

## **BIO-GENE EXECUTES COMMERCIAL DEVELOPMENT AGREEMENT ON FLAVOCIDE™ TECHNOLOGY**

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- **Agreement covers rights to professional public health mosquito control market in the United States and Cayman Islands**
- **Clarke commits to fund development of Bio-Gene product formulations, to seek registration of end-use products, and to royalty payment on product sales**
- **Investment by Clarke will also contribute to Flavocide™ active ingredient registration costs**

Bio-Gene Technology Limited (ASX: BGT, 'Bio-Gene' or 'the 'Company'), an agtech development company enabling the next generation of novel insecticides, is extremely pleased to announce the signing of a Licence and Development Agreement (the 'Agreement') with Clarke Mosquito Control Products, Inc. ('Clarke') to seek to develop, register and commercialise new insecticide solutions for professional public health mosquito control markets in the United States and Cayman Islands.

Clarke, the largest vertically integrated company serving the public health mosquito control market in the United States, entered into an option agreement with Bio-Gene in October 2021, which allowed both companies to negotiate commercial terms and the development pathway towards product registrations and commercialisation of Bio-Gene's insecticide technologies. Those terms have now been agreed. Clarke will make licence fee payments over the next three years which will assist on-going development work by Bio-Gene that is required to prepare for seeking registration of potential mosquito control products featuring the active ingredient Flavocide in the United States. Once a commercial product is launched, Clarke's exclusive access to Flavocide for Public Health products will be upheld through a combination of technical transfer fees commensurate with active ingredient production costs and royalty payments on all end-use product sales containing Bio-Gene's Flavocide technology.

In April 2020, Bio-Gene announced a partnership with Clarke to develop potential formulations for use in mosquito control. Trials were undertaken to assess the interaction of various components of potential formulations and identify lead prototypes that can now undergo further evaluation.

Bio-Gene CEO, Richard Jagger, welcomed the signing of the Agreement, saying it is a strong validation of the potential of Bio-Gene's technology for professional public health mosquito control.

"Clarke's strategy fits perfectly with the unique natural technology we are developing at Bio-Gene and it is extremely encouraging to see Clarke confirming its belief in our technology after extensive in-house evaluation. Clarke is certainly the company of choice for this market, being vertically integrated across all areas of the business, from product discovery and development to deployment of new products.

"The Agreement with Clarke outlines the commercial pathway and obligations of both parties, including the registration requirements of the Active Ingredients and end use products.

"Bio-Gene will supply Clarke with the Active Ingredient Flavocide, with Clarke having the responsibility of developing and registering end use products, which will complement Bio-Gene's data procurement and application for the Active Ingredient registration.

“This represents a financial commitment on the part of Clarke over the next five years as the work continues. The licence fees payable by Clarke to Bio-Gene will be used to partly fund our registration costs for the Active Ingredient.”

Kevin Magro, Executive Vice President, Strategic Partnerships and Alliances for Clarke commented: “We are excited to be partnering with Bio-Gene to develop novel Public Health mosquito control products based on a molecule with a new Mode of Action. The work we have done to date suggests this natural technology could be the basis of truly differentiated and efficacious products that will be essential to meeting the needs of our customers and communities in our key market. Our commitment to invest in the continued development of this active ingredient is a reflection of our confidence in the market potential of the Bio-Gene technology and our commitment to delivering mosquito control innovation through partnerships.”

Estimated annual insecticide value of the Public Health mosquito market in the United States to be approximately US\$100 million<sup>1</sup>. The U.S. market is currently facing pressures of resistance to incumbent insecticides, and public concerns over the use of various chemistries in controlling mosquito populations.

The introduction of naturally-derived products with a novel Mode of Action, such as Flavocide, is critical for vector management to manage pest resistance to currently used chemistries and reduce the potential of increased insecticide resistance in the future. Products of natural origin are viewed favourably by the general public, which is a key consideration for mosquito abatement districts, municipalities, counties and states in assessing products for effective mosquito control.

Approved for release by the Board of Directors.

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**About Bio-Gene Technology Ltd**

Bio-Gene is an Australian agtech company enabling the next generation of novel insecticides. Bio-Gene’s novel platform technology is based on a naturally occurring class of chemicals known as beta-triketones.

Beta-triketone compounds have demonstrated insecticidal activity (e.g. kill or knock down insects) via a novel mode of action in testing performed to date. This platform may provide multiple potential new solutions for insecticide manufacturers in applications across crop protection and storage, public health, animal health and consumer applications. The Company’s aim is to develop and commercialise a broad portfolio of targeted insect control and management solutions.

**Bio-Gene Technology Limited**

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### **About Clarke**

Clarke is the largest vertically integrated company serving the public health mosquito control market. With an expertise in product development, registration, manufacturing and sales and service, Clarke is working to advance the science of mosquito control through the lens of sustainability and innovation.

Founded in 1946, Clarke is a third generation, family-owned business, with 16 offices in the U.S., along with locations in Mexico, Brazil, the United Arab Emirates, India and Australia. With 184 full-time employees, Clarke is leading its industry in mosquito control research and solutions for battling nuisance and disease vectoring mosquitoes.

Expertise in service as well as products has earned Clarke a front-line role in nearly every major U.S.-based mosquito-borne disease outbreak since the introduction of West Nile Virus in New York City in 1999. Most recently, Clarke aided the U.S. states of Massachusetts, Rhode Island and Michigan with aerial response programs to combat the outbreak of Eastern Equine Encephalitis (EEE) in 2019. And in 2016 when the U.S. experienced its first ever outbreak of Zika (Miami-Dade County), Clarke lead at ground zero, mobilising ground and aerial response programs to effectively control disease vectors.

### **Background on Bio-Gene in Public Health**

In December 2019, Bio-Gene announced a globally significant breakthrough with trial results that confirmed Flavocide can control the *Anopheles gambiae* mosquito species which carries Malaria and is increasingly resistant to commonly used insecticides.

These laboratory trial results demonstrate that Flavocide is active against resistant strains of the *Anopheles gambiae* mosquito. 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.

### **Background on Vector-borne Diseases**

The World Health Organisation (WHO) reports that currently more than half of the world's population is at risk from vector borne diseases, while globally there are more than 200 million cases of malaria and over 400,000 people die from the disease every year, most of them children under the age of five. Zika virus has been declared a global health emergency, and death due to Dengue Fever has increased 30-fold in the last 50 years<sup>1</sup>.

In 2017 the WHO reported that collectively mosquito-borne diseases such as Malaria, Dengue, Zika claim over 700,000 deaths every year. In addition, these diseases are known to exacerbate poverty and prevent economic development<sup>2</sup>. Unfortunately, the effectiveness of currently used insecticides is diminishing due to resistance.

**Flavocide™** is a trademark of Bio-Gene Technology Limited.

<sup>1</sup> *Global Mosquito Control Market, Research Report 2020, Forecast to 2026*

<sup>2</sup> <https://mosquitoreviews.com/learn/disease-death-statistics>