
Adjustment for prior periods	**1.3**	(1.1)
Total current tax expense in the Group Income Statement	**19.6**	12.7
Deferred tax expense		
Origination and reversal of temporary differences	**(10.3)**	(2.6)
Adjustment for prior periods	**(0.3)**	0.5
Total deferred tax credit in the Group Income Statement	**(10.6)**	(2.1)
Total income tax expense excluding share of income tax of equity accounted investees	**9.0**	10.6
Share of income tax of equity accounted investees	**3.0**	2.3
Total income tax expense in the Group Income Statement	**12.0**	12.9

7. EARNINGS PER SHARE

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

Basic earnings per share from continuing operations

	2021 (pence)	(restated)[1] 2020 (pence)
Basic earnings per share	**72.6**	54.4

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 £47.3m (2020 restated: £35.3m) and a weighted average number of ordinary shares outstanding of 65,108,000 (2020: 64,908,000), which is calculated as follows:

Weighted average number of ordinary shares (basic)

	2021 000s	2020 000s
Issued ordinary shares at the start of the year	**65,092**	65,055
Effect of own shares held	**(180)**	(168)
Shares issued on exercise of stock options	**9**	21
Shares issued in relation to Employee Benefit Trust	**187**	–
Weighted average number of ordinary shares in year	**65,108**	64,908

Diluted earnings per share from continuing operations

	2021 (pence)	(restated)[1] 2020 (pence)
Diluted earnings per share	**72.0**	54.0

The calculation of diluted earnings per share from continuing operations is based on the net profit attributable to owners of the Company from continuing operations of £47.3m (2020 restated: £35.3m) and a weighted average number of ordinary shares outstanding, after adjusting for the effects of all potential dilutive ordinary shares, of 65,662,000 (2020: 65,427,000), which is calculated as follows:

Weighted average number of ordinary shares (diluted)

	2021 000s	2020 000s
Weighted average number of ordinary shares (basic)	**65,108**	64,908
Dilutive effect of share awards and options	**554**	519
Weighted average number of ordinary shares for the purposes of diluted earnings per share	**65,662**	65,427

Adjusted earnings per share from continuing operations	2021 (pence)	(restated)[1] 2020 (pence)
Adjusted earnings per share	**100.9**	77.3
Diluted adjusted earnings per share	**100.1**	76.7

Adjusted earnings per share is calculated on profit before the net IAS 41 valuation movement on biological assets, amortisation of acquired intangible assets, share-based payment expense and exceptional items, after charging taxation associated with those profits, of £65.7m (2020 restated: £50.2m), which is calculated as follows:

	2021 £m	(restated)[1] 2020 £m
Profit before tax from continuing operations	**55.8**	46.3
Add/(deduct):		
Net IAS 41 valuation movement on biological assets	**10.8**	(15.8)
Amortisation of acquired intangible assets	**7.4**	8.5
Share-based payment expense	**7.7**	5.8
Exceptional items (see note 4)	**3.3**	19.2
Net IAS 41 valuation movement on biological assets in joint ventures	**(3.1)**	0.1
Tax on joint ventures and associates	**3.0**	2.3
Attributable to non-controlling interest	**(0.1)**	(0.6)
Adjusted profit before tax	**84.8**	65.8
Adjusted tax charge	**(19.1)**	(15.6)
Adjusted profit after tax	**65.7**	50.2
Effective tax rate on adjusted profit	**22.5%**	23.7%

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

8. DIVIDENDS

Amounts recognised as distributions to equity holders in the year

	2021 £m	2020 £m
Final dividend		
Final dividend for the year ended 30 June 2020 of 19.7 pence per share	**12.8**	–
Final dividend for the year ended 30 June 2019 of 18.8 pence per share	**–**	12.2
Interim dividend		
Interim dividend for the year ended 30 June 2021 of 10.3 pence per share	**6.7**	–
Interim dividend for the year ended 30 June 2020 of 9.4 pence per share	**–**	6.1
	19.5	18.3

The Directors have proposed a final dividend of 21.7 pence per share for 2021. 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 2021 is 32.0 pence per share (2020: 29.1 pence per share).

9. GOODWILL

	Genus PIC £m	Genus ABS £m	Total £m
Cost			
Balance at 1 July 2019	73.0	33.3	106.3
Effect of movements in exchange rates	1.1	(1.8)	(0.7)
Balance at 30 June 2020	74.1	31.5	105.6
Business combination (see note 20)	**3.5**	**–**	**3.5**
Effect of movements in exchange rates	**(5.1)**	**(2.5)**	**(7.6)**
Balance at 30 June 2021	**72.5**	**29.0**	**101.5**
Amortisation and impairment losses			
Balance at 1 July 2019, 30 June 2020 and 30 June 2021	**–**	**–**	**–**
Carrying amounts			
At 30 June 2021	**72.5**	**29.0**	**101.5**
At 30 June 2020	74.1	31.5	105.6

