For Immediate Release 27 February 2020

Genus plc

Unaudited half year results for the six months ended 31 December 2019

STRONG FIRST HALF PERFORMANCE AND STRATEGIC MOMENTUM

	Adjusted results[1]				Statutory results		
	Actual currency			Constant currency change[2]	Actual currency		
Six months ended 31 December	**2019**	**2018**	**Change**		**2019**	**2018**	**Change**
	£m	**£m**	**%**	**%**	**£m**	**£m**	**%**
Revenue	**270.7**	238.8	13	13	**270.7**	238.8	13
Operating profit/(loss) exc JVs	**34.4**	28.7	20	21	**28.1**	(6.3)	n/m
Operating profit inc JVs exc gene editing	**43.7**	34.2	28	29	**n/a**	n/a	n/a
Profit/(loss) before tax	**36.6**	29.2	25	27	**30.4**	(6.8)	n/m
Free cash flow	**10.5**	(5.3)	n/m	n/m			
Basic earnings/(loss) per share (pence)	**43.5**	35.8	22	23	**36.5**	(11.7)	n/m
Dividend per share (pence)					**9.4**	8.9	6

Strong revenue growth of 13% in actual and constant currency

- Excellent performance in PIC with revenue up 15%[2]; royalty revenues grew 9%[2] with growth in all regions
- High breeding stock sales in China drove PIC volume growth of 18%, 7% excluding China
- Strong ABS revenue growth of 10%[2], driven by sexed genetics, up 48%
- ABS volume growth of 9%, with sexed genetics up 56% and beef up 16%

Record adjusted profit before tax ('PBT'), up 27% in constant currency; statutory PBT at £30.4m

- Highest first half adjusted PBT growth rate in over 10 years
- Adjusted operating profit including joint ventures and excluding gene editing up 29%[2]
- Double digit adjusted operating profit growth in PIC (up 28%[2]) and ABS (up 17%[2]); R&D investment increased 22%[2]
- Statutory PBT includes a £13.3m uplift in net IAS 41 biological asset valuation and £12.8m of exceptional costs, compared with a reduced asset valuation and higher exceptional costs in the prior year

Strong cash generation, earnings and dividends

- Free cash inflow[3] of £10.5m, net debt of £107.2m (inc £23m IFRS16 adjustment), net debt to EBITDA[4] of 0.9x
- Focused working capital management, while continuing to invest as planned in the IntelliGen® global production base and in Genus One, the new global enterprise system
- Adjusted earnings per share up 23% in constant currency; interim dividend up 6% with 2.9x adjusted earnings cover

Strong strategic momentum

- PIC's contract with Beijing Capital Agribusiness Co. Ltd ('BCA'), completed in October 2019, will accelerate use of PIC genetics in China through the phased integration into BCA's facilities and their planned major expansion
- Launch of the new Møllevang-influenced PIC 800 Duroc sireline well received by new and existing customers
- Sales of Sexcel®, ABS's high-fertility sexed genetics, continued to grow rapidly; we are expanding production capacity
- Strong results continue in all our industry leading species' genomic selection programmes
- Continued progress with the Porcine Reproductive Respiratory Syndrome virus ('PRRSv') development programme

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[1] Adjusted results are the alternative performance measures used by the Board to monitor underlying performance at a Group and operating segment level, which are applied consistently throughout. For more information on Alternative Performance Measures, see note 2 to the Condensed Financial Statements.

[2] All growth rates quoted are in constant currency unless otherwise stated. Constant currency percentage movements are calculated by restating the results for the six months ended 31 December 2019 at the average exchange rates applied to adjusted operating profit for the year ended 30 June 2019.

[3] Free cash flow is before debt repayments, acquisitions, investments, share placement proceeds and dividends, including a £3.4m benefit from the IFRS 16 adoption.

[4] Net debt and EBITDA as defined in the debt facility agreement, see note 2 to the Condensed Financial Statements.

n/m = not meaningful

Chief Executive's Statement

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

"Genus performed strongly and made substantial strategic progress in the first half of the 2020 fiscal year. PIC significantly benefitted from demand for its genetics in China, due to restocking, following the spread of African Swine Fever ('ASF'). PIC also achieved strong growth in Europe and Latin America, as well as accelerating growth in North America.

"ABS continued to grow profit in double digits, driven by a combination of the success of Sexcel and NuEra®, our proprietary beef genetics. We continued to strengthen our market position in North America, winning some significant new customers.

"In the second half of the 2020 fiscal year there are increased macro uncertainties, particularly as the authorities seek to contain the spread of Coronavirus (COVID-19), which could have a disruptive effect on trade. Nevertheless, following the strong first half we anticipate performing in line with the Board's expectations for the full year.

"Genus continues to have significant opportunities for growth, as we execute our strategy to remain at the forefront of delivering porcine, dairy and beef genetic improvement to farmers globally."

Results presentation today

An analyst meeting will be held at 8:30am today at Buchanan's offices (107 Cheapside, London, EC2V 6DN). A live audio feed will be available to those unable to attend this meeting in person. To connect to the webcast facility, please go to the following link: https://webcasting.buchanan.uk.com/broadcast/5e2ed55dd37bf5483c9beabf. This announcement will be available on the Genus website, www.genusplc.com.

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About Genus

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

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

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

With headquarters in Basingstoke, United Kingdom, Genus companies operate in over 25 countries on six continents, with research laboratories located in Madison, Wisconsin, USA.

Group Overview

Revenue of £270.7m (2018: £238.8m) increased 13% in actual and constant currencies during the period. PIC and ABS both contributed strongly with double digit revenue growth, achieved through positive progress in all regions. Strategically important porcine royalty revenue was up 9% in constant currency, with growth in all regions.

Genus continues to use adjusted results as its primary measures of financial performance, unless otherwise stated, as they better reflect trading progress.

Adjusted operating profit including joint ventures and excluding gene editing was £43.7m (2018: £34.2m), up 28% (29% in constant currency). Within this, Genus's share of adjusted joint venture operating profits was higher at £5.3m (2018: £2.7m), with strong performances in the PIC Agroceres JV in Brazil and in the Besun JV in China. Net finance costs increased to £2.8m (2018: £1.9m), as a result of the recognition of lease interest costs on the adoption of IFRS 16 and the prior period benefitting from interest rate hedging gains.

Adjusted profit before tax was up 25% (27% in constant currency), the highest growth rate in over 10 years, reflecting double digit growth in operating profit in both PIC and ABS. The ongoing impact of ASF in China has led to record high pork prices, driving strong breeding stock sales and farm margins in the period for PIC. However, ASF negatively impacted PIC Philippines in the period, and the net effect on profit before tax from PIC Asia was an incremental £9m.

The statutory profit before tax was £30.4m (2018: £6.8m loss), benefitting from a £13.3m non-cash increase (2018: £9.3m reduction) in net IAS 41 biological asset fair value. Other adjusting items, including amortisation of acquired intangibles and share based payments, were little changed in aggregate period to period. Exceptional items of £12.8m were £5.8m lower than the prior period, reflecting the damages and costs in relation to the ST litigation in the current period being lower than the non-cash Guaranteed Minimum Pension ('GMP') equalisation charge in respect of legacy pension schemes, which impacted the prior period.

The tax rate on adjusted profit before tax was 23.0% (2018: 24.3%). The reduction in the tax charge on adjusted profit before tax was due to the increasing proportion of the Group's profit arising in China, where there is agricultural tax relief on certain activities. The statutory profit after tax was £24.1m (2018: £7.1m loss).

The effect of exchange rate movements on the translation of Genus's overseas profits was a modest adverse impact of £0.4m compared with the prior period, primarily from stronger Sterling against the US Dollar and the Chinese Renminbi.

Free cash inflow of £10.5m (2018: £5.3m outflow) reflected the strong trading performance, a continued focus on working capital management and lower employee bonus payments related to the prior year. In addition, £3.4m is a benefit to free cash flow as a result of the adoption of IFRS 16 in the current period, which is offset by an increase in finance lease payments recognised in cashflows from financing activities. Cash generated by operations of £32.9m (2018: £15.5m) represented 96% conversion of adjusted operating profit of £34.4m (2018: £28.7m) into cash, or 86% excluding IFRS 16 adjustments (2018: 54%). Cash conversion, which is typically lower in the first half of the year, particularly benefitted from the lower payables outflow in the period compared to the prior period. Capital expenditure of £17.0m (2018: £15.0m) included higher IntelliGen capital expenditure for the new production locations, as well as investment in the ABS supply chain and Genus One, a single global enterprise system, which is progressing well.

Net debt increased to £107.2m (2018: £85.3m), primarily due to the £23.4m impact of adopting IFRS16. The net debt to EBITDA ratio of 0.9x (2018: 1.1x), improved through strong EBITDA growth while maintaining consistent net debt levels, as defined in the debt facility agreement, which excludes the impact of IFRS 16.

As a result of Genus's strong earnings growth and cash flow generation, the Board has declared an interim dividend of 9.4 pence per share, up 6% on last year's interim dividend, which is payable on 2 April 2020 to shareholders on the register at 6 March 2020.

Progress on Strategy

During the period Genus continued to benefit from the strategic investments made in its proprietary pork, dairy and beef breeding programmes, and its leading sexing technology. Genus gained traction with progressive farmers in key markets, supported by continued investments in its supply chain.

PIC performed strongly, particularly in China, where Rabobank has estimated that circa 50% of the herd was lost in 2019 as a result of the ASF outbreak. PIC moved rapidly to treble its Chinese supply chain compared with FY18. This has primarily been achieved through using customer systems for multiplication of PIC genetics. This is enabling PIC to provide elite breeding stock to the growing number of large commercial farms in China. PIC continues to grow the number of Duroc sireline customers in Europe and North America, with the recently launched Møllevang influenced PIC 800 product line in North America performing strongly in initial customer trials and generating increased royalty contract business. The investigational PRRSv resistance programme is making progress and our relationship with BCA has developed as planned, following transaction approval from the Chinese Ministry of Commerce of the PRRSv collaboration announced in May 2019, as well as a new distribution contract for non-edited porcine genetics signed in October.

ABS is well positioned to serve dairy farmers' growing demand for elite high-fertility sexed dairy genetics to improve the quality of their milking herds, together with beef genetics to produce high-quality dairy-beef cross animals for the beef supply chain. Previous investments in ABS's dairy breeding programme, De Novo, mean that ABS continues to maintain its leading Holstein breeding program.

ABS's IntelliGen platform and Sexcel product continued to outperform, with sexed semen sales volume growth of 56% and continued investment in our technology platform improving instrument output by over 40% since launch.[5] We also expanded our Sexcel production capacity, with the opening of another new facility in Wisconsin. An update on the Inguran, LLC (aka Sexing Technologies or ST) litigation is contained in note 5.

Our beef genetics programme continues to produce superior breeding animals. We are using product trials through the beef supply chain to validate superior growth, efficiency and yields, with encouraging early results. We expect that our proprietary beef genetics will account for over 25% of global ABS beef genetic sales in 2020.

