Our Markets and Business Model

Long-term growth drivers in our markets

CONSUMERS

01
Increasing demand for animal protein

The Food and Agriculture Organization of the United Nations estimates that total global consumption of pork, milk and beef will increase by approximately 1-2% per annum over the next decade. This is being driven by continued global population growth and urbanisation, creating increased demand for third-party produced food, and consumers seeking a more varied and nutritious diet.

→ See pages 6 to 7

02
Increasing demand for healthier and higher-welfare foods

Consumers increasingly want healthier and more sustainable products that are produced with a focus on animal welfare, provenance and reduced drug usage. This increases farmers' demand for genetically superior animals that are naturally more disease resistant and productive.

→ See pages 6 to 7

PRODUCERS

03
Increasing consolidation and technification

Animal protein production tends to consolidate over time to a smaller number of larger farmers. These larger farmers, or farming groups, are typically more data-driven and progressive in their use of elite genetics and other technologies to drive operational efficiency. Our addressable market therefore tends to grow as market consolidation occurs.

→ See pages 6 to 7

04
Increasing vertical integration

The animal protein supply chain tends to vertically integrate over time with increasingly deep relationships between farmers, processors and retailers. This makes farmers more likely to value elite genetics, as vertical integration means they can share in the benefit of traits such as carcass quality that accrue downstream in the supply chain.

→ See pages 6 to 7

SUSTAINABILITY

05
Animal protein production needs to be more efficient

Animal protein production is increasingly subject to sustainability demands from regulators and consumers. Increased use of elite genetics is a key component of increasing productivity and animal welfare within the industry.

→ See pages 28 to 40

The livestock sector requires intensified productivity via improved genetics and feeding practices, to reduce resource usage.

UN Food and Agriculture Organization[1]

1 Achieving SDG2 without breaching the 1.5°C threshold: A Global Roadmap (10 December 2023).

Our Markets and Business Model continued

Porcine

We estimate that PIC has ~16% share of the global porcine genetics market.

Porcine production is relatively consolidated and vertically integrated, which means greater demand for elite genetics.

Production system

Pork tends to be produced in pyramids, as shown in the diagram (Figure 1).

Genetic improvement is driven at the top of the pyramid. PIC has three highly bio-secure elite farms in North America where we conduct genomic selection on our proprietary herds of pure line pigs. The best animals are retained in our elite farms whilst other top-performers are cascaded down the pyramid, as follows.

High-performing males are sent from the elite farms to boar studs. Here, semen is collected and used throughout the rest of the pyramid to artificially inseminate females.

High-performing females are sent from our elite farms to nucleus farms. Here, their numbers are expanded so we have sufficient pure line animals to supply our multiplication partners.

Pure line females from nucleus farms are sent to multiplication farms where they are cross-bred with semen from males of a different line.

Cross-bred female offspring from the multiplication farms are then sent to commercial farms where they are inseminated with terminal boar semen to produce offspring that are sent to slaughter.

PIC only owns proprietary assets at the top of the pyramid. This delivers high return on invested capital ('ROIC') and reduces our exposure to the financial risks of pork production, such as feed costs, disease and pork price volatility. Our proprietary footprint, coupled with long-standing nucleus and multiplication relationships, means we have a highly responsive global supply chain that can supply high-volume elite genetics with high health status.

What we sell

We sell male and female pigs, as well as semen. We also have teams of technical specialists, such as veterinarians and nutritionists, who advise our customers on how to improve the efficiency and robustness of their farming systems.

Route to market

We distribute directly to customers as well as through distributors and franchisees in some markets. Our franchise partners pay us a variable fee for the use of PIC's brand and genetics.

How we sell

We sell under two models:

- The upfront model, through which PIC receives the full fair value of the animal or product immediately.
- The royalty model, through which PIC sells the animal or product at cost and then receives royalties based on future events, typically a piglet being weaned from the original genetics.

The royalty model decreases our exposure to cyclical producer profitability and increases our revenue visibility and customer retention.

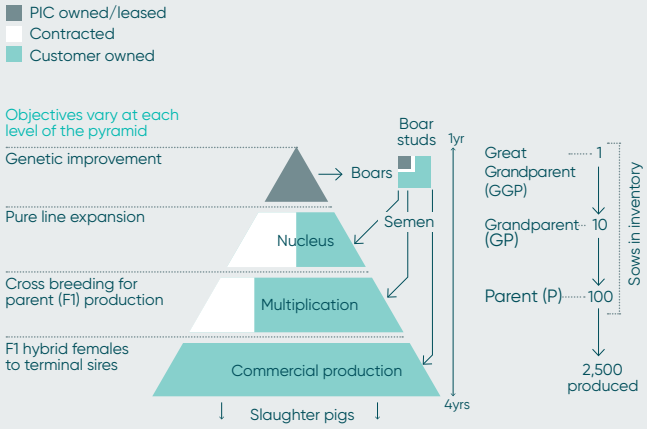
Our opportunity

- Expand our genetic lead by driving genetic improvement faster than competitors.
- Grow market share by (1) partnering with progressive customers who are winning production share, (2) increasing our wallet share with these customers, (3) winning new customers and (4) expanding into new markets.
- Continue to grow our Joint Venture in China with a local supply chain and royalty focused sales team.
- Launch PRP, once we have built the necessary regulatory portfolio.
- Explore technology-led solutions to other diseases and challenges facing pork producers.