10. INTANGIBLE ASSETS

	Porcine and bovine genetics technology £m	Brands, multiplier contracts and customer relationships £m	Separately identified acquired intangible assets £m	(restated)[1] Software £m	(restated)[1] Assets under construction £m	IntelliGen £m	Patents, licences and other £m	(restated)[1] Total £m
Cost								
Balance at 1 July 2019 (restated)	53.0	85.1	138.1	14.8	2.8	24.0	4.4	184.1
Additions	–	–	–	0.1	3.2	1.8	–	5.1
Disposals	–	–	–	(0.6)	–	(1.0)	–	(1.6)
Transfers	–	–	–	4.0	(4.0)	–	–	–
Effect of movements in exchange rates	(1.0)	0.8	(0.2)	0.1	–	0.6	–	0.5
Balance at 30 June 2020 (restated)	52.0	85.9	137.9	18.4	2.0	25.4	4.4	188.1
Additions	**–**	**–**	**–**	**0.4**	**3.8**	**0.9**	**–**	**5.1**
Acquisition (note 20)	**–**	**3.7**	**3.7**	**–**	**–**	**–**	**–**	**3.7**
Disposals	**–**	**–**	**–**	**(1.1)**	**–**	**–**	**–**	**(1.1)**
Transfers	**–**	**–**	**–**	**3.1**	**(3.1)**	**–**	**–**	**–**
Effect of movements in exchange rates	**(0.3)**	**(8.0)**	**(8.3)**	**(0.8)**	**–**	**(2.7)**	**(0.1)**	**(11.9)**
Balance at 30 June 2021	**51.7**	**81.6**	**133.3**	**20.0**	**2.7**	**23.6**	**4.3**	**183.9**
Amortisation and impairment losses								
Balance at 1 July 2019 (restated)	30.8	61.8	92.6	11.6	–	5.0	2.9	112.1
Impairment	–	–	–	0.2	–	–	–	0.2
Disposals	–	–	–	–	–	(0.4)	–	(0.4)
Amortisation for the year	2.9	5.6	8.5	1.1	–	2.3	1.0	12.9
Effect of movements in exchange rates	(0.5)	0.8	0.3	0.1	–	–	–	0.4
Balance at 30 June 2020 (restated)	33.2	68.2	101.4	13.0	–	6.9	3.9	125.2
Disposals	**–**	**–**	**–**	**(0.6)**	**–**	**–**	**–**	**(0.6)**
Amortisation for the year	**2.8**	**4.6**	**7.4**	**1.4**	**–**	**2.2**	**0.1**	**11.1**
Effect of movements in exchange rates	**–**	**(6.6)**	**(6.6)**	**(0.8)**	**–**	**(0.7)**	**–**	**(8.1)**
Balance at 30 June 2021	**36.0**	**66.2**	**102.2**	**13.0**	**–**	**8.4**	**4.0**	**127.6**
Carrying amounts								
At 30 June 2021	**15.7**	**15.4**	**31.1**	**7.0**	**2.7**	**15.2**	**0.3**	**56.3**
At 30 June 2020 (restated)	18.8	17.7	36.5	5.4	2.0	18.5	0.5	62.9
At 30 June 2019 (restated)	22.2	23.3	45.5	3.2	2.8	19.0	1.5	72.0

Included within brands, multiplier contracts and customer relationships are carrying amounts for brands of £0.7m (2020: £0.8m), multiplier contracts of £0.3m (2020: £0.5m) and customer relationships of £14.4m (2020: £16.4m).

Included within the software class of assets is £5.4m (2020 restated[1]: £2.9m) and included in assets in the course of construction is £1.1m (2020 restated[1]: £1.6m) that relate to the ongoing development costs of GenusOne, our single global enterprise system.

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

11. BIOLOGICAL ASSETS

Fair value of biological assets	Bovine £m	Porcine £m	Total £m
Non-current biological assets	98.7	188.4	287.1
Current biological assets	–	40.1	40.1
Balance at 30 June 2019	98.7	228.5	327.2
Increases due to purchases	17.5	118.7	136.2
Decreases attributable to sales	–	(217.3)	(217.3)
Decrease due to harvest	(24.5)	(22.7)	(47.2)
Changes in fair value less estimated sale costs	13.5	130.6	144.1
Effect of movements in exchange rates	2.0	4.9	6.9
Balance at 30 June 2020	107.2	242.7	349.9
Non-current biological assets	107.2	202.9	310.1
Current biological assets	–	39.8	39.8
Balance at 30 June 2020	107.2	242.7	349.9
Increases due to purchases	**15.2**	**134.8**	**150.0**
Decreases attributable to sales	**–**	**(223.0)**	**(223.0)**
Decrease due to harvest	**(24.4)**	**(21.4)**	**(45.8)**
Business combination (see note 20)	**–**	**0.3**	**0.3**
Changes in fair value less estimated sale costs	**3.9**	**118.4**	**122.3**
Effect of movements in exchange rates	**(9.9)**	**(24.3)**	**(34.2)**
Balance at 30 June 2021	**92.0**	**227.5**	**319.5**
Non-current biological assets	**92.0**	**187.9**	**279.9**
Current biological assets	**–**	**39.6**	**39.6**
Balance at 30 June 2021	**92.0**	**227.5**	**319.5**

Bovine biological assets include £7.4m (2020: £5.5m) 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 finance 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 8.8% (2020: 8.8%) has been used to discount future net cash flows from the sale of bull semen.

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

In 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 £47.5m (2020: £46.3m).

Decreases attributable to sales during the year of £223.0m (2020: £217.3m) include £67.4m (2020: £68.1m) 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 £97.9m (2020: £101.6m) 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 £206.9m (2020: £205.8m) in respect of these contracts, comprising £63.9m (2020: £69.8m) on initial transfer of animals and semen to customers and £143.0m (2020: £136.0m) in respect of royalties received.

A risk-adjusted rate of 9.3% (2020: 9.3%) has been used to discount future net cash flows from the expected output of the pure line porcine herds. The number of future generations which have been taken into account is seven (2020: seven) and their estimated useful lifespan is 1.4 years (2020: 1.4 years).

