

Livestock Gentec

Industry and Scientific Advisory Committee (ISAC)

2022 Report

Executive Summary

After 12 years serving the Canadian livestock industry, Livestock Gentec (Gentec) continues to strive to achieve its mission to develop, evaluate and validate, and demonstrate and drive adoption of genomic solutions that improve the profitability and sustainability of the Canadian beef and pork sectors. As such, Gentec reconvened its Industry and Scientific Advisory Committee (ISAC) in 2022 to assess its current programming, operations, and future initiatives. The goal of this exercise was for ISAC's international experts to generate recommendations that would inform Gentec's strategic planning for the next 5 years.

ISAC 2022 Committee Members:

- ❖ Cornelia Kreplin; (Chair), independent (CA/AB)
- ❖ David Andrews; Lazy A Farms. Chair, Gentec Management Advisory Board (CA/AB)
- ❖ Heather Burrow; School of Business, University of New England (AUS)
- ❖ Walter Dixon, Associate VP (Research and Priority Initiatives). UAlberta (CA/AB)
- ❖ Mike Lohuis; VP Genetics Research and Development, Semex (CA/ON)
- ❖ Tim Nelson; President and CEO, Farm Health Guardian (CA/ON)
- ❖ Johan Van Arendonk; Chief Innovation and Technology Officer, Hendrix Genetics (NL)
- ❖ Alison Van Eenennaam; Cooperative Extension Specialist, UC Davis (US)
- ❖ Eileen Wall; Head of Research, Scotland's Rural College (UK)

Overall, the ISAC agreed that Gentec continues to excel in innovative, world class research programming with a strong track record of local and international collaborations across academia and industry. Gentec was also commended on its training program, which produces an exceptional level of highly qualified personnel (HQP), many of whom continue their career in high impact industry and academic positions. Through the course of the review, the ISAC assessed six main areas. Points of discussion and recommendations are highlighted below.

Strategic Planning and Future Direction

Gentec's industry focus is what makes it unique as a university-based research and technology transfer centre and its research performance and programming is one of its greatest strengths. The ISAC's primary recommendation in this area was to ensure that the scope of the strategic plan does not become too broad and that Gentec can continue to identify potential solutions for industry through a science driven approach. It was also recommended that performance measures be clarified to demonstrate specific contributions to industry goals. Finally, Gentec was strongly encouraged to solidify its relationship with the University of Alberta (UofA) by becoming a Centre of Excellence.

Sustainable Funding

While Gentec has had enormous success in securing project funding for industry partnerships with nearly \$125M over the last 12 years (*now over \$130M as of April 2023), there has been a

decline in the willingness of funding agencies to commit support towards technology transfer programming, which is a key part of ensuring uptake of Gentec's producer facing tools. This has led to a reduction in Gentec's core funding and the need to look more broadly for long-term sustainable funding. The ISAC recommended the exploration of a variety of sustainable funding models in addition to a clear asset map to strengthen Gentec's value proposition. Continuation of the Participatory Action Research (PAR) model was encouraged as a method to build even stronger partnerships and industry engagement in research programming.

Research Programming

One of Gentec's greatest assets are its proprietary genomic databases as well as its accomplished and diverse team of principal investigators. Its database of commercial crossbred cattle in western Canada is unique. The ISAC recommended a future-focused approach to research planning, using genomics to capture opportunities that addresses anticipated industry issues as well as consumer based preferences (e.g. environmental sustainability).

Collaboration and Partnerships

The ISAC recognized Gentec's broad network of local and global collaborators as another strength; however, there is opportunity to formalize some of these collaborations into partnerships that support knowledge and technology transfer (KTT) initiatives. The ISAC recommended the PAR model not only as a method to strengthen research programming, but also to integrate KTT and industry adoption partners into projects as a means of communicating and delivering applied research to end users, livestock producers.

Knowledge & Tech Transfer, Commercialization and Industry Adoption

Reductions in funding over the last 5 years have led to a diminished Gentec KTT presence. However, in recognizing the adverse impact, over the last 2 years, Gentec has brought together a stronger industry focused team to build on past commercialization successes. The ISAC recommended identification of key industry partners that can be engaged as part of the KTT delivery framework to augment adoption of Gentec's discoveries, thereby enhancing industry profitability. This move would allow Gentec to focus on research, development and evaluation.

Training the Workforce of Tomorrow

The ISAC congratulated Gentec on its exceptional track record of training highly qualified personnel and placing them in high impact positions within industry, academia and government research organizations. They recommended new efforts to better communicate the metrics of this successful training program to recruit new students and to develop a more formalized strategy of integrating current students into industry.

Due to the COVID-19 pandemic, ISAC 2022 was convened over a series of 6 virtual meetings. However, the committee was able to travel to Alberta in the summer of 2022 to finalize the report, tour some of Gentec's research and commercial farm partners and attend AgSmart at Olds College of Agriculture and Technology. Gentec thanks the ISAC for volunteering their time to provide this detailed assessment of Gentec's programming and operations. As Gentec looks forward to the next 5 years, the organization will be dedicated to a path of continual improvement and its vision of being recognized as the trusted partner in developing and driving adoption of transformative genomic based solutions for the Canadian beef and pork industries.