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BIO-GENE TECHNOLOGY LTD

In this Issue

WELCOME FROM RICHARD JAGGER, CEO & MD

Dear fellow shareholders,

As I write this update, I acknowledge that the extensive impacts of COVID-19 are being felt globally; impacting world markets, home life and recreational events. We are reviewing these impacts and their ability for current and future effects on Bio-Gene. Presently, we are seeing no major impacts on our business processes and nothing has changed for the various partners that we engage with, as we continue to progress the development and commercialisation of our products.

As we announced previously, during the first half of FY20 we delivered several significant milestones that advance our technology and increase the value proposition of our products. So far in the second half of FY20 we have further progressed our commercialisation strategy and we take this opportunity to update shareholders on this progress.

Last month I visited the United States where my focus was to spend time with several of our existing potential commercial partners with whom we have Material Transfer Agreement's (MTA's) in order to gather feedback from their trials and discuss potential next steps. These positive discussions have continued since my return, and I am delighted with the focus that these companies are putting into potential commercial opportunities for our products. The discussions covered all of our current target applications being crop protection, grain storage, public health and consumer applications.

A common factor that I continue to identify in future partners is their ability to assist Bio-Gene in our commercialisation strategy, especially regarding the regulatory process, and manufacturing capability. Many of these companies have significant expertise in these areas, which we anticipate will save Bio-Gene significant resources in the future. This further highlights the merits of working closely with industry partners who are existing leaders in their chosen sub-sectors of the industry.

I also caught up with Bio-Gene's Scientific Advisor Professor Catherine Hill, an authority in new insecticide development and novel chemistry, based at Purdue University. Aside from overseeing the significant work performed by Purdue on vector mosquitoes for Bio-Gene, Professor Hill has been instrumental in introducing Bio-Gene to key stakeholders in vector control globally.

Furthermore, I was delighted to have an opportunity to introduce our technology to globally renowned NGO's and key government bodies based in the US, to progress several commercialisation opportunities in vector control. We have gained great insights from other experts and influencers in the field as to how to develop our technology for this market.

This not only relates to our current knowledge about our technology, but also to emerging information that warrants additional testing to expand our value proposition even further, potentially enabling additional and significant intellectual property.

These conversations were a natural extension to the announcement we made in December 2019, regarding the positive trial results on the Malaria-carrying *Anopheles gambiae* mosquito that is resistant to Synthetic Pyrethroids (SP); the insecticide class commonly used since the 1970's to control mosquitoes. These results certainly validated our belief in the technology's ability to contribute to global vector control.

Bio-Gene has now executed seven MTA's with discussions underway with several other potential commercial partners across all four target verticals of Crop Protection, Grain Storage, Public Health and Consumer Products. Under these MTA's Bio-Gene has provided both Flavocide™ and Qcide™ to these potential commercial partners for their internal evaluation. Together we have agreed specific testing protocols and target pests, ensuring we can discuss ongoing results with the various R&D divisions and protect and build on our Intellectual Property throughout the process.

Bio-Gene has accumulated a substantial portfolio of data demonstrating the ability of our technology to control resistant and non-resistant grain storage pests. During 2019 this data underpinned discussions with several potential commercial partners and culminated in the Australian Grain Storage Partnership with BASF, that was announced in Q1 FY20.

Australia's national grains RD&E investment body - Grains Research and Development Corporation (GRDC) then joined BASF, Bio-Gene and the Department of Agriculture & Fisheries, Queensland Government (DAF), in investing in the research program. I'm pleased to report that this program of work began in January and is progressing well.

We have been fortunate to have Boron Molecular working with us on improving the scale up of the Flavocide manufacture process. Boron have significant experience in specialist chemical manufacturing and have been working closely with the CSIRO chemists who developed a new synthesis process for Bio-Gene. Boron Molecular have been focused on taking that process and scaling it up to commercial levels, at the same time generating additional time and cost saving measures. They are now focused on creating repeated batches of Flavocide which are essential for our regulatory process and providing assurance to our future partners of our ability to manufacture this molecule at commercially viable volumes and prices. The completion of this project over the next few months will represent an important milestone for the companies we are speaking to.

Bio-Gene currently holds $3.5 million in cash, which based on current plans, provides the Company with sufficient cash for at least 12 months.

We expect 2020 to be a watershed year for Bio-Gene as we capitalise on the significant progress that we achieved during 2019. We appreciate your continued support and look forward to providing shareholders with further updates in the coming months.

Sincerely,

Richard Jagger
Chief Executive Officer &
Managing Director

BREAKTHROUGH IN FIGHT AGAINST MALARIA

In December 2019, Bio-Gene was delighted to announce a globally significant breakthrough with trial results that confirmed Flavocide™ can control the *Anopheles gambiae* mosquito species. This species of Mosquito which carries Malaria, is increasingly resistant to Synthetic Pyrethroids; the insecticide class commonly used since the 1970's.

Combined with previous trial work, the company has now demonstrated Flavocide activity against resistant populations of the major mosquito species that carry diseases of such global importance as Malaria, Zika virus, and Dengue fever.

Laboratory efficacy studies were completed at Purdue University by Professor Catherine Hill who is an authority in new insecticide development and novel chemistry. The studies demonstrated Flavocide toxicity by tarsal contact indicating potential for use in insecticide treated bed nets and / or indoor residual sprays; the most common methods of controlling Malaria.