Year ended 30 June 2021

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

Year ended 30 June 2020

	Bovine £m	Porcine £m	Total £m
Net IAS 41 valuation movement on biological assets[1]			
Changes in fair value of biological assets	13.5	130.6	144.1
Inventory transferred to cost of sales at fair value	(10.9)	(22.7)	(33.6)
Biological assets transferred to cost of sales at fair value	–	(95.1)	(95.1)
	2.6	12.8	15.4
Fair value movement in related financial derivative	–	0.4	0.4
	2.6	13.2	15.8

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

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 2019	62.1	91.3	4.7	158.1	–	–	–	158.1
Recognised on the adoption of IFRS 16	–	–	–	–	19.7	6.9	26.6	26.6
Transfers on adoption of IFRS 16	–	(12.2)	–	(12.2)	–	12.2	12.2	–
Additions	0.4	9.4	14.8	24.6	1.9	7.2	9.1	33.7
Transfers	6.6	4.7	(11.3)	–	–	–	–	–
Disposals	(1.6)	(5.4)	–	(7.0)	–	(2.7)	(2.7)	(9.7)
Effect of movements in exchange rates	0.4	–	–	0.4	0.3	0.4	0.7	1.1
Balance at 30 June 2020	67.9	87.8	8.2	163.9	21.9	24.0	45.9	209.8
Additions	**1.1**	**5.9**	**22.3**	**29.3**	**2.3**	**8.1**	**10.4**	**39.7**
Business combination (see note 20)	**–**	**0.2**	**–**	**0.2**	**–**	**–**	**–**	**0.2**
Transfers	**4.3**	**3.5**	**(7.8)**	**–**	**–**	**–**	**–**	**–**
Disposals	**(0.3)**	**(2.1)**	**–**	**(2.4)**	**(1.9)**	**(4.7)**	**(6.6)**	**(9.0)**
Effect of movements in exchange rates	**(6.4)**	**(7.3)**	**(0.6)**	**(14.3)**	**(1.6)**	**(1.4)**	**(3.0)**	**(17.3)**
Balance at 30 June 2021	**66.6**	**88.0**	**22.1**	**176.7**	**20.7**	**26.0**	**46.7**	**223.4**
Depreciation and impairment losses								
Balance at 1 July 2019	20.8	51.3	–	72.1	–	–	–	72.1
Transfers on the adoption of IFRS 16	–	(4.8)	–	(4.8)	–	4.8	4.8	–
Depreciation for the year	3.8	9.3	–	13.1	4.4	6.5	10.9	24.0
Disposals	(0.7)	(2.7)	–	(3.4)	–	(1.5)	(1.5)	(4.9)
Effect of movements in exchange rates	0.4	–	–	0.4	–	0.3	0.3	0.7
Balance at 30 June 2020	24.3	53.1	–	77.4	4.4	10.1	14.5	91.9
Depreciation for the year	**3.2**	**9.8**	**–**	**13.0**	**3.7**	**7.3**	**11.0**	**24.0**
Disposals	**(0.3)**	**(1.5)**	**–**	**(1.8)**	**(1.3)**	**(4.2)**	**(5.5)**	**(7.3)**
Effect of movements in exchange rates	**(2.7)**	**(4.5)**	**–**	**(7.2)**	**(0.3)**	**(0.7)**	**(1.0)**	**(8.2)**
Balance at 30 June 2021	**24.5**	**56.9**	**–**	**81.4**	**6.5**	**12.5**	**19.0**	**100.4**
Carrying amounts								
At 30 June 2021	**42.1**	**31.1**	**22.1**	**95.3**	**14.2**	**13.5**	**27.7**	**123.0**
At 30 June 2020	43.6	34.7	8.2	86.5	17.5	13.9	31.4	117.9

13. TRADE AND OTHER RECEIVABLES

	2021 £m	2020 £m
Trade receivables	**87.2**	83.7
Less expected credit loss allowance	**(5.0)**	(3.4)
Trade receivables net of impairment	**82.2**	80.3
Other debtors	**6.4**	6.3
Prepayments	**6.6**	6.6
Contract assets	**7.7**	5.1
Other taxes and social security	**3.3**	2.5
Current trade and other receivables	**106.2**	100.8
Non-current other receivables	**1.8**	1.8
	108.0	102.6

Trade receivables
The average credit period our customers take on the sales of goods is 53 days (2020: 53 days). We do not charge interest on receivables for the first 30 days from the date of the invoice.

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

No customer represents more than 5% of the total balance of trade receivables (2020: no more than 5%).

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

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

	2021 £m	2020 £m
The Milk Pension Fund – Genus's share	**2.2**	7.5
The Dalgety Pension Fund	**–**	–
National Pig Development Pension Fund	**0.3**	0.7
Post-retirement healthcare	**0.6**	0.6
Other unfunded schemes	**8.0**	9.3
Overall net pension liability	**11.1**	18.1

Overall, we expect to pay £4.1m (2021: £8.0m) in contributions to defined benefit plans in the 2022 financial year.