Outlook

Genus performed strongly in the first half of the year. There are stronger prior year comparatives in the second half of the year and we anticipate increased currency headwinds and macro uncertainties, particularly in relation to the potential for disruption to trade, as the authorities in China and elsewhere seek to contain the spread of Coronavirus (COVID-19). However, the Board anticipates that Genus will continue to make strategic and financial progress and perform in line with its expectations for the financial year 2020.

[5] Based on the number of sexed semen units produced per instrument per day on a six month rolling average

Genus PIC – Operating Review

Six months ended 31 December	Actual currency 2019	Actual currency 2018	Actual currency Change	Constant currency change
	£m	**£m**	**%**	**%**
Revenue	**146.5**	125.6	17	15
Adjusted operating profit exc JV	**57.3**	45.9	25	24
Adjusted operating profit inc JV	**62.6**	48.6	29	28
Adjusted operating margin exc JV	**39.1%**	36.5%	2.6pts	2.6pts

Market

The spread of ASF across Asia and Eastern Europe is reshaping global pig market dynamics and creating more opportunities for genetics companies such as PIC. Over 60% of global pig production is in countries where ASF is currently present.

Since ASF broke out in China in August 2018, Rabobank estimates that over 50% of the Chinese herd has been lost. As a result, China pig prices rose 140% in recent months and pork imports have surged by around 50%, causing higher global pork prices and a significant deficit in meat consumption. Although ASF remains a major challenge, the pace of spreading has slowed and many Chinese producers are repopulating and expanding their herds, encouraged by high market prices and improved biosecurity controls. The recent outbreak of coronavirus in the human population, however, has led to concern in the industry for continued animal movements and imports. Prices are expected to remain volatile due to production subsidies, restocking speed, imports and any further spread of these diseases. ASF has also caused smaller-scale herd losses in other Asian countries, including Vietnam and the Philippines.

ASF is prevalent in most Eastern European countries. In Poland, it has been detected recently less than 20km from the German border. Entry into Germany could significantly affect one of Europe's largest pork exporters and could impact pork exports to China. Recently, the EU's pork trade with China has increased 63%, coinciding with a 44% increase in market pig prices. A ban on German pork exports to China could impact prices and farmer profitability throughout Western Europe.

The Americas are benefitting from increased imports by China. Brazil has realised a 33% jump in pig prices, on an additional 50,000 metric tonnes of pork sold to China. Despite trade restrictions and tariffs in 2019, pork carcass values in the US were up 13% due to capacity constraints in integrators and packers, and Canadian prices gained 23% since the resumption of trade with China in October. The finalised North America trade agreement and the potential for a Phase I trade deal between the US and China bolstered market optimism, although this has now been overshadowed by the market uncertainty caused by Coronavirus (COVID-19).

While the US Department of Agriculture is forecasting a 10% decline in global pork production in 2020 due to ASF, the major pork exporting regions are expected to boost production in response to increased demand. Pork exports from the United States, Brazil and the European Union are all projected to be higher in 2020.

Performance

Genus PIC's operating profits were £62.6m, up 28% in constant currency, benefitting from strong demand in China and despite volatile conditions in some markets. The net increase in the operating profit contribution from Asia was £9m. Volumes were up 18% (7% excluding China), with all regions contributing and particularly strong growth in direct breeding stock sales in China. Strategically important porcine royalty revenue was up 9% in constant currency, with growth in all regions. The combination of volume and royalty revenue growth resulted in total revenue increasing by 15%.

In North America, volumes and profits grew by 5%, due to growth in royalty revenue of 5%, and improved margins on both breeding stock and semen sales. The continued focus on sireline genetic improvement and customer expansion have accelerated growth to the highest level in over three years, despite volatile US market conditions throughout the period.

The launch of the PIC 800 sireline has been very well received by both new and existing customers. Additionally, investments in system and process improvements are under way, to drive efficiencies and support future growth.

Latin American profits grew by 20%, with most countries contributing. Volumes were up 15% and royalty revenues were up 6% in constant currency. Growth was particularly strong in Brazil, Mexico and Columbia.

Operating profit in Europe rose by 18% and revenues were up by 33%. Higher market prices helped fund customer breeding projects, with the highest growth in Russia, Spain and Germany. PIC's partnerships with Hermitage Genetics and Møllevang continue to add value to PIC's global business through a wider portfolio of genetics, distribution, and supply. Royalty revenues were up 11%.

Asia's operating profit grew by almost 300%, due primarily to a sharp increase in customer breeding projects in China and higher farm margins. This was driven by market prices across China strengthening to record levels and customers adopting mitigation strategies to combat ASF. Royalty contracts in China also continued to gain traction, with royalty revenues doubling. Profits in Franchises across Asia increased by 30%, with Vietnam the key contributor. However, these areas of growth were partially offset by a 77% profit decline in the Philippines, due to the outbreak of ASF there from August 2019. This resulted in an immediate and severe impact to the porcine market, similar to that experienced in China a year earlier. The porcine industry in many parts of the Philippines remains unstable.

PIC's long-term global strategy of investing in product supply and differentiation is providing significant competitive advantages, enabling PIC to better serve customers, mitigate global market risks and support future growth.

Genus ABS - Operating Review

Six months ended 31 December	Actual currency			Constant currency change
	2019	2018	Change	
	£m	£m	%	%
Revenue	**118.0**	107.8	9	10
Adjusted operating profit[6]	**14.6**	12.7	15	17
Adjusted operating margin[6]	**12.4%**	11.8%	0.6pts	0.7pts

Market

Global milk output in the second half of 2019 maintained the recent trend of modest growth. In Europe, growth in Ireland and the UK was offset by reduced output in The Netherlands and France. Similar levels of milk output growth were seen in both the US and Argentina, with improving genetics helping to enhance performance per cow. The relatively stable global dairy market supports an outlook of continued modest growth in global dairy output in 2020.

Dairy margins in the US have risen, supported by higher farmgate prices and lower feed costs. Margins in the UK were stable, with lower feed costs and increased output offsetting lower milk prices. In Brazil, higher feed prices have dampened profit throughout the supply chain. However, expected increases in demand through 2020 should help to support prices.

Beef output in North America continued to grow, with strong demand for quality product and prices remaining relatively stable. Lower prices in Europe reduced producer margins and constrained output in the region. Beef output in Brazil also grew, continuing the trend of the last four years. Economic challenges in Argentina led to a decline in production, although the weak currency contributed to good export margins for Argentine processors. Demand for beef in China grew significantly following the ASF-related shortage in pork supply and imports of beef were up over 50% in the first nine months of 2019. Over the last six months, China approved 30 beef processing plants across Brazil and Argentina, along with plants across Europe and South Africa. This strong import demand from China should continue to support global prices through 2020.

Performance

ABS operating profits increased by 17%, led by growth in volumes of 9% and revenues of 10%, reflecting the shift to sexed genetics. Sexed volumes grew 56%, reflecting Sexcel's continued success and customer demand. Increased use of beef genetics in dairy herds supported 16% growth in global beef volumes. ABS has invested in resources, particularly in the US and Europe, to support sales growth and the shift to long-term partnership accounts rather than transactional selling.

In North America, revenue grew by 15% and operating profit increased by 22% in constant currency, as previous strategic investments to strengthen key account management gained traction with new customer wins and the high growth of Sexcel continued. Volumes were up by 14%, with sexed volumes up 70% and beef volumes up 41%, supported by proprietary NuEra genetics selected for cross-bred beef on dairy performance. Embryo volumes remained stable and agreement for a new dedicated IVB laboratory for a key customer account will continue to support measured growth for our embryo business.

Europe achieved volume growth of 12%. However, operating profit was 1% lower in constant currency as a result of investments in resources to support the strategic shift to long-term partnership accounts, particularly in the UK and Italy. Sexed semen volumes grew 46%, with strong markets being the UK, Ireland and the European distributor business. The trend of dairy customers using sexed genetics, coupled with beef genetics for a portion of the herd, increased beef volumes by 13%.

In Latin America, revenues grew by 20% and operating profit increased by 30% in constant currency. Brazil and Argentina were particularly strong, with a focus on pricing policies and cash collection in Argentina helping to mitigate the impacts of inflation and currency devaluation. Volumes in Latin America overall increased by 7%, driven by sexed volumes up 29%

[6] Less non-controlling interest

and beef volumes up 7%, utilising NuEra genetics, selected for cross-bred performance of North American sires with tropical cows. Embryo profits were also higher, through strong growth in Brazil volumes and margins.

In Asia, operating profit was up 17% and volumes by 4%, with trading activity increasing in China following a period of vertical integration as dairy processors acquired farms. Sexed volumes were up 70% and India grew profit despite disruption caused by flooding in August of the Genus India Brahma facility, which returned to full operations in October. A new IntelliGen production facility for the State of Uttar Pradesh began operating towards the end of the period. Agreement was reached with a significant Vietnamese customer for a dedicated IVB laboratory, which will be a first step in this region for our embryo business.

Overall, the increasing customer adoption of Sexcel, along with our leading dairy genetics portfolio and our NuEra proprietary beef offering, mean we anticipate continued progress in the second half of the year.

Research and Development - Operating Review

Six months ended 31 December	Actual currency			Constant currency change
	2019	2018	Change	
	£m	£m	%	%
Porcine product development	**12.0**	8.5	41	39
Bovine product development	**9.7**	9.4	3	1
Gene editing	**4.3**	3.1	39	39
Other research and development	**4.8**	3.9	23	21
Net expenditure in R&D[7]	**30.8**	24.9	24	22

Performance

Net research and development investment increased by 22% in constant currency, as Genus pursued key strategic initiatives to further strengthen its proprietary differentiated offerings and to take advantage of market opportunities. Genus will continue to increase investment in gene editing, IntelliGen production capacity and our porcine elite farm nucleuses, as well as further developing its research and development pipeline.

Our continued investment in porcine product development is delivering historically high rates of genetic improvement, as Genus focuses on enhancing single-step genomic evaluation, crossbred performance testing and expanded elite nucleus populations. Initial performance and trial results, particularly with the Møllevang influenced PIC 800, are meeting or exceeding expectations. The growth in porcine product development expenditure primarily related to the expansion of Genus's elite farms globally, increasing herd sizes by 30% to improve access to elite animals for our customers.

Bovine product development continued to produce an industry leading Holstein dairy bull portfolio, which is supporting strong volume growth in ABS. The De Novo joint venture continues to produce more than 50% of these animals and the strong pipeline of young bulls will help sustain our leadership position. In addition, we continue to invest in IntelliGen while also amortising previously capitalised development costs. During the period, we continued to expand our Sexcel production capacity through efficiency gains and the opening of another production facility in North America, to provide competition in the market, meet increasing demand and provide differentiated sexed genetic offerings globally. We also successfully brought into production our second external customer site in India and further expanded the global IntelliGen footprint. We expect to expand our production capacity further to meet increasing demand for sexed semen.

Gene editing expenditure increased by 39% in the period, due to investment in the PRRSv resistance project. We internalised our capability for production of gene edited animals, allowing increased efficiency and timeliness for both the PRRSv resistance programme and other potential future targets. We continued our engagement with the US Food and Drug Administration and the relationship is constructive and positive. We also initiated conversations on regulatory and market acceptance in key global markets. Finally, good communication and planning with our Chinese partner, BCA, has identified the initial steps needed to move forward in that geography.

