

BIO-GENE ENTERS INTO OPTION AGREEMENT WITH CLARKE FOR PUBLIC HEALTH MOSQUITO CONTROL IN THE UNITED STATES

- Agreement grants Clarke Mosquito Control (Clarke) a 90 day option to develop Bio-Gene technology for the United States professional public health mosquito control market
- Clarke secures position and right to negotiate commercial terms
- Agreement allows for extension of development program into “Phase 3” field trials after successful “Phase 2” studies completed

Bio-Gene Technology Limited (ASX: BGT, ‘Bio-Gene’ or ‘the ‘Company’), an agtech development company enabling the next generation of novel insecticides, today announced results from the Phase 2 mosquito control trials with Clarke and the execution of an option agreement granting Clarke a 90 day exclusivity period to negotiate commercial terms for the next development steps towards commercialisation.

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. The most recent study assessed the performance of those prototypes on three important species of mosquito: *Aedes aegypti*, *Culex quinquefasciatus* and *Anopheles quadrimaculatus*.

Commenting on these latest results, Bio-Gene CEO, Richard Jagger said: “The results generated by Clarke gives both companies confidence to continue the program to identify the products most likely to be commercially viable candidates and take them to the field. The next stage of the program is expected to start before the end of the calendar year.

“The results also confirmed both companies’ intent to further progress the commercial development of the technology within the public health mosquito market in the United States. We have now signed an agreement that allows for the continuation of testing of Bio-Gene products to confirm lead targets for the registration process. This includes Bio-Gene granting Clarke 90 days exclusivity to negotiate a commercial agreement for the continued development and commercialisation of Bio-Gene technology and accommodating the additional work to be completed in field locations across the United States.”

The field work will focus on (a) determining the **effective rate** of the current formulation in field operations against susceptible colony populations and (b) a comparison of **effective dose** in one or more pyrethroid resistant colony populations. It is expected that these studies will provide sufficient information to allow the terms of a commercial agreement to be determined.

The focus on naturally derived products continues to be a priority for much of the agricultural and public health industries, and the identification of a new Mode of Action is a key value proposition for Bio-Gene’s commercial partners and their customers.

Kevin Magro, Executive Vice President, Strategic Partnerships and Alliances for Clarke commented: “Developing new public health mosquito products is essential for effective long-term mosquito control for today and into the future. We are encouraged by the results we have seen to date when testing Bio-Gene’s molecules. Public Health Mosquito control programs worldwide need products with new modes of action to maintain effective efficacy levels.”

The estimated annual insecticide value of the Public Health mosquito market in the United States is approximately US\$100 million¹. The U.S. market is currently facing pressures of resistance to incumbent insecticides, and public concerns over the use of various chemistry in controlling mosquito populations.

The introduction of products with a novel Mode of Action, such as Flavocide™ and Qcide™, is critical for vector management to address populations of pests resistant to currently used chemistry and reduce the potential of increased insecticide resistance in the future. Products of natural origin are seen by the general public as favourable alternatives to many existing products 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, working with industry leaders across key market segments.

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.

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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 years².

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. Unfortunately, the effectiveness of currently used insecticides is diminishing due to resistance.

Flavocide™ and Qcide™ are trademarks of Bio-Gene Technology Limited.

¹ *Global Mosquito Control Market, Research Report 2020, Forecast to 2026*

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