Summary of movements in Group deficit during the year

	2021 £m	2020 £m
Deficit in schemes at the start of the year	**(18.1)**	(24.2)
Administration expenses	**(0.4)**	(0.5)
Exceptional cost of GMP equalisation	**(2.3)**	–
Reclassified from accruals	**(0.4)**	–
Contributions paid into the plans	**7.4**	8.4
Net pension finance cost	**(0.3)**	(0.4)
Actuarial gains/(losses) recognised during the year	**22.3**	(16.6)
Movement in restriction of assets	**(0.1)**	10.4
(Recognition)/release of additional liability	**(19.9)**	4.7
Exchange rate adjustment	**0.7**	0.1
Deficit in schemes at the end of the year	**(11.1)**	(18.1)

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

	2021 £m	2020 £m
Administrative expenses	**0.4**	0.5
Exceptional cost of GMP equalisation	**2.3**	–
Net finance charge	**0.3**	0.4
	3.0	0.9

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

	2021	2020
Discount rate	**1.90%**	1.65%
Consumer Price Index	**2.10%**	2.10%
Retail Price Index	**2.85%**	2.80%

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 2021, the mortality tables used are 97% of the S2NA tables, with birth year and 2021 CMI projections with a smoothing parameter of Sk = 7.0, subject to a long-term rate of improvement of 1.25% for males and females and 2019 the mortality tables used are 97% of the S2NA tables, with birth year and 2019 CMI projections with a smoothing parameter of Sk = 7.0, subject to a long-term rate of improvement of 1.25% for males and females.

15. NOTES TO THE CASH FLOW STATEMENT

	2021 £m	(restated)[1] 2020 £m
Profit for the year	**46.8**	35.7
Adjustment for:		
Net IAS 41 valuation movement on biological assets	**10.8**	(15.8)
Amortisation of acquired intangible assets	**7.4**	8.5
Share-based payment expense	**7.7**	5.8
Share of profit of joint ventures and associates	**(13.1)**	(8.9)
Finance costs (net)	**5.0**	5.0
Income tax expense	**9.0**	10.6
Exceptional items	**3.3**	19.2
Adjusted operating profit from continuing operations	**76.9**	60.1
Depreciation of property, plant and equipment	**24.0**	24.0
Loss on disposal of plant and equipment	**0.4**	3.7
Loss on disposal of intangible assets	**0.5**	1.2
Amortisation and impairment of intangible assets	**3.7**	4.6
Adjusted earnings before interest, tax, depreciation and amortisation	**105.5**	93.6
Cash impact of exceptional items	**(3.0)**	(5.8)
Other movements in biological assets and harvested produce	**(12.8)**	(2.9)
Decrease in provisions and release in deferred consideration	**(0.4)**	(2.2)
Additional pension contributions in excess of pension charge	**(7.0)**	(7.9)
Other	**(1.3)**	(0.9)
Operating cash flows before movement in working capital	**81.0**	73.9
(Increase)/decrease in inventories	**(1.3)**	0.1
Increase in receivables	**(11.0)**	(8.8)
Increase in payables	**17.9**	12.0
Cash generated by operations	**86.6**	77.2
Interest received	**0.4**	0.3
Interest and other finance costs paid	**(2.8)**	(3.4)
Interest on leased assets	**(0.8)**	(1.0)
Cash flow from derivative financial instruments	**0.2**	0.5
Income taxes paid	**(16.1)**	(13.5)
Net cash from operating activities	**67.5**	60.1

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

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

	At 1 July 2020 £m	Net cash flows £m	Foreign exchange £m	Other non-cash movements £m	At 30 June 2021 £m
Cash and cash equivalents	41.3	**6.6**	**(1.9)**	**–**	**46.0**
Interest-bearing loans – current	(9.2)	**(4.4)**	**0.6**	**(0.9)**	**(13.9)**
Lease liabilities – current	(10.0)	**11.7**	**0.2**	**(10.9)**	**(9.0)**
	(19.2)	**7.3**	**0.8**	**(11.8)**	**(22.9)**
Interest-bearing loans – non-current	(103.6)	**(12.7)**	**6.9**	**–**	**(109.4)**
Lease liabilities – non-current	(21.1)	**–**	**0.3**	**1.5**	**(19.3)**
	(124.7)	**(12.7)**	**7.2**	**1.5**	**(128.7)**
Total debt financing	(143.9)	**(5.4)**	**8.0**	**(10.3)**	**(151.6)**
Net debt	(102.6)	**1.2**	**6.1**	**(10.3)**	**(105.6)**

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

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

The retirement benefit obligations referred to in note 14 include obligations relating to the MPF defined benefit scheme. Genus, together with other participating employers, is joint and severally liable for the scheme's obligations. Genus has accounted for its section and its share of any orphan assets and liabilities, collectively representing approximately 86% (2020: 86%) of the MPF. As a result of the joint and several liability, Genus has a contingent liability for the scheme's obligations that it has not accounted for.

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

As described in note 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 which the Group considers the outcome of the claim is not probable and will not result in the outflow of economic benefit.

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

At 30 June 2021, we had entered into bank guarantees totalling £19.1m (2020: £5.9m).

17. DEFERRED CONSIDERATION

	Contingent deferred consideration £m	Deferred consideration £m	Total £m
Balance at 1 July 2019	–	6.2	6.2
Reclassified from provisions	4.5	–	4.5
Payment of consideration	(0.6)	(1.1)	(1.7)
Release of unutilised contingent consideration	(0.4)	–	(0.4)
Effect of movement in exchange rates	0.1	–	0.1
Balance at 30 June 2020	3.6	5.1	8.7
Business combination (see note 20)	**0.8**	**–**	**0.8**
Payment of consideration	**(2.0)**	**(4.7)**	**(6.7)**
Release of unutilised contingent consideration	**(0.4)**	**–**	**(0.4)**
Effect of movement in exchange rates	**(0.3)**	**–**	**(0.3)**
Balance at 30 June 2021	**1.7**	**0.4**	**2.1**
Current	**1.2**	**0.4**	**1.6**
Non-current	**0.5**	**–**	**0.5**
Balance at 30 June 2021	**1.7**	**0.4**	**2.1**
Current	2.8	4.7	7.5
Non-current	0.8	0.4	1.2
Balance at 30 June 2020	3.6	5.1	8.7