Other research and development expenditure increased by 21%. This included work on the bioinformatics platform, genome science and external collaborations in a variety of discovery areas, including seeking new gene edit targets and exploring the benefits of full genome sequencing.

[7] Less non-controlling interest

Principal risks and uncertainties

Genus's approach to risk management is to identify, evaluate and prioritise risks and uncertainties and actively manage actions to mitigate them. The Genus plc Annual Report 2019 (a copy of which is available on the Genus plc website at www.genusplc.com) sets out on pages 44-45 a number of risks and uncertainties that might impact the performance of the Group. There has been no material change to the principal risks in the current financial year that might affect the performance of the Group. However, we are monitoring the potential disruption to trade caused by Coronavirus (COVID-19).

GENUS PLC
CONDENSED CONSOLIDATED INCOME STATEMENT
For the six months ended 31 December 2019

	Notes	Six months ended 31 December 2019 £m	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m
Revenue	4	**270.7**	238.8	488.5
Adjusted operating profit	4	**34.4**	28.7	57.7
Adjusting items:				
- Net IAS 41 valuation movement on biological assets	10	**13.3**	(9.3)	(14.7)
- Amortisation of acquired intangible assets	9	**(4.0)**	(4.7)	(9.5)
- Share-based payment expense		**(2.8)**	(2.4)	(3.0)
		6.5	(16.4)	(27.2)
- Exceptional items:	5			
- Litigation		**(12.0)**	(3.1)	(5.0)
- Acquisition and integration		**(0.5)**	(0.6)	(0.7)
- Other		**(0.3)**	0.6	(0.9)
- Pension related		**-**	(15.5)	(15.2)
Total exceptional items		**(12.8)**	(18.6)	(21.8)
Total adjusting items		**(6.3)**	(35.0)	(49.0)
Operating profit/(loss)		**28.1**	(6.3)	8.7
Share of post-tax profit of joint ventures and associates retained	12	**5.1**	1.4	5.1
Finance costs	6	**(2.9)**	(2.6)	(4.7)
Finance income	6	**0.1**	0.7	0.8
Profit/(loss) before tax		**30.4**	(6.8)	9.9
Taxation	7	**(6.3)**	(0.3)	(3.2)
Profit/(loss) for the period		**24.1**	(7.1)	6.7
Attributable to:				
Owners of the Company		**23.7**	(7.2)	7.8
Non-controlling interest		**0.4**	0.1	(1.1)
		24.1	(7.1)	6.7
Earnings per share	14			
Basic earnings/(loss) per share		**36.5p**	(11.7p)	12.4p
Diluted earnings/(loss) per share		**36.3p**	(11.0p)	11.9p
Alternative measure of performance				
Adjusted operating profit		**34.4**	28.7	57.7
Adjusted operating profit attributable to non-controlling interest		**(0.3)**	(0.3)	(0.4)
Pre-tax share of profits from joint ventures and associates excluding net IAS 41 valuation movement		**5.3**	2.7	7.6
Gene editing costs		**4.3**	3.1	7.3
Adjusted operating profit including joint ventures and associates, excluding gene editing costs		**43.7**	34.2	72.2
Gene editing costs		**(4.3)**	(3.1)	(7.3)
Adjusted operating profit including joint ventures and associates		**39.4**	31.1	64.9
Net finance costs	6	**(2.8)**	(1.9)	(3.9)
Adjusted profit before tax		**36.6**	29.2	61.0
Adjusted earnings per share	14			
Basic adjusted earnings per share		**43.5p**	35.8p	73.2p
Diluted adjusted earnings per share		**43.2p**	33.8p	70.7p

GENUS PLC
CONDENSED CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
For the six months ended 31 December 2019

	Six months ended 31 December 2019		Six months ended 31 December 2018		Year ended 30 June 2019	
	£m	**£m**	£m	£m	£m	£m
Profit/(loss) for the period		**24.1**		(7.1)		6.7
Items that may be reclassified subsequently to profit or loss						
Foreign exchange translation differences	**(24.1)**		13.7		19.7	
Fair value movement on net investment hedges	**0.6**		(2.5)		(1.6)	
Fair value movement on cash flow hedges	**(0.2)**		(1.1)		(2.2)	
Tax relating to components of other comprehensive income	**3.2**		(0.8)		(2.5)	
		(20.5)		9.3		13.4
Items that may not be reclassified subsequently to profit or loss						
Actuarial loss on retirement benefit obligations	**(26.7)**		(13.8)		(5.4)	
Movement on pension asset recognition restriction	**13.6**		11.0		(10.1)	
Release of additional pension liability	**13.2**		17.4		34.5	
Tax relating to components of other comprehensive income	**-**		(2.6)		(3.2)	
		0.1		12.0		15.8
Other comprehensive (expense)/income for the period		**(20.4)**		21.3		29.2
Total comprehensive income for the period		**3.7**		14.2		35.9
Attributable to:						
Owners of the Company		**3.3**		14.1		37.1
Non-controlling interest		**0.4**		0.1		(1.2)
		3.7		14.2		35.9

GENUS PLC
CONDENSED CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
For the six months ended 31 December 2019

	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 2018		6.2	112.8	(0.1)	20.5	2.0	275.2	416.6	2.5	419.1
Foreign exchange translation differences, net of tax		-	-	-	16.6	-	-	16.6	(0.1)	16.5
Fair value movement on net investment hedges, net of tax		-	-	-	(1.3)	-	-	(1.3)	-	(1.3)
Fair value movement on cash flow hedges, net of tax		-	-	-	-	(1.8)	-	(1.8)	-	(1.8)
Actuarial loss on retirement benefit obligations, net of tax		-	-	-	-	-	(4.6)	(4.6)	-	(4.6)
Movement on pension asset recognition restriction, net of tax		-	-	-	-	-	(8.3)	(8.3)	-	(8.3)
Release of additional pension liability, net of tax		-	-	-	-	-	28.7	28.7	-	28.7
Other comprehensive income/(expense) for the year		-	-	-	15.3	(1.8)	15.8	29.3	(0.1)	29.2
Profit for the year		-	-	-	-	-	7.8	7.8	(1.1)	6.7
Total comprehensive income/(expense) for the year		-	-	-	15.3	(1.8)	23.6	37.1	(1.2)	35.9
Recognition of share-based payments, net of tax		-	-	-	-	-	0.2	0.2	-	0.2
Adjustment arising from change in non-controlling interest		-	-	-	-	-	-	-	(2.6)	(2.6)
Dividends	8	-	-	-	-	-	(16.8)	(16.8)	-	(16.8)
Issue of ordinary shares		0.3	66.2	-	-	-	-	66.5	-	66.5
BALANCE AT 30 JUNE 2019		**6.5**	**179.0**	**(0.1)**	**35.8**	**0.2**	**282.2**	**503.6**	**(1.3)**	**502.3**
Foreign exchange translation differences, net of tax		**-**	**-**	**-**	**(20.6)**	**-**	**-**	**(20.6)**	**(0.2)**	**(20.8)**
Fair value movement on net investment hedges, net of tax		**-**	**-**	**-**	**0.5**	**-**	**-**	**0.5**	**-**	**0.5**
Fair value movement on cash flow hedges, net of tax		**-**	**-**	**-**	**-**	**(0.2)**	**-**	**(0.2)**	**-**	**(0.2)**
Actuarial loss on retirement benefit obligations, net of tax		**-**	**-**	**-**	**-**	**-**	**(22.1)**	**(22.1)**	**-**	**(22.1)**
Movement on pension asset recognition restriction, net of tax		**-**	**-**	**-**	**-**	**-**	**11.3**	**11.3**	**-**	**11.3**
Release of additional pension liability, net of tax		**-**	**-**	**-**	**-**	**-**	**10.9**	**10.9**	**-**	**10.9**
Other comprehensive expense for the period		**-**	**-**	**-**	**(20.1)**	**(0.2)**	**0.1**	**(20.2)**	**(0.2)**	**(20.4)**
Profit for the period		**-**	**-**	**-**	**-**	**-**	**23.7**	**23.7**	**0.4**	**24.1**
Total comprehensive Income/(expense) for the period		**-**	**-**	**-**	**(20.1)**	**(0.2)**	**23.8**	**3.5**	**0.2**	**3.7**
Recognition of share-based payments, net of tax		**-**	**-**	**-**	**-**	**-**	**1.3**	**1.3**	**-**	**1.3**
Dividends	8	**-**	**-**	**-**	**-**	**-**	**(12.2)**	**(12.2)**	**-**	**(12.2)**
BALANCE AT 31 DECEMBER 2019		**6.5**	**179.0**	**(0.1)**	**15.7**	**-**	**295.1**	**496.2**	**(1.1)**	**495.1**

	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 2018		6.2	112.8	(0.1)	20.5	2.0	275.2	416.6	2.5	419.1
Foreign exchange translation differences, net of tax		-	-	-	12.6	-	-	12.6	0.1	12.7
Fair value movement on net investment hedges, net of tax		-	-	-	(2.5)	-	-	(2.5)	-	(2.5)
Fair value movement on cash flow hedges, net of tax		-	-	-	-	(0.9)	-	(0.9)	-	(0.9)
Actuarial loss on retirement benefit obligations, net of tax		-	-	-	-	-	(11.7)	(11.7)	-	(11.7)
Movement on pension asset recognition restriction, net of tax		-	-	-	-	-	9.2	9.2	-	9.2
Release of additional pension liability, net of tax		-	-	-	-	-	14.5	14.5	-	14.5
Other comprehensive income/(expense) for the period		-	-	-	10.1	(0.9)	12.0	21.2	0.1	21.3
Loss for the period		-	-	-	-	-	(7.2)	(7.2)	0.1	(7.1)
Total comprehensive income for the period		-	-	-	10.1	(0.9)	4.8	14.0	0.2	14.2
Recognition of share-based payments, net of tax		-	-	-	-	-	-	-	-	-
Adjustment arising from change in non-controlling interest and written put option		-	-	-	-	-	-	-	(0.4)	(0.4)
Dividends	8	-	-	-	-	-	(11.0)	(11.0)	-	(11.0)
Issue of ordinary shares		0.3	66.2	-	-	-	-	66.5	-	66.5
BALANCE AT 31 DECEMBER 2018		6.5	179.0	(0.1)	30.6	1.1	269.0	486.1	2.3	488.4

