

## **BIO-GENE EXTENDS COMMERCIAL DEVELOPMENT AGREEMENT ON FLAVOCIDE™ INCREASING US MARKET OPPORTUNITY BY 150%**

- **Clarke Mosquito Control granted rights to develop and commercialise Flavocide™ for an additional mosquito control market segment in the United States and Cayman Islands**
- **New segment focuses on residential mosquito control services on private properties**
- **The extension of the agreement increases the market opportunity with Clarke by 150%, with the new applications representing market opportunity of US\$150m, bringing the total fields of use market opportunity with Clarke to US\$250m**
- **Extended rights are in addition to those already granted to Clarke, which cover the professional public health mosquito control market**
- **Extension triggers milestone payment to Bio-Gene, which will be used to support registration studies**
- **In line with existing commitments, with respect to the extension of applications, Clarke commits to the on-going investment of the development and registration costs for new end use products**

Bio-Gene Technology Limited (ASX: BGT, **Bio-Gene** or the **Company**), an agtech development company enabling the next generation of novel insecticides, announces an extension of the License and Development Agreement with Clarke Mosquito Control (**Clarke**) for the United States and Cayman Islands. Under the updated Commercial Development Agreement, Clarke has expanded rights to explore, develop and commercialise an insecticide solution using Flavocide for the residential mosquito control segment, in addition to its current access agreement for the public health mosquito control market. The residential mosquito control market in the US and Caymans is primarily served by professional service companies providing mosquito control treatments on private properties.

In line with the existing Agreement, the expanded applications with Clarke are on the same agreed terms with respect to commercial pathway and obligations of both parties. Bio-Gene will supply Clarke with the Active Ingredient Flavocide, with Clarke having the responsibility of developing and registering end use products, while Bio-Gene will continue to focus on data procurement and application for the Active Ingredient registration. The Agreement includes payment terms to Bio-Gene for product development related milestone payments, royalties on end-use products in market and purchasing Flavocide from Bio-Gene.

This amendment announced today triggers an immediate milestone payment, with funds to be used to support Flavocide registration enabling studies. The additional market applications open up more opportunities for commercial products, ultimately leading to higher potential revenues for Bio-Gene via royalty payments.

The market valuation for the original market application (wide area control of vector and nuisance mosquitos for public health benefit by mosquito abatement districts, municipalities, counties and states) granted to Clarke is estimated to be approximately US\$100 million<sup>1</sup>. The new market opportunity adds an additional market valuation of \$150m annually, increasing the market opportunity size with Clarke by 150%.

**Welcoming the signing of the expansion of the commercial agreement, Bio-Gene CEO, Richard Jagger said, “We are pleased to expand our technology applications with Clarke in the US, a region that is currently facing pressures of resistance to incumbent insecticides, and public concerns over the use of various chemistries in controlling mosquito populations. Clarke has conducted extensive research with our active ingredient Flavocide. This extension of the agreement further validates the potential of Bio-Gene’s technology for controlling mosquitos.**

*“We strongly value our partnership with Clarke and the significant financial commitment Clarke has invested in our technology and joint development program to date, which focuses on novel formulations and application methods. Clarke’s knowledge and expertise for mosquito control lends itself very well to this additional mosquito control application, and it is extremely encouraging to see Clarke wishing to expand their opportunities to use our products following an extensive in-house evaluation.”*

**Kevin Magro, Executive Vice President, Strategic Partnerships and Alliances for Clarke commented,** *“we are excited to be expanding our market opportunities with Bio-Gene to develop natural mosquito control products based on a molecule with a new Mode of Action. New cost-competitive products of natural origin, with the ability to control resistant populations of mosquitos, are what our customers are looking for. We have a strong commitment to delivering innovation through partnerships”.*

**Bio-Gene CEO, Richard Jagger added,** *“the introduction of products with a novel Mode of Action, such as Flavocide, is critical for vector management to address populations of pests resistance to currently used chemistry and reduce the potential of increased insecticide resistance in the future. Products of natural origin are seen by the public as favourable alternatives to existing products, 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.

**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, mobilizing ground and aerial response programs to effectively control disease vectors.

### **Background Clarke License and Development Agreement**

In March 2022, Bio-Gene and Clarke entered into an Agreement for the development of Flavocide for the professional public health mosquito control market in the USA and Cayman Islands. Under the Agreement, Clarke undertook to invest in and support detailed product development and make undisclosed payments to Bio-Gene based on development milestones. Clarke will also pay Bio-Gene for supply of Flavocide and a royalty on sales of commercialised product. This original market scope focused on wide area control of vector and nuisance mosquitos for public health benefit by mosquito abatement districts, municipalities, counties and states.

### **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>