The balance at 30 June 2021 relates to the following transactions:

	Fiscal year of transaction	Contingent deferred consideration £m	Deferred consideration £m	Total £m
De Novo Genetics LLC	2017	**–**	**0.4**	**0.4**
Hermitage Genetics DAC	2017	**0.4**	**–**	**0.4**
Dairy LLC (n/a Bovisync)	2019	**0.4**	**–**	**0.4**
Progenex S.L.	2019	**0.1**	**–**	**0.1**
Sergal Gestió Ramadera, S.L (see note 20)	2021	**0.8**	**–**	**0.8**
Balance at 30 June 2021		**1.7**	**0.4**	**2.1**

18. NON-CONTROLLING INTEREST

	2021 £m	2020 £m
Non-controlling interest	**3.6**	4.6
Put option over non-controlling interest at inception	**(5.1)**	(5.6)
Total non-controlling interest	**(1.5)**	(1.0)

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

	De Novo Genetics LLC £m	PIC Italia S.r.l £m	2021 £m
Revenue	**3.4**	**4.1**	**7.5**
Expenses	**(4.9)**	**(3.3)**	**(8.2)**
Total comprehensive (expense)/income for the year	**(1.5)**	**0.8**	**(0.7)**
Total comprehensive (expense)/income attributable to owners of the Company	**(0.8)**	**0.6**	**(0.2)**
Total comprehensive (expense)/income attributable to the non-controlling interest	**(0.7)**	**0.2**	**(0.5)**

Biological assets	**15.8**	**–**	**15.8**
Current assets	**0.9**	**1.2**	**2.1**
Other non-current assets	**0.8**	**1.8**	**2.6**
Current liabilities	**(11.5)**	**(1.4)**	**(12.9)**
Net assets	**6.0**	**1.6**	**7.6**
Equity attributable to owners of the Company	**(2.6)**	**(1.4)**	**(4.0)**
Non-controlling interest	**3.4**	**0.2**	**3.6**

Dividends of £0.2m were paid to non-controlling interests (2020: £nil).

	De Novo Genetics LLC £m	PIC Italia S.r.l £m	2020 £m
Revenue	3.7	4.1	7.8
Expenses	(3.1)	(3.2)	(6.3)
Total comprehensive income for the year	0.6	0.9	1.5
Total comprehensive income attributable to owners of the Company	0.3	0.8	1.1
Total comprehensive income attributable to the non-controlling interest	0.3	0.1	0.4
Biological assets	14.9	–	14.9
Current assets	1.3	1.2	2.5
Other non-current assets	0.8	0.9	1.7
Current liabilities	(8.8)	(0.6)	(9.4)
Net assets	8.2	1.5	9.7
Equity attributable to owners of the Company	(3.8)	(1.3)	(5.1)
Non-controlling interest	4.4	0.2	4.6

19. POST BALANCE SHEET EVENTS

In August 2021, the first of two available extension options for extending our banking facilities was exercised, extending the maturity date of our banking facilities to 24 August 2024.

On 22 July 2021, Caribou Biosciences Inc. completed an initial public offering. As part of this process, our series B preference shares converted to common shares at a ratio of 1.818 to 1, resulting in a shareholding of 963,136 common shares. These shares are listed on the NASDAQ stock exchange under the symbol CRBU, and after an initial period of restriction, considerably improves the liquidity of our investment.

20. BUSINESS COMBINATIONS

On 28 June 2021, the Group acquired the trade and assets of Sergal Gestio Ramadera, S.L. ('Sergal'), a leading Spanish boar stud operator, to integrate our semen supply chain.

The amounts recognised in respect of the identifiable assets and liabilities acquired are as follows:

	£m
Biological assets (note 11)	**0.3**
Intangible assets identified – customer relationships (note 10)	**3.7**
Property, plant and equipment (note 12)	**0.2**
Total identifiable assets	**4.2**
Goodwill (note 9)	**3.5**
Total consideration	**7.7**

Satisfied by:	
Cash	**6.9**
Contingent consideration arrangement	**0.8**
Total consideration	**7.7**

The goodwill of £3.5m arising from the acquisition consists of the future synergies and market opportunities expected from combining the acquired operations with existing Genus operations. None of the goodwill is expected to be deductible for income tax purposes.

The contingent consideration arrangement requires certain sales targets to be achieved. The total that Genus could be required to pay under the contingent consideration agreement will not exceed £0.8m.

Acquisition-related costs of £0.1m were recognised within exceptional costs (see note 4).

Due to the proximity of the acquisition to the 30 June 2021, the acquired trade did not contribute any revenue or profit to the Group's results. Had the transaction occurred on 1 July 2020, the contribution to revenue and profit would have been £3.1m and £0.3m respectfully.