GENUS PLC
CONDENSED CONSOLIDATED BALANCE SHEET
As at 31 December 2019

	Notes	31 December 2019 £m	31 December 2018 £m	30 June 2019 £m
Assets				
Goodwill	9	**101.5**	105.7	106.3
Other intangible assets	9	**77.1**	80.2	80.1
Biological assets	10	**307.6**	313.0	307.6
Property, plant and equipment	11	**107.8**	83.6	86.0
Interests in joint ventures and associates	12	**24.4**	21.2	23.6
Other investments		**6.7**	6.2	7.4
Derivative financial asset	17	**-**	0.9	0.4
Deferred tax assets		**2.7**	4.2	3.5
Total non-current assets		**627.8**	615.0	614.9
Inventories		**33.7**	35.0	36.0
Biological assets	10	**46.1**	32.6	40.1
Trade and other receivables		**96.8**	93.2	98.0
Cash and cash equivalents		**31.1**	25.0	30.5
Income tax receivable		**3.0**	1.2	3.3
Derivative financial asset	17	**0.3**	0.6	1.1
Asset held for sale		**0.2**	0.2	0.2
Total current assets		**211.2**	187.8	209.2
Total assets		**839.0**	802.8	824.1
Liabilities				
Trade and other payables		**(86.7)**	(74.3)	(87.7)
Interest-bearing loans and borrowings		**(8.7)**	(5.9)	(2.1)
Provisions	5	**(10.0)**	(2.4)	(3.1)
Deferred consideration		**(0.4)**	(1.2)	(2.0)
Obligations under leases	2	**(7.5)**	(1.0)	(2.2)
Current tax liabilities		**(2.9)**	(4.8)	(6.1)
Derivative financial liabilities	17	**(0.5)**	(0.7)	(1.0)
Total current liabilities		**(116.7)**	(90.3)	(104.2)

	Notes	**31 December 2019 £m**	31 December 2018 £m	30 June 2019 £m
Interest-bearing loans and borrowings		**(100.4)**	(101.3)	(101.9)
Retirement benefit obligations	16	**(20.5)**	(32.2)	(24.2)
Provisions		**(4.9)**	(5.0)	(5.7)
Deferred consideration		**(4.3)**	(4.2)	(4.2)
Deferred tax liabilities		**(69.9)**	(76.0)	(72.0)
Derivative financial liabilities	17	**(5.5)**	(3.3)	(5.7)
Obligations under leases	2	**(21.7)**	(2.1)	(3.9)
Total non-current liabilities		**(227.2)**	(224.1)	(217.6)
Total liabilities		**(343.9)**	(314.4)	(321.8)
Net assets		**495.1**	488.4	502.3
Equity				
Called up share capital		**6.5**	6.5	6.5
Share premium account		**179.0**	179.0	179.0
Own shares		**(0.1)**	(0.1)	(0.1)
Translation reserve		**15.7**	30.6	35.8
Hedging reserve		**-**	1.1	0.2
Retained earnings		**295.1**	269.0	282.2
Equity attributable to owners of the Company		**496.2**	486.1	503.6
Non-controlling interest		**4.4**	5.5	4.2
Put option over non-controlling interest		**(5.5)**	(3.2)	(5.5)
Total non-controlling interest		**(1.1)**	2.3	(1.3)
Total equity		**495.1**	488.4	502.3

GENUS PLC
GROUP STATEMENT OF CASH FLOWS
For the six months ended 31 December 2019

	Notes	**Six months ended 31 December 2019 £m**	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m
Net cash flow from operating activities	15	**24.1**	8.5	33.4
Cash flows from investing activities				
Dividends received from joint ventures and associates		**0.2**	-	2.7
Joint venture loan repayment		**1.2**	-	0.7
Investment in joint venture		**(2.2)**	-	-
Disposal of joint venture		**3.8**	-	-
Deferred consideration paid		**(1.3)**	(21.1)	(21.1)
Acquisition of investment		**-**	(2.0)	(2.0)
Disposal of investment		**-**	0.4	0.4
Purchase of owned property, plant and equipment		**(11.1)**	(10.3)	(17.1)
Purchase of intangible assets		**(5.9)**	(4.7)	(11.2)
Proceeds from sale of owned property, plant and equipment		**2.0**	0.8	1.5
Net cash outflow from investing activities		**(13.3)**	(36.9)	(46.1)
Cash flows from financing activities				
Drawdown of borrowings		**54.5**	96.3	104.8
Repayment of borrowings		**(46.0)**	(126.7)	(138.9)
Payment of lease liabilities		**(5.1)**	(1.0)	(2.0)
Equity dividends paid		**(12.2)**	(11.0)	(16.8)
Issue of ordinary shares		**-**	66.5	66.5
Net cash (outflow)/inflow from financing activities		**(8.8)**	24.1	13.6
Net increase/(decrease) in cash and cash equivalents		**2.0**	(4.3)	0.9
Cash and cash equivalents at beginning of period		**30.5**	29.1	29.1
Net increase/(decrease) in cash and cash equivalents		**2.0**	(4.3)	0.9
Effect of exchange rate fluctuations on cash and cash equivalents		**(1.4)**	0.2	0.5
Total cash and cash equivalents at end of period		**31.1**	25.0	30.5

GENUS PLC
ANALYSIS OF NET DEBT
For the six months ended 31 December 2019

	At 1 July 2019 (reported) £m	Adoption of IFRS 16 leases £m	At 1 July 2019 (post adoption) £m	Net cash flows £m	Foreign exchange £m	Non-cash movement £m	**At 31 December 2019 £m**
Cash and cash equivalents	30.5	-	**30.5**	**2.0**	**(1.4)**	**-**	**31.1**
Interest-bearing loans - current	(2.1)	-	**(2.1)**	**(6.7)**	**0.3**	**(0.2)**	**(8.7)**
Lease liabilities - current	(2.2)	(7.5)	**(9.7)**	**5.1**	**0.1**	**(3.0)**	**(7.5)**
	(4.3)	(7.5)	**(11.8)**	**(1.6)**	**0.4**	**(3.2)**	**(16.2)**
Interest-bearing loans non-current	(101.9)	-	**(101.9)**	**(1.8)**	**3.3**	**-**	**(100.4)**
Lease liabilities – non-current	(3.9)	(19.1)	**(23.0)**	**-**	**1.1**	**0.2**	**(21.7)**
	(105.8)	(19.1)	**(124.9)**	**(1.8)**	**4.4**	**0.2**	**(122.1)**
Net debt	(79.6)	(26.6)	**(106.2)**	**(1.4)**	**3.4**	**(3.0)**	**(107.2)**

	At 1 July 2018 £m	Net cash flows £m	Foreign exchange £m	Non-cash movement £m	At 31 December 2018 £m
Cash and cash equivalents	29.1	(4.3)	0.2	-	25.0
Interest-bearing loans - current	(13.4)	7.9	(0.2)	(0.2)	(5.9)
Lease liabilities - current	(1.4)	1.0	(0.1)	(0.5)	(1.0)
	(14.8)	8.9	(0.3)	(0.7)	(6.9)
Interest-bearing loans – non-current	(120.7)	22.5	(3.1)	-	(101.3)
Lease liabilities – non-current	(2.1)	-	-	-	(2.1)
	(122.8)	22.5	(3.1)	-	(103.4)
Net debt	(108.5)	27.1	(3.2)	(0.7)	(85.3)

Net debt is defined as the total of cash and cash equivalents, interest-bearing loans, unamortised debt issue costs and lease obligations.

1. Basis of preparation

The unaudited Condensed Set of Financial Statements for the six months ended 31 December 2019:

- were prepared in accordance with International Accounting Standard 34 '*Interim Financial Reporting*' ('IAS 34') and thereby International Financial Reporting Standards ('IFRSs'), both as issued by the International Accounting Standards Board ('IASB') and as adopted by the European Union ('EU');
- are presented on a condensed basis as permitted by IAS 34 and therefore do not include all disclosures that would otherwise be required in a full set of financial statements; these should be read, therefore, in conjunction with the Genus plc Annual Report 2019;
- includes all adjustments, consisting of normal recurring adjustments, necessary for a fair statement of the results for the periods presented;
- do not constitute statutory accounts within the meaning of section 435 of the Companies Act 2006; and
- were approved by the Board of Directors on 26 February 2020.

The information relating to the year ended 30 June 2019 is an extract from the published financial statements for that year, which have been delivered to the Registrar of Companies. The auditor's report on those financial statements was not qualified and did not contain statements under section 498(2) or (3) of the Companies Act 2006.

The unaudited Condensed Set of Financial Statements for the six months ended 31 December 2019 has not been reviewed by our Auditor.

The Genus plc Annual Report 2019 (a copy of which is available on the Genus plc website at www.genusplc.com) sets out on pages 44-45 a number of risks and uncertainties that might impact upon the performance of the Group. There has been no material change to the principal risks that might affect the performance of the Group in the current financial year. Having considered these risks and uncertainties, and in the current economic environment, the Directors have a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. Therefore, they continue to adopt the going concern basis in preparing the half-yearly report and the Condensed Set of Financial Statements.

The preparation of the Condensed Set of Financial Statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the balance sheet date, and the reported amounts of revenue and expenses during the period. Actual results could vary from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period or in the period of revision and future periods if the revision affects both current and future periods.

In note 4 we have reclassified the comparative period to reflect a change in the classification reported between 'Royalties – animal and semen' to 'Sale of animal, semen, embryos, products and services' consistent with the presentation in the 2019 Annual Report. There is no impact to the overall revenue reported.

2. Accounting policies and non-GAAP measures

New standards and interpretations

In the current period, the Group has applied a number of amendments to IFRSs issued by the International Accounting Standards Board that are mandatorily effective for an accounting period that begins after 1 January 2019 and has been implemented with effect from 1 July 2019.

- IFRIC 23 – 'Uncertainty over Income Tax Treatments';
- Annual Improvements to IFRS 2015-2017 Cycle;
- Amendments to IAS 28 – 'Long-term Interests in Associates and Joint Ventures';
- Amendments to IFRS 9 – 'Prepayment Features with Negative Compensation';
- Amendments to IAS 19 – 'Plan Amendment, Curtailment or Settlement';

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

In addition to the above the Group adopted IFRS 16 'Leases' from 1 July 2019.

IFRS 16 'Leases'

The Group has adopted IFRS 16 using the modified retrospective approach with the value of the right use of asset being equal to the lease liability at the date of adoption.

The Group has elected not to recognise right of use assets and lease liabilities for leases of low-value assets (those with a purchase price of less than GBP 4,000), and lease payments associated with those assets will be recognised as an expense on a straight-line basis. The Group will make use of the practical expedient available on transition to IFRS 16 not to reassess whether a contract is or contains a lease. When the contracts are modified on or after 1 July 2019, the contract will be reassessed to determine if it contains a lease as defined by IFRS 16.

In addition, the Group will utilise the following practical expedients, permitted by IFRS 16:

- the right of use asset for each lease has been measured as the present value of the lease liability adjusted for any prepaid or accrued lease payments prior to application;
- for leases where the remaining term was less than 12 months at 1 July 2019 the group has elected to treat these as short term;
- for leases that were previously classified as an operating lease under IAS 17 'Leases' the lease liability on 1 July 2019 was calculated as the present value of the remaining lease payments using the incremental borrowing rate as at 1 July 2019;
- for existing leases that incurred initial direct costs, these were excluded from the measurement of the right of use asset as at 1 July 2019;
- the use of hindsight for existing leases has been applied in determining options to extend or terminate the lease;
- has not elected to separate lease components from non-lease components; and
- has elected to apply a single discount rate to a portfolio of leases with similar characteristics.