These results provide Bio-Gene with an opportunity to impact how the world manages the increasing threat of vector borne diseases

		Mosquito Species		
		Aedes sp.	*Anopheles sp.*	*Culex sp.*
Resistance Recorded	Organochlorines	✗	✗	✗
	Organophosphates	✗	✗	✗
	Pyrethroids	✗	✗	✗
	Carbamates	✗	✗	✗
	Flavocide	✓	✓	✓

Legend			
✗	Resistance recorded	✓	Efficacy confirmed

GRAIN STORAGE PARTNERSHIP

In December 2019, we announced trial results that confirmed Flavocide™ successfully controls key grain storage pests over a nine-month period. This nine months residual control is considered a key industry standard for any new grain protectant and represents an important commercial validation. These results were confirmed under field and laboratory conditions and have underpinned the establishment of Bio-Gene's Grain Storage Research Program.

BASF is the single largest chemical company globally, with a significant focus on agricultural technology. Both DAF and the GRDC are the two key agricultural bodies from the private and public sector within the Australian market and bring substantial value to the program in their own right.

BASF We create chemistry

Queensland Government Department of Agriculture and Fisheries

GRDC

BIO-GENE TECHNOLOGY LTD

Q&A

ROBERT KLUPACS

Non-Executive Director, Bio-Gene

Previously CEO & MD of Bio-Gene

- 30 years of international corporate experience in technology development, mainly in the fields of medical technologies and biotechnology, with a particular focus on healthcare;
- Scientifically trained in pharmacology and biochemistry;
- An Australian-registered patent attorney with extensive experience in private and publicly traded companies as well as academia. Robert has been involved in the successful commercialisation of software, scientific instrumentation, food technologies and agricultural technology; and
- CEO of the Bionics Institute and previously MD & CEO of ASX-listed Opthea Ltd (formerly Circadian Technologies Ltd) and ES Cell International Pte Ltd.

A key enabler of Bio-Gene's commercialisation strategy is the development and protection of its Intellectual Property

We have several patents and patent applications in existence and continue to generate data to build on and support our intellectual property positions.

In addition to our patent portfolio, our intellectual property includes a number of trade secrets and know-how, particularly relating to manufacturing and plant growth processes that BGT uses to create our compounds.

What is Bio-Gene's IP strategy?

Our IP strategy is designed to address a number of areas including:

- Continue to build on our existing patent and patent application portfolio;
- Expand our internal knowledge and proprietary knowledge bank in respect of manufacture;
- Continue to expand the length of patent protection;
- Create barriers to entry for any competitor in the future; and
- Increase the value of our IP for commercial partnerships.

We use a variety of techniques, for example, we may apply for patents for some findings worldwide or, in some cases in specific territories. However improvements in manufacturing techniques and molecule synthesis may be held as confidential trade secrets.

We continue to generate this data through studies conducted by Contract Research Organisations and our potential commercial partners through our Material Transfer Agreement model.

Areas of focus for new IP generation include:

a) Improving effects against resistant pests
b) Improved combinations of our molecules with other Active Ingredients (A.I.s)
c) Improving manufacturing techniques of Flavocide, Tree production and Qcide oil extraction
d) Identifying dosage rates which have Sub-lethal dose effects on insects

Have you improved the IP position since listing?

Bio-Gene submitted two additional patent applications in 2018 covering two unique inventions as part of our strategy to provide added protection to our technology and therefore enhanced value to our potential customers.

As part of the global patent application process Bio-Gene has now entered the specific country by country patent examination phase in respect of both inventions. We have filed further Australian provisional patents on Flavocide effects on specific classes of insects.

We have generated significantly improved, but confidential, methods surrounding the production of Qcide Oil, as well as the synthesis and production of Flavocide.

Through work with our research partners, we have a greater understanding of how our molecules interact with existing products and the ability for combinations of products to control populations of pests.

We are also exploring the impact on entomological end points, in other words how our technology impacts the life cycle or behaviour of the target pests. These attributes can have significant economic impact and value.

How will Bio-Gene continue to improve it's IP position?

- Novel Mode of Action data and reports
- Manufacturing processes
- Combinations of technologies
- Interaction of our products with other molecules
- Entomological end points
- Generation of data from contract studies as well as our ongoing MTA program with potential partners and other collaborators

How has Bio-Gene assessed the country by country basis versus the World Intellectual Patent Office (WIPO)?

There is often confusion relating to this topic, however it isn't an 'and/or' basis. The standard method undertaken by the vast majority of inventors and corporations worldwide is to file a 'provisional' patent application in their home country. An inventor then has 12 months to 'complete' the provisional application or allow the provisional application to lapse.

Completion is usually done by filing one 'international' application through WIPO using the Patent Convention Treaty (PCT) mechanism which allows an applicant to file one application designating all the countries that they may wish to proceed in at a later date, and give them up to 18 months to complete novelty searching as well as further commercial evaluation of the invention before entering the 'National Phase'; where the original international application is filed separately in those countries of interest on a country by country basis.

Globally, each country has different patent prosecution and granting mechanisms and it is a costly and lengthy process. The fact that we have entered 'National Phase' with our two newest inventions, indicates that we are comfortable with the patentability searching that we have completed and the value of the inventions.