ALTERNATIVE PERFORMANCE MEASURES GLOSSARY

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

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

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

The key APMs that the Group uses include:

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

Adjusted profit inc JVs before tax exc SaaS impact	Adjusted operating profit before tax, excluding the impact of the change in accounting policy related to the accounting for Software as a service ('SaaS') (See note 2) See reconciliation below	This measure is presented only this year to demonstrate the impact of our change in accounting policy, and will not be presented in future periods. We present this measure to allow comparability of financial performance with the expectations of the year, which were based on our pre-existing accounting policy

Adjusted effective tax rate	Total income tax charge for the Group excluding the tax impact of adjusting items, divided by the adjusted operating profit. *Closest equivalent IFRS measure: Effective tax rate* See reconciliation below.	Provides an underlying tax rate to allow comparability of underlying financial performance, by excluding the impacts of net IAS 41 valuation movement on biological assets, amortisation of acquired intangible assets, share-based payment expense and exceptional items.
Adjusted basic earnings per share	Adjusted profit after tax profit divided by the weighted basic average number of shares. *Closest equivalent IFRS measure: Earnings per share* See calculation below.	On a per share basis, this allows the comparability of underlying financial performance by excluding the impacts of adjusting items.
Adjusted diluted earnings per share	Underlying attributable profit divided by the diluted weighted basic average number of shares. *Closest equivalent IFRS measure: Diluted earnings per share* See calculation below.	
Adjusted earnings cover	Adjusted earnings per share divided by the expected dividend for the year. See calculation below.	The Board dividend policy targets the adjusted earning cover to be between 2.5–3 times.
Adjusted EBITDA – calculated in accordance with the definitions used in our financing facilities	This is adjusted operating profit, adding back cash received from our joint ventures, depreciation of property, plant and equipment, depreciation of the historical cost of biological assets, operational amortisation (i.e. excluding amortisation of acquired intangibles) and deducting the amount attributable to minority interest. *Closest equivalent IFRS measure: Operating profit*[1] See reconciliation below.	This APM is presented because it is used in calculating our ratio of net debt to EBITDA and our interest cover, which we report to our banks to ensure compliance with our bank covenants.
Adjusted operating margin	Adjusted operating profit (including JVs) divided by revenue.	Allows for the comparability of underlying financial performance by excluding the impacts of exceptional items.
Adjusted operating margin (exc JVs)	Adjusted operating profit divided by revenue.	
Constant currency basis	The Group reports certain financial measures, on both a reported and constant currency basis and re-translates 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 calculation below.	This is used to measure how much operating cash flow we are generating and how efficient we are at converting our operating profit into cash.
Free cash flow	Cash generated by the Group before debt repayments, acquisitions and investments, dividends and proceeds from share issues. *Closest IFRS measure: Net cash flow from operating activities* See reconciliation below.	Shows the cash retained by the Group in the year.

Other measures

Interest cover	The ratio of adjusted net finance costs, calculated in accordance with the definitions used in our financing facilities, is net finance costs with a deduction for pension interest, interest from adopting IFRS 16, unwinding of discount on put options and amortisation of refinancing fees, to adjusted EBITDA. *Closest equivalent IFRS components for the ratio: The equivalent IFRS components are finance costs, finance income and operating profit* See calculation and reconciliation below.	This APM is used to understand our ability to meet our interest payments and is also a key metric that we report to our banks to ensure compliance with our bank covenants.
Ratio of net debt to adjusted EBITDA	The ratio of net debt, calculated in accordance with the definitions used in our financing facilities, is gross debt, made up of unsecured bank loans and overdrafts and obligations under finance leases, with a deduction for cash and cash equivalents and adding back amounts related to guarantees and deferred purchase arrangements, to adjusted EBITDA. *Closest equivalent IFRS components for the ratio: The equivalent IFRS components are gross debt, cash and cash equivalents and operating profit.* See calculation below.	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.
Return on adjusted invested capital	The Group's return on adjusted invested capital is measured on the basis of adjusted operating profit including JVs after tax, which is operating profit with the pre-tax share of profits from JVs and associates, net IAS 41 valuation movement on biological assets, amortisation of acquired intangible assets, share-based payment expense and exceptional items added back, net of amounts attributable to non-controlling interest and tax. The adjusted operating profit including joint ventures after tax is divided by adjusted invested capital, which is the equity attributable to owners of the Company adding back net debt, pension liability net of related deferred tax and deducting biological assets (less historical cost) and goodwill, net of related deferred tax. *Closest equivalent IFRS components for the ratio: Return on invested capital* See calculation and reconciliation below.	This APM is used to measure our ability to efficiently invest our capital and gives us a sense of how well we are using our resources to generate returns.

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

	2021		(restated)[1] 2020		
	£m	**£m**	£m	£m	Reference
Operating profit		**47.7**		**42.4**	Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	10.8		(15.8)		Group Income Statement
Amortisation of acquired intangible assets	7.4		8.5		Group Income Statement
Share-based payment expense	7.7		5.8		Group Income Statement
Exceptional items	3.3		19.2		Group Income Statement
Adjusted operating profit exc JVs		**76.9**		**60.1**	Group Income Statement
Less: amounts attributable to non-controlling interest		(0.1)		(0.6)	Group Income Statement
Operating profit from joint ventures and associates	13.1		8.9		Group Income Statement
Tax on joint ventures and associates	3.0		2.3		Note 6 – Income tax expense
Net IAS 41 valuation movement	(3.1)		0.1		No direct reference
Adjusted operating profit from JVs		13.0		11.3	
Adjusted operating profit inc JVs		**89.8**		**70.8**	
Gene editing costs		7.6		5.2	Note 3 – Segmental information
Adjusted operating profit inc JVs and exc gene editing costs		**97.4**		**76.0**	

Adjusted operating profit inc JVs after tax

	2021	(restated)[1] 2020	
	£m	£m	Reference
Adjusted operating profit inc JV	**89.8**	**70.8**	See APM
Adjusted tax	(20.2)	(16.8)	At effective tax rate
Adjusted operating profit inc JV after tax	**69.6**	**54.0**	