Financial impact of IFRS 16

The impact of adopting IFRS 16 on the Group's condensed consolidated income statement, condensed consolidated balance sheet, condensed consolidated statement of cash flows are presented in the following tables:

Impact on the Group's condensed consolidated income

In the first six months of the year the adoption of IFRS 16 has had the following impact of the Group's condensed consolidated income statement:

	Six months ended 31 December 2019 (as reported) £m	Differences between IFRS 16 and IAS17 £m	Six months ended 31 December 2019 (under IAS17) £m
Operating profit/(loss)	**28.1**	(0.2)	27.9
Share of post-tax profit of joint ventures and associates retained	**5.1**	-	5.1
Finance costs	**(2.9)**	0.3	(2.6)
Finance income	**0.1**	-	0.1
Profit/(loss) before tax	**30.4**	0.1	30.5

Impact on the Group's condensed consolidated balance sheet

	1 July 2019 prior to adoption of IFRS 16 (as reported) £m	Recognised on adoption of IFRS 16 £m	1 July 2019 post adoption of IFRS 16 £m
Non-Current Assets			
Property, plant and equipment	**86.0**	26.6	112.6
Current Liabilities			
Obligations under Leases	**(2.2)**	(7.5)	(9.7)
Non-Current Liabilities			
Obligations under Leases	**(3.9)**	(19.1)	(23.0)

The following table shows a reconciliation between the operating lease obligations reported at 30 June 2019 and the amount recognised on adoption of IFRS 16 using the weighted average incremental borrowing rate of 2.6% at the date of adoption.

	£m
Operating Lease Commitments (as at 30 June 2019)	**32.7**
Leases classified as low value or short term	(0.9)
Software licences outside the scope of IFRS 16	(2.3)
Operating Lease Commitments to be Capitalised under IFRS 16	29.5
Impact of discounting	(2.9)
Finance Lease Liability (1 July 2019)	**26.6**

Impact on the Groups consolidated condensed statement of cashflows

	Six months ended 31 December 2019 (as reported) £m	Reclassification on adoption of IFRS 16 £m	Six months ended 31 December 2019 (under IAS17) £m
Net cash from operating activities	**24.1**	(3.4)	20.7
Net cash outflow from investing activities	**(13.3)**	-	(13.3)
Net cash outflow from financing activities	**(8.8)**	3.4	(5.4)
Net increase in cash and cash equivalents	**2.0**	-	2.0

The reconciliation on the impact of adoption IFRS 16 on net debt can be found in the analysis of net debt note.

Following adoption there was no material impact to adjusted earnings per share, earnings per share or Taxation.

Leases accounting policy under IFRS 16

In accordance with IFRS 16, we recognise as an expense any payments made in respect of short-term leases (those with a term of less than 12 months) and for low-value items on a straight-line basis over the life of the lease.

For all other leases we recognise a right-of-use asset and corresponding liability at the date at which the leased asset is made available for use. Lease liabilities are measured at the present value of the future lease payments, excluding any payments relating to non-lease components. Future lease payments include fixed payments, in-substance fixed payments, and variable lease payments that are based on an index or a rate, less any lease incentives receivable. Lease liabilities also take into account amounts payable under residual value guarantees and payments to exercise options to the extent that it is reasonably certain that such payments will be made. The payments are discounted at the rate implicit in the lease or, where that cannot be measured, at an incremental borrowing rate.

Right-of-use assets are measured initially at cost based on the value of the associated lease liability, adjusted for any payments made before inception, initial direct costs and an estimate of the dismantling, removal and restoration costs required in the terms of the lease. Subsequent to initial recognition, we record an interest charge in respect of the lease liability. The related right-of-use asset is depreciated over the term of the lease or, if shorter, the Useful Economic Life (UEL) of the leased asset. The lease term shall include the period of an extension option where it is reasonably certain that the option will be exercised. Where the lease contains a purchase option the asset is written-off over the useful life of the asset when it is reasonably certain that the purchase option will be exercised.

We remeasure the lease liability (and make a corresponding adjustment to the related right-of-use asset) whenever: -

- The lease term has changed or there is a change in the assessment of exercise of a purchase option, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate.
- The lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which cases the lease liability is remeasured by discounting the revised lease payments using the initial discount rate (unless the lease payments change is due to a change in a floating interest rate, in which case a revised discount rate is used).
- A lease contract is modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate. The Group did not make any such adjustments during the periods presented.

New standards and interpretations not yet adopted

At the date of the interim 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 EU). The Group will continue to assess the impact of these amendments prior to their adoption.

- Amendments to IAS 1 and IAS 8 – 'Definition of Material';
- Amendments to IFRS 3 – 'Definition of a Business';
- Amendments to IFRS 9, IAS 39 and IFRS 7 – 'Interest Rate Benchmark Reform'; and
- Conceptual Framework for Financial Reporting.

Alternative performance measures ('APMs')

In reporting financial information, the Group presents alternative performance measures, ('APMs'), which are not defined or specified under the requirements of 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. The APMs are consistent with how the business performance is planned and reported within the internal management reporting to the Board and the executive leadership committee. Some of these measures are also used for the purpose of setting remuneration targets.

The key APMs that the Group uses include: adjusted operating profit, adjusted profit before tax, adjusted earnings per share, net debt, net debt excluding the impact of IFRS 16 and adjusted EBITDA (as calculated under our financing facilities and includes cash received from joint ventures and historical cost depreciation of biological assets).

The Group reports some financial measures, on both an actual and constant currency basis. The constant currency basis, which is an APM, retranslates the current year results at the average actual periodic exchange rates used in the previous financial year. This measure is presented as a means of eliminating the effects of exchange rate fluctuations on the year-on-year reported results.

The Group makes certain adjustments to the statutory profit measures in order to derive many of these APMs. The Group's policy is to exclude items that are considered to be significant in nature and/or quantum and where treatment as an adjusted item provides stakeholders with additional useful information to assess the year-on-year trading performance of the Group. On this basis, the following were included within adjusted items for the 6 months ended 31 December 2019:

- net IAS 41 valuation movements on biological assets - movements can be materially volatile and do not directly correlate to the trading performance in the period. Furthermore, the movement is non-cash related and many assumptions used in the valuation model are based on future projections rather than current trading;
- amortisation of acquired intangible assets – by excluding it helps the comparability between acquired operations and organically grown operations, as the latter are not able to 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 is 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 period performance; and
- exceptional items – are items which either due to their size or their nature are excluded to improve the understanding of the Company's performance, see note 5 for further details.

The reconciliation between operating profit and adjusted operating profit is shown on the face of the Group Income Statement. For adjusted earnings per share, the reconciliation between profit before tax and adjusted profit after tax is shown in note 14. For adjusted EBITDA, the reconciliation between profit after tax and adjusted EBITDA is shown in note 15. A reconciliation of net debt is provided after the Group Statement of Cash Flows.

3. Foreign currencies

The principal exchange rates used were as follows:

	Average			**Closing**		
	Six months ended 31 December 2019	Six months ended 31 December 2018	Year ended 30 June 2019	**31 December 2019**	31 December 2018	30 June 2019
US Dollar/£	**1.26**	1.29	1.29	**1.33**	1.28	1.27
Euro/£	**1.14**	1.12	1.13	**1.18**	1.11	1.12
Brazilian Real/£	**5.13**	5.02	4.99	**5.33**	4.95	4.89
Mexican Peso/£	**24.50**	25.11	25.04	**25.11**	25.07	24.40
Chinese Yuan/£	**8.88**	8.88	8.83	**9.23**	8.78	8.72

The assets and liabilities of foreign operations, including goodwill arising on consolidation, are translated into Sterling at the prevailing exchange rates at the balance sheet date. We translate these operations' revenues and expenses using an average rate for the period.

4. 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 Group Chief Executive and the Board to allocate resources to the segments and to assess their performance.

The Group's operating and reporting structure comprises of three operating segments; Genus PIC, Genus ABS and 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
- Research and Development – our global spend on research and development.

A segment analysis of revenue, operating profit and segment assets and liabilities are detailed below. We do not include our adjusting items in the revenue and operating profit segments as we believe these do not reflect the trading progress 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

	Six months ended 31 December 2019 £m	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m
Genus PIC	**146.5**	125.6	253.7
Genus ABS	**118.0**	107.8	222.6
Research and Development			
Porcine Product Development	**5.0**	4.2	9.4
Bovine Product Development	**1.2**	1.2	2.8
Gene Editing	**-**	-	-
Other Research and Development	**-**	-	-
	6.2	5.4	12.2
	270.7	238.8	488.5

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 period is shown on the Condensed Consolidated Income Statement.

Adjusted operating profit

	Six months ended 31 December 2019	Six months ended 31 December 2018	Year ended 30 June 2018
	£m	£m	£m
Genus PIC	**57.3**	45.9	93.1
Genus ABS	**14.6**	12.8	29.9
Research and Development			
Porcine Product Development	**(12.0)**	(8.5)	(18.4)
Bovine Product Development	**(9.4)**	(9.2)	(19.7)
Gene Editing	**(4.3)**	(3.1)	(7.3)
Other Research and Development	**(4.8)**	(3.9)	(9.0)
	(30.5)	(24.7)	(54.4)
Adjusted segment operating profit	**41.4**	34.0	68.6
Central	**(7.0)**	(5.3)	(10.9)
Adjusted operating profit	**34.4**	28.7	57.7

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

Exceptional items, not included within adjusted operating profit, of £12.8m expense (2018: £18.6m expense), relate to Genus ABS (£13.0m expense), Genus PIC (£0.3m income) and our central segment (£0.1m expense). Note 5 provides the details of these exceptional items.

We consider share-based payment expenses, not included within adjusted operating profit, on a Group-wide basis and do not allocate them to reportable segments.

	Segment assets			Segment liabilities		
	31 December 2019 £m	31 December 2018 £m	30 June 2019 £m	**31 December 2019 £m**	31 December 2018 £m	30 June 2019 £m
Genus PIC	**242.1**	252.7	262.1	**(62.4)**	(53.7)	(51.6)
Genus ABS	**184.8**	159.8	157.1	**(47.5)**	(31.1)	(41.9)
Research and Development						
Porcine Product Development	**232.1**	197.3	200.5	**(56.0)**	(54.9)	(56.1)
Bovine Product Development	**134.0**	166.1	161.5	**(26.4)**	(30.0)	(32.8)
Research	**7.6**	9.1	7.4	**(1.5)**	(1.2)	(0.6)
	373.7	372.5	369.4	**(83.9)**	(86.1)	(89.5)
Segment total	**800.6**	785.0	788.6	**(193.8)**	(170.9)	(183.0)
Central	**38.4**	17.8	35.5	**(150.1)**	(143.5)	(138.8)
Total	**839.0**	802.8	824.1	**(343.9)**	(314.4)	(321.8)

Revenue by product

	Six months ended 31 December 2019	Six months ended 31 December 2018 (restated)	Year ended 30 June 2019
	£m	£m	£m
Sale of animals, semen, embryos, products and services	**199.9**	174.0	358.9
Royalties – animal and semen	**67.4**	61.0	122.0
Consulting services	**3.4**	3.8	7.6
	270.7	238.8	488.5

Revenue from contracts with customers

	Six months ended 31 December 2019	Six months ended 31 December 2018	Year ended 30 June 2019
	£m	£m	£m
Genus PIC	**144.8**	124.0	251.3
Genus ABS	**108.0**	97.2	200.3
Research and Development	**6.2**	5.4	12.2
Recognised at a point in time	**259.0**	226.6	463.8
Genus PIC	**1.7**	1.6	2.4
Genus ABS	**10.0**	10.6	22.3
Research and Development	**-**	-	-
Recognised over time	**11.7**	12.2	24.7
Total Revenue	**270.7**	238.8	488.5

5. Exceptional items

	Six months ended 31 December 2019	Six months ended 31 December 2018	Year ended 30 June 2019
Operating (expenses)/income:	**£m**	£m	£m
Litigation	**(12.0)**	(3.1)	(5.0)
Acquisition and integration	**(0.5)**	(0.6)	(0.7)
Other	**(0.3)**	0.6	(0.9)
Pension related	**-**	(15.5)	(15.2)
	(12.8)	(18.6)	(21.8)

Litigation

Litigation includes legal fees of £3.8m (2018: £3.1m) related to the actions between ABS Global, Inc. ('ABS') and Inguran, LLC (aka Sexing Technologies ('ST')) and £8.2m (2018: £nil) for damages and costs related to patent infringement, which is included in current provisions.