Top 10 pork production markets

1. 2. 3. 4.
5. 6. 7. 8.
9. 10.

Figure 1 - PIC presence in the pig breeding pyramid



Our Markets and Business Model continued

Bovine

We estimate that ABS has ~8% share of the global bovine genetics market.

Dairy production is typically more consolidated than beef production but both are significantly more fragmented than pork production. The bovine genetics landscape is also different to porcine, with many more breeds in regular use and large genetic co-ops having significant market share.

Dairy production system

Dairy farmers typically use artificial insemination to create pregnancies in their cows. Cows then produce milk for about ten months after giving birth. This milk is generally marketed to a third-party processor, who collects, processes, stores and sells the milk or milk products (such as cheese and butter) to subsequent parts of the value chain.

Farmers either retain the female calves from dairy cows, to grow or maintain their dairy herd, or sell them to the beef industry alongside the male calves.

Over the last decade, progressive dairy farmers have increasingly utilised sexed semen to actively manage the sex of their dairy cow offspring. They inseminate their high-performing cows with X-skew sexed semen, which has a significantly greater proportion of sperm carrying a female chromosome, to increase the probability that the resultant offspring are females. These female calves are likely to be high performing and the farmers retain them for their dairy herd.

Lower-performing cows, whose offspring are less desirable for the dairy herd, are instead inseminated with conventional semen or, increasingly, with beef-on-dairy semen. Beef-on-dairy semen contains genetics with traits optimised for the beef industry, such as growth rate, feed efficiency and carcass value. These calves are therefore more valuable when sold to the beef industry, which creates more economic value for the dairy farmer. A nascent but exciting new market is sexed beef-on-dairy genetics. Here, Y-skew genetics are attractive to the beef industry because males tend to grow faster and produce heavier carcasses.

Our dairy opportunity

- Drive genetic improvement faster than competitors.
- Continue executing actions to structurally improve margins, ROIC and cash generation.
- Drive increased adoption of sexed, beef-on-dairy and Y-skew by dairy farmers.
- Grow the market share of our IntelliGen third-party sexing solutions.

Top 10 dairy production markets

1. India 2. EU 3. USA 4. Pakistan
5. China 6. Brazil 7. Russia 8. New Zealand
9. Turkey 10. UK

Beef production system

Beef production is less homogeneous than dairy systems and utilises many breeds. The supply chain is also less vertically integrated than either dairy or pork. Use of advanced genetics and artificial insemination in the beef industry is lower because producers are in aggregate less consolidated and technified than dairy.

Beef production is mainly from pure-bred beef animals, although an increasing portion is coming from beef-on-dairy usage.

How Fazenda Petrópolis Is Growing the Future of Dairy in Brazil

Discover how ABS customer Fazenda Petrópolis is using sexed genetics and data-driven genetic selection to support sustainable dairy growth in Brazil.

Scan QR code to read full testimonial

Our beef opportunity

- Drive genetic improvement faster than competitors.
- Drive increased adoption of sexed, beef-on-dairy and Y-skew by dairy farmers by demonstrating the superiority of our proprietary beef genetics across the value chain, through trials and partnerships.
- Develop more 'pull-through' partnerships with downstream partners in the value chain (see How we sell below).

Top 10 beef production markets

1. Brazil 2. USA 3. China 4. EU
5. India 6. Argentina 7. Australia 8. Mexico
9. Russia 10. Canada

What we sell

We predominantly sell straws of semen (conventional and sexed) for artificial insemination use in the dairy and beef industries. We also sell embryos, which contain elite male and female genetics, to highly progressive farmers who are focused on maximising the rate of genetic improvement in their herds. We monetise our proprietary sexing technology in three ways:

1 sexing semen from our own bulls;
2 sexing semen for third-party bulls; and
3 licensing our technology to third parties.

We also offer adjacent services and products to farmers through our artificial insemination technicians, who visit customer farms.

Route to market

We distribute directly to customers and through distributors.

How we sell

The majority of our bovine sales are transactional, although there is a growing share under multi-year contracts. In beef we also employ 'pull-through' contracts. The beef industry is less vertically integrated and the value of beef genetics (e.g. a premium for marbling) tends to accrue to downstream entities such as processors, packers and retailers. If we can demonstrate this increased economic value, as well as sustainability benefits, to these downstream entities, they can incentivise their upstream suppliers to use ABS genetics. By winning downstream we can therefore 'pull-through' our genetics.