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

	2021	(restated)[1] 2020	
	£m	£m	Reference
Adjusted operating profit inc JVs	**89.8**	**70.8**	See APM
Less net finance costs	(5.0)	(5.0)	Note 5 – Net finance costs
Adjusted profit inc JVs before tax	**84.8**	**65.8**	
Adjusted tax	(19.1)	(15.6)	Note 7 – Earnings per share
Adjusted profit inc JVs after tax	**65.7**	**50.2**	

Adjusted profit inc JVs before tax exc SaaS impact

	2021	(restated)[1] 2020	
	£m	£m	Reference
Adjusted profit inc JVs before tax	**84.8**	**65.8**	See APM
Impact of change in accounting policy	2.7	5.2	Financial review
Adjusted profit inc JVs before tax exc SaaS impact	**87.5**	**71.0**	

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

Adjusted effective tax £m/rate

	2021		(restated)[1] 2020		
	£m	%	£m	%	Reference
Adjusted effective tax £m/rate	**19.1**	**22.5**	**15.6**	**23.7**	Note 7 – Earnings per share
Exceptional items	(1.1)	(33.3)	(4.5)	(23.4)	No direct reference
Share-based payment expense	(1.6)	(20.8)	(1.1)	(19.0)	No direct reference
Amortisation of acquired intangible assets	(1.5)	(20.3)	(1.8)	(21.2)	No direct reference
Net IAS 41 valuation movement on biological assets	(2.9)	(26.9)	4.7	29.7	No direct reference
Effective tax £m/rate	**12.0**	**20.4**	**12.9**	**26.5**	No direct reference

Adjusted basic earnings per share

	2021	(restated)[1] 2020	Reference
Adjusted profit inc JVs after tax (£m)	**65.7**	**50.2**	See APM
Weighted average number of ordinary shares ('000)	65.108	64.908	Note 7 – Earnings per share
Adjusted basic earnings per share (pence)	**100.9**	**77.3**	

Adjusted diluted earnings per share

	2021	(restated)[1] 2020	Reference
Adjusted profit inc JVs after tax (£m)	**65.7**	**50.2**	See APM
Weighted average number of diluted ordinary shares ('000)	65.662	65.427	Note 7 – Earnings per share
Adjusted diluted earnings per share (pence)	**100.1**	**76.7**	

Adjusted earnings cover

	2021		(restated)[1] 2020		
	pence	times	pence	times	Reference
Adjusted earnings per share	**100.9**		**77.3**		See APM
Dividend for the year	**32.0**		**29.1**		Note 8 – Dividends
Adjusted earnings cover		**3.2**		**2.7**	

Adjusted EBITDA – as calculated under our financing facilities

	2021		(restated)[1,2] 2020		
	£m	£m	£m	£m	Reference
Operating profit		**47.7**		**42.4**	Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	10.8		(15.8)		Group Income Statement
Amortisation of acquired intangible assets	7.4		8.5		Group Income Statement
Share-based payment expense	7.7		5.8		Group Income Statement
Exceptional items	3.3		19.2		Group Income Statement
Adjusted operating profit exc JVs	76.9		60.1		Group Income Statement
Adjust for:					
Adjusted operating profit impact of change in accounting policy	N/a		5.2		Note 2 - Basis of preparation
Cash received from JVs (dividend and loan repayment)	4.1		3.7		Group Statement of Cash Flows
Depreciation: property, plant and equipment	24.0		24.0		Note 12 – Property, plant and equipment
Operational lease payments	(12.5)		(12.1)		No direct reference
Depreciation: historical cost of biological assets	10.0		11.0		See Financial Review
Amortisation and impairment (excluding separately identifiable acquired intangible assets)	3.7		4.6		Note 10 – Intangible assets
Amortisation impact of change in accounting policy	N/a		0.5		Note 2 - Basis of preparation
Less amounts attributable to non-controlling interest	(0.1)		(0.6)		Group Income Statement
Adjusted EBITDA – as calculated under our financing facilities		**106.1**		**96.4**	

1 See note 2 for details of the prior period restatement.
2 Following Genus entering a new credit facility the definitions of EBITDA, Borrowings and Net Debt were amended. Consequently, the comparative values have been restated to reflect the amended definitions as reported to the banks.

BALANCE SHEET MEASURES

Net Debt

Net debt as calculated under our financing facilities

	2021		(restated)[1,2] 2020		
	£m	£m	£m	£m	Reference
Current unsecured bank loans and overdrafts	13.9		9.2		
Non-current unsecured bank loans and overdrafts	109.4		103.6		
Unsecured bank loans and overdrafts		123.3		112.8	Group Balance Sheet
Current obligations under finance leases	9.0		10.0		
Non-current obligations under finance leases	19.3		21.1		
Obligations under finance leases		28.3		31.1	Group Balance Sheet
Total debt financing		151.6		143.9	Note 15 – Notes to the cash flow statement
Deduct:					
Cash and cash equivalents		(46.0)		(41.3)	Group Balance Sheet
Net debt		**105.6**		**102.6**	
Deduct:					
Lower of obligations under finance leases or £30m[1]		(28.3)		(30.0)	
Add back:					
Guarantees		19.1		5.9	Note 16 – Contingencies and bank guarantees
Deferred purchase arrangements		0.1		0.2	No direct reference
Net debt – as calculated under our financing facilities		**96.5**		**78.7**	