On 14 July 2014, ABS launched a legal action against ST in the US District Court for the Western District of Wisconsin alleging, among other matters, that ST: (i) has a monopoly in the processing of sexed bovine semen in the US; and (ii) unlawfully maintains this monopoly through anticompetitive conduct. The legal action aimed to remove these barriers and allow free and fair competition in the sexed bovine semen processing market ('ABS Action'). In parallel with the ABS Action, ABS also filed Inter-Partes Review applications ('IPR') before the US Patent Office challenging the validity of several of ST's group patents, which ST later claimed were infringed by ABS.

On 31 March 2017, the Court entered a judgment in the ABS Action which confirmed: (i) the Company and ABS had proved that ST had wilfully maintained a monopoly in the market for sexed bovine semen processing in the US since July 2012, and awarded a permanent injunction against ST; (ii) ST's Patent No.'s 8,206,987 (the ''987 patent') and 8,198,092 (the ''092 patent') were valid and infringed; and (iii) that ABS had materially breached the confidentiality obligations under the 2012 semen sorting agreement. The Court also confirmed that: (i) the Company and ABS should pay ST an upfront amount of $750,000 and an ongoing royalty of $1.25 per straw on commercialisation of the Genus Sexed Semen technology for the use of ST's '987 patent in the US; (ii) the Company and ABS should pay ST an upfront payment of $500,000 and an ongoing royalty of $0.50 per straw for the use of ST's '092 patent in the US; (iii) ABS should pay XY LLC damages of $750,000 for the use of certain XY trade secrets; and (iv) ABS had breached the confidentiality obligations under the 2012 semen sorting agreement.

Damages of $1,250,000 were paid by ABS to ST shortly after the Court's decision in the ABS Action, and ABS has subsequently amended its technology such that it does not infringe the '092 patent claims. ABS has informed ST that it does not intend to pay the $0.50 royalty going forward.

On 27 September 2018, the court awarded ABS legal fees of approximately $4.8 million and ST legal costs of approximately $22,000. ST appealed this decision, and on 4 June 2019, the Court of Appeals vacated the original award for further consideration after the final resolution of the entire 2014 action, as discussed below. No credit has been accounted for this award pending the appeal.

On 7 June 2017, ST, XY LLC and Cytonome/ST, LLC filed proceedings against ABS, the Company and Premium Genetics (UK) Limited ('PG') in the United States District Court for the Western District of Wisconsin ('New Litigation'). The New Litigation alleged that ABS and the Company infringe seven further patents and asserts trade secret and breach of contract claims. In response, ABS filed six IPRs seeking to revoke the additional patents raised in the New Litigation. PTAB instituted hearings in relation to three IPRs and refused to institute hearings on two other IPRs. In relation to the final IPR, relating to U.S. Patent No. 7,208,265, ST requested an adverse judgment.

On 29 January 2019, ABS was successful in its appeal of the '987 patent decision and the '987 patent was remitted to the district court for a new trial.

On 26 February 2019, the Court issued a summary judgment opinion finding that: (i) ST's trade secret misappropriation and breach of contract claims were barred by the decision in the ABS Action; (ii) the asserted claims of US patent 6,524,860 were invalid; and (iii) the asserted claim of US patent 9,365,822 was invalid. In December 2019, PTAB confirmed that the relevant claims of US patent 9,365,822 were invalid.

In early April 2019, PTAB held that all of the relevant claims of ST's US patent 9,446,912 ("912 patent') were unpatentable and that some of the claims of US patent 8,529,161 ("161 patent') were also unpatentable, while others were patentable. On 29 April 2019, the Court issued its second summary judgment opinion, granting in part and denying in part ABS's motions. In summary, the Court: (i) confirmed ABS' non-infringement of the '161 and '912 patents; (ii) confirmed non-infringement by ABS under most of ST's theories of infringement in relation to the US patents 7,311,476 ("476 patent') and 7,611,309 ("309 patent'); and (iii) denied all of ST's motions for partial summary judgment.

The hearing proceeded in September 2019, and on 9 September a jury held that ABS' IntelliGen technology infringed the '987 patent along with '476 and '309 patents. The infringement of the '987 patent confirms ABS' existing obligation to pay a royalty of $1.25 for each straw of sexed semen produced in the US and the jury later held that ABS should pay a royalty of $2.60 per straw for infringement of the '476 and '309 patents for 3,295,355 straws sold by ABS up to 30 June 2019. This royalty is retrospective, as ABS had reengineered the IntelliGen technology by incorporating a non-infringing microfluidic chip known as "SSC(B)" prior to the hearing. ST confirmed in court that the SSC(B) chip did not infringe the '476 or '309 patents. The parties await the court to confirm or reject the jury verdict, and once the court has entered judgment, ABS will consider its options for appeal.

Indian Litigation: In September 2019, ST and Cytonome/ST LLC also filed parallel Indian patent infringement proceedings against the Company, ABS and Genus Breeding India PVT Limited ("ABS India") alleging infringement of the Indian patent number 240790 (''790 patent'). The '790 patent is the equivalent of the US '476 patent relating to microfluidic chips. ABS India had already sought the revocation of the '790 patent in April 2017 and filed a response and counterclaim seeking the revocation of the '790 patent. This matter is next before the Indian Courts on 20 April 2020 to consider the timetable and the application for a preliminary injunction. All microfluidic chips used by ABS India are the non-infringing SSC(B) chips.

2020 Litigation: On 29 January 2020, ST filed a new US complaint against ABS and the Company. ST allege infringement of the '987 patent through: (i) the sale, lease or transfer of the GSS machines to third parties; (ii) the importation of sexed semen straws made outside the US using the GSS technology; and (iii) the use of the GSS technology to produce IVF products. ABS has prepared and filed a response to the complaint, including a motion to dismiss, on the basis that all these issues were fully resolved in either the ABS Action or the New Litigation.

Acquisition and integration

During the period, £0.5m (2018: £0.6m) of expenses were incurred in relation to acquisitions and integration.

Other

Included within 'other' is £0.3m expense (2018: £0.6m credit) principally relating to a net cost of extreme flooding in India (£0.6m) offset by an insurance receipt from a legacy environmental claim (£0.3m).

Pension related

In prior period, in October 2018, the High Court handed down judgment in the Lloyds Bank pensions case, requiring pension schemes to equalise Guaranteed Minimum Pensions (GMPs). Genus's legacy pension schemes are affected by this ruling, resulting in an aggregate past service charge of £15.7m in the period ended 31 December 2018, offset by a settlement gain of £0.2m (net of fees).

6. Net finance costs

	Six months ended 31 December 2019 £m	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m
Interest payable on bank loans and overdrafts	**(1.7)**	(1.9)	(3.3)
Amortisation of debt issue costs	**(0.2)**	(0.2)	(0.4)
Other interest payable	**(0.2)**	-	-
Interest payable on leases	**(0.5)**	-	(0.1)
Net interest cost in respect of pension scheme liabilities	**(0.3)**	(0.5)	(0.9)
Total interest expense	**(2.9)**	(2.6)	(4.7)
Interest income on bank deposits	**0.1**	0.1	0.2
Net settlement income on derivative financial instruments	**-**	0.6	0.6
Total interest income	**0.1**	0.7	0.8
Net finance costs	**(2.8)**	(1.9)	(3.9)

7. Taxation

	Six months ended 31 December 2019 £m	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m
Current tax	**3.7**	5.5	11.7
Deferred tax	**2.6**	(5.2)	(8.5)
Income tax expense	**6.3**	0.3	3.2

The tax charge for the period of £6.3m (2018: £0.3m) on the statutory profit represents an effective tax rate of 20.7% (2018: minus 4.4%). The statutory tax charge for the prior period was materially reduced by the receipt of tax relief on the exceptional UK pension expense relating to GMP equalisation and on the IAS 41 fair value expense, at tax rates lower than the Group effective tax rate.

The tax charge on adjusted profits for the period is £8.4m (2018: £7.1m), which represents a tax rate on adjusted profits of 23.0% (2018: 24.3%). The reduction in the tax charge on adjusted profits arises due to the increasing proportion of the Group's profit arising in China due to the availability of tax relief on owned production agricultural activities.

In October 2017, the European Commission announced that it would be conducting a State Aid investigation into the Group Financing Partial Exemption contained within the UK's controlled foreign company ('CFC') legislation. The Commission's decision was announced in April 2019 and found that this exemption constituted partial state aid in situations where profits previously availing of this exemption were attributable to significant people functions ("SPFs") in the UK.

The UK government has appealed the Commission's decision and there is currently considerable uncertainty as to how any final liability under this ruling and attributable to UK SPFs will be determined in practice. The maximum potential exposure, if all the relief previously claimed by the Group under these exemptions was repayable, would be £4.3m. However, the fact that the Commission's final decision concluded that the aid was limited to profits attributable to UK SPFs and the potential availability of alternative reliefs will likely result in a substantially lower liability arising. Based on our interpretation of the relevant legislation and management's judgement, the Group partially provided in the prior year against these previously claimed reliefs based on an initial assessment. There has been no change to this initial assessment during the period.

There is a deferred tax liability at the period end of £69.9m (2018: £76.0m) which mainly relates to the recognition at fair value of biological assets and intangible assets arising on acquisition and a deferred tax asset of £2.7m (2018: £4.2m) which mainly relates to future tax deductions in respect of pension scheme liabilities, share scheme awards and financial instruments.

8. Dividends

Amounts recognised as distributions to equity holders in the period:	**Six months ended 31 December 2019 £m**	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m
Final dividend			
Final dividend for the year ended 30 June 2019 of 18.8 pence per share	**12.2**	-	-
Final dividend for the year ended 30 June 2018 of 17.9 pence per share	**-**	11.0	11.0
Interim dividend			
Interim dividend for the year ended 30 June 2019 of 8.9 pence per share	**-**	-	5.8
	12.2	11.0	16.8

The final dividend for the year ended 30 June 2019 was approved at the Company Annual General Meeting on 14 November 2019 and paid on 29 November 2019.