CASH FLOW MEASURES

Cash conversion

	2021		(restated)[1,2] 2020		
	£m	£m	£m	£m	Reference
Cash generated by operations		**86.6**		**77.2**	Note 15 – Notes to the cash flow statement
Operating profit	47.7		42.4		Group Income Statement
Add back:					
Net IAS 41 valuation movement on biological assets	10.8		(15.8)		Group Income Statement
Amortisation of acquired intangible assets	7.4		8.5		Group Income Statement
Share-based payment expense	7.7		5.8		Group Income Statement
Exceptional items	3.3		19.2		Group Income Statement
Adjusted operating profit exc JVs		**76.9**		**60.1**	Group Income Statement
Cash conversion (%)		**113%**		**128%**	

Free cash flow

	2021		(restated)[1,2] 2020		
	£m	£m	£m	£m	Reference
Cash generated by operations		**86.6**		77.2	Note 15 – Notes to cash flow statement
Interest and tax paid		**(19.1)**		(17.1)	Note 15 – Notes to cash flow statement
Capital expenditure		**(33.8)**		(29.7)	Group Statement of Cash flows
Dividend received from joint venture and associate		**4.1**		2.5	Group Statement of Cash flows
Joint venture and associate loan payment/(repayment)		**(0.4)**		1.2	Group Statement of Cash flows
Proceeds from sale of property, plant and equipment		**0.3**		1.1	Group Statement of Cash flows
Dividend to non-controlling interest		**(0.2)**		–	Group Statement of Cash flows
Free cash flow		**37.5**		35.2	

1 Following Genus entering a new credit facility the definitions of EBITDA, Borrowings and Net Debt were amended. Consequently, the comparative values have been restated to reflect the amended definitions as reported to the banks.

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

OTHER MEASURES

Interest cover

	2021		(restated)[1,2] 2020		
	£m	**Times**	£m	Times	Reference
Finance costs	5.4		5.3		Group Income Statement
Finance income	(0.4)		(0.3)		Group Income Statement
Net finance costs	5.0		5.0		Note 5 – Net finance costs
Deduct:					
Pension interest	(0.3)		(0.4)		Note 5 – Net finance costs
Interest on lease liabilities	(0.8)		(1.0)		Note 5 – Net finance costs
Unwinding discount on put options	(0.6)		(0.5)		Note 5 – Net finance costs
Amortisation of refinancing fees	(0.9)		(0.4)		Note 5 – Net finance costs
Adjusted net finance costs	**2.4**		**2.7**		
Adjusted EBITDA – as calculated under our financing facilities	**106.1**		**96.4**		See APM
Interest cover		**45**		**35**	

Ratio of net debt to adjusted EBITDA

	2021		(restated)[1,2] 2020		
	£m	**Times**	£m	Times	Reference
Net debt – as calculated under our financing facilities	**96.5**		**78.7**		See APM
Adjusted EBITDA – as calculated under our financing facilities	**106.1**		**96.4**		See APM
Ratio of net debt to EBITDA		**0.9**		**0.8**	

Return on adjusted invested capital

	2021		(restated)[1,2] 2020		
	£m	**%**	£m	%	Reference
Adjusted operating profit inc JVs after tax	**69.6**		**54.0**		See APM
Equity attributable to owners of the Company	498.1		495.5		Group Balance Sheet
Add back:					
Net debt	105.6		102.6		Note 15 – Notes to the cash flow statement
Pension liability	11.1		18.1		Group Balance Sheet
Related deferred tax	(2.1)		(3.5)		No direct reference
Adjust for:					
Biological assets – carrying value	(319.5)		(349.9)		Note 11 - Biological Assets
Biological assets' harvest classed as inventories	(17.8)		(20.3)		No direct reference
Biological assets – historic cost	65.1		57.5		See Financial Review
Goodwill	(101.5)		(105.6)		Group Balance Sheet
Related deferred tax	63.7		74.4		No direct reference
Adjusted invested capital	**302.7**		**268.8**		
Return on adjusted invested capital		**23.0%**		**20.1%**	

1 Following Genus entering a new credit facility the definitions of EBITDA, Borrowings and Net Debt were amended. Consequently, the comparative values have been restated to reflect the amended definitions as reported to the banks.

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

Return on adjusted invested capital

	2021		(restated)[2] 2020		
	£m	%	£m	%	Reference
Return on adjusted invested capital		**23.0%**		**20.1%**	see APM
Adjusted operating profit inc JVs after tax	69.6		54.0		see APM
Tax rate	20.2	22.5%	16.8	23.7%	Note 7 – Earnings per share
Adjusted operating profit including JVs	89.8		70.8		Group Income Statement
Adjusted operating profit attributable to non-controlling interest	0.1		0.6		Group Income Statement
Pre-tax share of profits from JVs exc net IAS 41 valuation movement	(13.0)		(11.3)		Group Income Statement
Adjusted operating profit exc JVs	76.9		60.1		Group Income Statement
Fair value movement on biological assets	(10.8)		15.8		Group Income Statement
Amortisation of acquired intangibles	(7.4)		(8.5)		Group Income Statement
Share-based payment expense	(7.7)		(5.8)		Group Income Statement
Exceptional items	(3.3)		(19.2)		Group Income Statement
Share of post-tax profit of JVs	13.1		8.9		Group Income Statement
Finance costs	(5.0)		(5.0)		Group Income Statement
Profit before tax	55.8		46.3		Group Income Statement
Tax	(9.0)		(10.6)		Group Income Statement
Profit	**46.8**		**35.7**		Group Income Statement
Equity attributable to owners of the Company	**498.1**		**495.5**		Group Balance Sheet
Return on invested capital		**9.4%**		**7.2%**	

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