On 26 February 2020, the Directors proposed an interim dividend of 9.4 pence per share payable on 2 April 2020.

9. Intangible assets

	Technology £m	Brand, multiplier contracts and customer relationships £m	Separately identified acquired intangible assets £m	Software Including Assets under Constructi-on £m	IntelliGen £m	Patents, licence and other £m	Total £m	Goodwill £m
Cost								
Balance at 1 July 2018	51.7	80.5	132.2	15.4	22.2	3.9	173.7	102.0
Additions	-	-	-	10.2	1.0	0.5	11.7	-
Acquisitions	-	1.8	1.8	-	-	-	1.8	1.1
Disposals	-	-	-	(0.1)	-	(0.1)	(0.2)	-
Effect of movements in exchange rates	1.3	2.8	4.1	0.2	0.8	0.1	5.2	3.2
Balance at 30 June 2019	53.0	85.1	138.1	25.7	24.0	4.4	192.2	106.3
Additions	**-**	**-**	**-**	**4.9**	**1.0**	**-**	**5.9**	**-**
Disposals	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Effect of movements in exchange rates	**(0.6)**	**(3.8)**	**(4.4)**	**(0.2)**	**(1.0)**	**-**	**(5.6)**	**(4.8)**
Balance at 31 December 2019	**52.4**	**81.3**	**133.7**	**30.4**	**24.0**	**4.4**	**192.5**	**101.5**
Amortisation and impairment losses								
Balance at 1 July 2018	27.7	53.7	81.4	9.3	2.5	1.8	95.0	-
Impairment	-	-	-	1.2	-	-	1.2	-
Disposal	-	-	-	(0.1)	-	-	(0.1)	-
Amortisation for the year	2.7	6.8	9.5	1.0	2.1	1.1	13.7	-
Effect of movements in exchange rates	0.4	1.3	1.7	0.2	0.4	-	2.3	-
Balance at 30 June 2019	30.8	61.8	92.6	11.6	5.0	2.9	112.1	-
Amortisation for the period	**1.5**	**2.5**	**4.0**	**0.8**	**1.1**	**0.5**	**6.4**	**-**
Effect of movements in exchange rates	**(0.2)**	**(2.8)**	**(3.0)**	**-**	**(0.1)**	**-**	**(3.1)**	**-**
Balance at 31 December 2019	**32.1**	**61.5**	**93.6**	**12.4**	**6.0**	**3.4**	**115.4**	**-**
Carrying amounts								
At 31 December 2019	**20.3**	**19.8**	**40.1**	**18.0**	**18.0**	**1.0**	**77.1**	**101.5**
At 30 June 2019	22.2	23.3	45.5	14.1	19.0	1.5	80.1	106.3

Included in Software class of assets is a net book value of £14.4m (30 June 2019: £9.8m) relating to the ongoing development of Genus One, a single global enterprise system.

Included within the Software class of assets is £13.4m (30 June 2019: £11.0m) of costs capitalised in relation to software assets that are in the course of construction.

10. Biological assets

Fair value of biological assets	Bovine	Porcine	Total
	£m	£m	£m
Balance at 1 July 2019	**98.7**	**249.0**	**347.7**
Increases due to purchases	**6.6**	**53.9**	**60.5**
Decreases attributable to sales	**-**	**(112.5)**	**(112.5)**
Decrease due to harvest	**(11.1)**	**(12.3)**	**(23.4)**
Changes in fair value less estimated sale costs	**13.1**	**82.5**	**95.6**
Effect of movements in exchange rates	**(4.4)**	**(9.8)**	**(14.2)**
Balance at 31 December 2019	**102.9**	**250.8**	**353.7**
Non-current biological assets	**102.9**	**204.7**	**307.6**
Current biological assets	**-**	**46.1**	**46.1**
Balance at 31 December 2019	**102.9**	**250.8**	**353.7**
Balance at 1 July 2018	104.0	238.8	342.8
Increases due to purchases	4.5	55.9	60.4
Decreases attributable to sales	-	(83.8)	(83.8)
Decrease due to harvest	(12.8)	(11.3)	(24.1)
Changes in fair value less estimated sale costs	3.3	36.6	39.9
Effect of movements in exchange rates	3.2	7.2	10.4
Balance at 31 December 2018	102.2	243.4	345.6
Non-current biological assets	102.2	210.8	313.0
Current biological assets	-	32.6	32.6
Balance at 31 December 2018	102.2	243.4	345.6
Balance at 1 July 2018	104.0	238.8	342.8
Increases due to purchases	9.2	117.5	126.7
Decreases attributable to sales	-	(191.5)	(191.5)
Decrease due to harvest	(25.3)	(22.2)	(47.5)
Changes in fair value less estimated sale costs	7.2	97.2	104.4
Effect of movements in exchange rates	3.6	9.2	12.8
Balance at 30 June 2019	98.7	249.0	347.7
Non-current biological assets	98.7	208.9	307.6
Current biological assets	-	40.1	40.1
Balance at 30 June 2019	98.7	249.0	347.7

Bovine

Bovine biological assets include £5.4m (2018: £5.2m) 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 are no movements in the carrying value of the bovine biological assets in respect of sales or other changes during the period.

The current market determined post-tax rate used to discount expected future net cash flows from the sale of bull semen has been assessed as 8.7% (2018: 8.8%).

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

Porcine

Included in increases due to purchases is the aggregate increase arising during the period on initial recognition of biological assets in respect of multiplier purchases, other than parent gilts, of £18.0m (2018: £19.0m).

Decreases attributable to sales during the period of £112.5m (2018: £83.8m) include £33.5m (2018: £27.8m) 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 £49.2m (2018: £42.5m) 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 period.

Total revenue in the period, including parent gilts, includes £103.0m (2018: £89.1m) in respect of these contracts, comprising £35.5m (2018: £27.9m) on initial transfer of animals and semen to customers and £67.4m (2018: £61.2m) in respect of royalties received.

For pure line porcine herds, the net cash flows from the expected output of the herds are discounted at the Group's required rate of return, adjusted for the greater risk implicit in including output from future generations. This adjusted rate has been assessed as 11.0% (2018: 11.0%). The number of future generations which have been taken into account is seven (2018: seven) and their estimated useful lifespan is 1.4 years (2018: 1.4 years).

Six months ended 31 December 2019	**Bovine**	**Porcine**	**Total**
	£m	**£m**	**£m**
Net valuation movement on biological assets*			
Changes in fair value of biological assets	**13.1**	**82.5**	**95.6**
Inventory transferred to cost of sales at fair value	**(9.7)**	**(12.3)**	**(22.0)**
Biological assets transferred to cost of sales at fair value	**-**	**(59.5)**	**(59.5)**
	3.4	**10.7**	**14.1**
Fair value movements in related financial derivative	**-**	**(0.8)**	**(0.8)**
	3.4	**9.9**	**13.3**

Six months ended 31 December 2018	**Bovine**	**Porcine**	**Total**
	£m	**£m**	**£m**
Net valuation movement on biological assets*			
Changes in fair value of biological assets	3.3	36.6	39.9
Inventory transferred to cost of sales at fair value	(9.7)	(11.3)	(21.0)
Biological assets transferred to cost of sales at fair value	-	(28.2)	(28.2)
	(6.4)	(2.9)	(9.3)
Fair value movements in related financial derivative	-	-	-
	(6.4)	(2.9)	(9.3)

Year ended 30 June 2019	**Bovine**	**Porcine**	**Total**
	£m	**£m**	**£m**
Net valuation movement on biological assets*			
Changes in fair value of biological assets	7.2	97.2	104.4
Inventory transferred to cost of sales at fair value	(20.0)	(22.2)	(42.2)
Biological assets transferred to cost of sales at fair value	-	(77.2)	(77.2)
	(12.8)	(2.2)	(15.0)
Fair value movements in related financial derivative	-	0.3	0.3
	(12.8)	(1.9)	(14.7)

* This represents the difference between operating profit including fair value movement on biological assets under IAS 41 and related financial derivative and operating profit prepared under historical cost accounting, which forms part of the reconciliation to adjusted operating profit.

11. Property, plant and equipment

	Land and buildings £m	Plant, motor vehicles and equipment £m	Assets under construction £m	Total Owned Assets £m	Land and Buildings £m	Plant, motor vehicles and equipment £m	Total Right of Use Assets £m	Total £m
Cost or deemed cost								
Balance at 1 July 2018	56.5	78.1	4.0	138.6	-	-	-	138.6
Additions	1.0	10.1	10.0	21.1	-	-	-	21.1
Transfers	3.5	6.0	(9.5)	-	-	-	-	-
Disposals	(1.6)	(6.0)	(0.1)	(7.7)	-	-	-	(7.7)
Effect of movements in exchange rates	2.7	3.1	0.3	6.1	-	-	-	6.1
Balance at 30 June 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	**0.1**	**4.6**	**6.4**	**11.1**	**0.2**	**2.1**	**2.3**	**13.4**
Transfers	**3.7**	**1.8**	**(5.5)**	**-**	**-**	**-**	**-**	**-**
Disposals	**(1.5)**	**(3.4)**	**-**	**(4.9)**	**-**	**(0.4)**	**(0.4)**	**(5.3)**
Effect of movements in exchange rates	**(3.2)**	**(3.8)**	**-**	**(7.0)**	**(0.8)**	**(0.7)**	**(1.5)**	**(8.5)**
Balance at 31 December 2019	**61.2**	**78.3**	**5.6**	**145.1**	**19.1**	**20.1**	**39.2**	**184.3**
Depreciation and impairment losses								
Balance at 1 July 2018	18.1	43.6	-	61.7	-	-	-	61.7
Depreciation for the year	3.0	9.6	-	12.6	-	-	-	12.6
Disposals	(1.5)	(4.7)	-	(6.2)	-	-	-	(6.2)
Effect of movements in exchange rates	1.2	2.8	-	4.0	-	-	-	4.0
Balance at 30 June 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 period	**1.7**	**4.3**	**-**	**6.0**	**1.8**	**2.7**	**4.5**	**10.5**
Disposals	**(0.6)**	**(1.5)**	**-**	**(2.1)**	**-**	**(0.2)**	**(0.2)**	**(2.3)**
Effect of movements in exchange rates	**(1.3)**	**(2.2)**	**-**	**(3.5)**	**(0.1)**	**(0.2)**	**(0.3)**	**(3.8)**
Balance at 31 December 2019	**20.6**	**47.1**	**-**	**67.7**	**1.7**	**7.1**	**8.8**	**76.5**
Carrying amounts								
At 31 December 2019	**40.6**	**31.2**	**5.6**	**77.4**	**17.4**	**13.0**	**30.4**	**107.8**
At 30 June 2019	41.3	40.0	4.7	86.0	-	-	-	86.0

12. Equity accounted investees

The Group's share of profit after tax in its equity accounted investees for the six months ended 31 December 2019 was £5.1m (2018: £1.4m).

The carrying value of the investment is reconciled as follows:

	31 December 2019 £m	31 December 2018 £m
Balance at 1 July	**23.6**	19.9
Share of post-tax retained profits of joint ventures and associates	**5.1**	1.4
Additions	**2.2**	-
Disposal proceeds	**(3.8)**	-
Loan repayment	**(1.2)**	-
Dividend received	**(0.2)**	-
Effect of other movements including exchange rates	**(1.3)**	(0.1)
Balance at 31 December	**24.4**	21.2

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

Income statement	Revenue £m	Net IAS 41 valuation movement on biological assets £m	Expenses £m	Taxation £m	Profit after tax £m
Six months ended 31 December 2019	**16.8**	**1.5**	**(11.5)**	**(1.7)**	**5.1**
Six months ended 31 December 2018	13.3	(0.8)	(10.6)	(0.5)	1.4
Year ended 30 June 2019	29.8	(1.1)	(22.2)	(1.4)	5.1

13. Related parties

Transactions between the Company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this note.

Other related party transactions

Transactions between the Group and its joint ventures and associates are described below:

	Transaction value			Balance outstanding		
	Six months ended 31 December 2019 £m	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m	31 December 2019 £m	31 December 2018 £m	30 June 2019 £m
Purchase of goods and services from joint ventures and associates	**0.3**	0.6	2.0	**(0.2)**	(0.3)	(2.6)

All outstanding balances with joint ventures and associates are priced on an arm's length basis and are to be settled in cash within six months of the reporting date. None of the balances are secured.

14. Earnings per share

	Six months ended 31 December 2019 m	Six months ended 31 December 2018 m	Year ended 30 June 2019 m
Weighted average number of ordinary shares (basic)	**64.9**	61.6	63.1
Dilutive effect of share options and awards	**0.5**	1.0	0.8
Impact of share placement	**-**	2.8	1.4
Weighted average number of ordinary shares for the purpose of diluted earnings per share	**65.4**	65.4	65.3

	Six months ended 31 December 2019	Six months ended 31 December 2018	Year ended 30 June 2019
Earnings/(loss) per share			
Basic earnings/(loss) per share	**36.5p**	(11.7p)	12.4p
Diluted earnings/(loss) per share	**36.3p**	(11.0p)	11.9p
Adjusted earnings per share			
Adjusted earnings per share	**43.5p**	35.8p	73.2p
Diluted adjusted earnings per share	**43.2p**	33.8p	70.7p

Earnings per share measures are calculated on the weighted average number of ordinary shares in issue during the period. As in previous periods, adjusted earnings per share have been shown, since the Directors consider that this alternative measure gives a more comparable indication of the Group's trading performance.

Basic earnings/(loss) per share is based on the net profit attributable to owners of the Company for the period of £23.7m (six months ended 31 December 2018: £7.2m loss; year ended 30 June 2019: £7.8m profit) divided by weighted average number of ordinary shares (basic and diluted) as calculated above.

Adjusted earnings per share is calculated on profit for the period before 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 £28.2m (six months ended 31 December 2018: £22.1m; year ended 30 June 2019: £46.2m), which is calculated as follows:

Adjusted earnings

	Six months ended 31 December 2019 £m	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m
Profit/(loss) before tax	**30.4**	(6.8)	9.9
Add/(deduct):			
Net IAS 41 valuation movement on biological assets	**(13.3)**	9.3	14.7
Amortisation of acquired intangible assets	**4.0**	4.7	9.5
Share-based payment expense	**2.8**	2.4	3.0
Exceptional items	**12.8**	18.6	21.8
Net IAS 41 valuation movement on biological assets in joint ventures and associates	**(1.5)**	0.8	1.1
Tax on joint ventures and associates	**1.7**	0.5	1.4
Attributable to non-controlling interest	**(0.3)**	(0.3)	(0.4)
Adjusted profit before tax	**36.6**	29.2	61.0
Adjusted tax charge	**(8.4)**	(7.1)	(14.8)
Adjusted profit after tax	**28.2**	22.1	46.2
Effective tax rate on adjusted profit	**23.0%**	24.3%	24.3%

15. Cash flow from operating activities

	Six months ended 31 December 2019 £m	Six months ended 31 December 2018 £m	Year ended 30 June 2019 £m
Profit/(loss) for the period	**24.1**	(7.1)	6.7
Adjustment for:			
Net IAS 41 valuation movement on biological assets	**(13.3)**	9.3	14.7
Amortisation of acquired intangible assets	**4.0**	4.7	9.5
Share-based payment expense	**2.8**	2.4	3.0
Share of profit of joint ventures and associates	**(5.1)**	(1.4)	(5.1)
Finance costs (net)	**2.8**	1.9	3.9
Income tax expense	**6.3**	0.3	3.2
Exceptional items	**12.8**	18.6	21.8
Adjusted operating profit	**34.4**	28.7	57.7
Depreciation of property plant and equipment	**10.5**	6.1	12.6
Loss on disposal of property plant and equipment	**0.1**	-	-
Profit on disposal of intangible assets	**-**	-	(0.1)
Amortisation of intangible assets	**2.4**	2.0	5.4
Adjusted earnings before interest, tax, depreciation and amortisation	**47.4**	36.8	75.6
Exceptional item cash	**(2.7)**	(3.1)	(7.3)
Other movements in biological assets and harvested produce	**(4.9)**	(0.6)	(5.5)
(Decrease)/increase in provisions	**(2.1)**	(0.3)	1.5
Additional pension contribution in excess of pension charge	**(3.6)**	(3.3)	(6.7)
Other	**0.2**	(2.3)	(4.1)
Operating cash flows before movement in working capital	**34.3**	27.2	53.5
Increase in inventories	**(0.8)**	(1.9)	(3.2)
Increase in receivables	**(2.2)**	(1.2)	(6.6)
Increase/(decrease) in payables	**1.6**	(8.6)	4.7
Cash generated by operations	**32.9**	15.5	48.4
Interest received	**0.1**	0.1	0.2
Interest and other finance costs paid	**(2.3)**	(1.9)	(3.3)
Cash flow from derivative financial instruments	**-**	0.8	0.6
Income taxes paid	**(6.6)**	(6.0)	(12.5)
Net cash from operating activities	**24.1**	8.5	33.4

16. Retirement benefit obligations

The Group has a number of defined contribution and defined benefit pension schemes covering many of its employees, further details can be found in the Genus plc Annual Report 2019. The aggregated position of defined benefit schemes are provided below:

	31 December 2019 £m	31 December 2018 £m	30 June 2019 £m
Present value of funded obligations	**433.0**	391.0	443.5
Present value of unfunded obligations	**8.8**	8.8	9.2
Total present value of obligations	**441.8**	399.8	452.7
Fair value of plan assets	**(440.3)**	(430.0)	(474.3)
Restricted recognition of asset (DPF)	**5.5**	20.0	19.1
Recognition of additional liability (MPF)	**13.5**	42.4	26.7
Recognised liability for defined benefit obligations	**20.5**	32.2	24.2

The principal actuarial assumptions (expressed as weighted averages) are:

	31 December 2019 %	31 December 2018 %	30 June 2019 %
Discount rate	**2.05**	2.95	2.35
Retail Price Index	**2.95**	3.20	3.15
Consumer Price Index	**2.05**	2.10	2.15

The Milk Pension Fund ('MPF')

We have accounted for our section of the scheme and our share of any orphan assets and liabilities, which together represent approximately 86% of the MPF. Although the MPF is managed on a sectionalised basis, it is a "last man standing scheme", which means that all participating employers are joint and severally liable for all of the fund's liabilities.

Further details of the Milk Pension Fund can be found in the Genus plc Annual Report 2019.

Dalgety Pension Fund ('DPF')

In August 2019, the Trustees purchased an additional bulk buy-in annuity policy with Legal and General in respect of the remaining deferred and pensioner members, at a cost of £38m. This reflected a £15m premium over an estimated IAS 19 liability of £23m, reducing the restriction on the recognition of assets.

17. Financial instruments fair value disclosures

The table below sets out the categorisation of the financial instruments held by the Group at 31 December 2019.

We have categorised financial instruments held at valuation into a three-level fair value hierarchy, based on the priority of the inputs to the valuation technique in accordance with IFRS 13. The hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). Valuations categorised as Level 2 are obtained from third parties. If the inputs used to measure fair value fall within different levels of the hierarchy, we base the category level on the lowest priority level input that is significant to the fair value measurement of the instrument in its entirety.

	Valuation level	**31 December 2019 £m**	31 December 2018 £m	30 June 2019 £m
Financial assets				
Derivative instruments in non-designated hedge accounting relationships	**2**	**0.1**	0.2	0.9
Derivative instruments in designated hedge accounting relationships	**2**	**0.2**	1.3	0.6
Other investments	**2**	**6.7**	6.2	7.4
Trade and other receivables excluding prepayments	**2**	**87.7**	84.7	89.8
Cash and cash equivalents	**1**	**31.1**	25.0	30.5
Assets held for sale	**2**	**0.2**	0.2	0.2
Financial liabilities				
Derivative instruments in designated hedge accounting relationships	**2**	**(0.1)**	(0.5)	(0.6)
Derivative instruments in non-designated hedge accounting relationships	**2**	**(0.4)**	(0.2)	(0.6)
Put option over non-controlling interest	**2**	**(5.5)**	(3.3)	(5.5)
Trade and other payables excluding other taxes and social securities	**2**	**(79.1)**	(68.3)	(80.7)
Loans and overdrafts	**2**	**(109.1)**	(107.2)	(104.0)
Leasing obligations	**2**	**(29.2)**	(3.1)	(6.1)

The Directors consider that the carrying value amounts of financial assets and financial liabilities recorded at amortised cost in the financial statements are approximately equal to their fair values.

18. Post Balance sheet events

In May 2019, a strategic collaboration with Beijing Capital Agribusiness Co. Ltd ("BCA") to research, develop and commercialize PRRSv-resistant pigs in China was announced. In January 2020, BCA obtained necessary transaction approval from the Chinese Ministry of Commerce and paid the Company an upfront amount of US$7 million. The profit in respect of this upfront payment will be net of deferred technical service amounts and transaction costs.

GENUS PLC
RESPONSIBILITY STATEMENT
For the six months ended 31 December 2019

We confirm that to the best of our knowledge;

a) the Condensed Set of Financial Statements has been prepared in accordance with IAS 34;

b) the interim management report includes a fair review of the information required by DTR 4.2.7R (indication of important events during the first six months and description of the principal risks and uncertainties for the remaining six months of the year); and

c) the interim management report includes a fair review of the information required by DTR 4.2.8R (disclosure of related party transactions and charges therein).

Neither the Company nor the Directors accept any liability to any person in relation to the half-yearly financial report except to the extent that such liability could arise under English Law. Accordingly, any liability to a person who has demonstrated reliance on any untrue or misleading statement or omission shall be determined in accordance with section 90A of the Financial Services and Markets Act 2000.

By order of the Board

Chief Executive Officer
Stephen Wilson

Chief Financial Officer
Alison Henriksen

26 February 2020