

## SUCCESSFUL COMPLETION OF STAGE 2 STORED GRAIN RESEARCH PROGRAM WITH BASF & GRDC

- **Successful control of ALL major pests' offspring at ALL concentration rates tested in Stage 2, with program now progressing to Stage 3**
- **Previously, Stage 1 identified product options that combined Flavocide concentrations with existing compounds for control of the most common, and highly resistant grain storage pest, the Lesser Grain Borer**
- **Stage 2 tested the two lead Flavocide combination products from Stage 1 against resistant strains of the major pests of stored grain**
- **Stage 3 will determine residual efficacy of the leading combination product under field conditions and is scheduled to commence in November 2020, taking approximately 9 months to complete**
- **In the event of a successful outcome in Stage 3, Bio-Gene would seek to enter a formal commercialisation agreement with BASF**

Bio-Gene Technology Limited (ASX: BGT, 'Bio-Gene' or 'the Company'), an agtech development company enabling the next generation of novel insecticides to address insecticide resistance, today announced the successful completion of Stage 2 of the joint research program relating to Flavocide™ and stored grain pest control. The four-way collaboration involves Bio-Gene, BASF, Grains Research and Development Corporation (GRDC), and Department of Agriculture and Fisheries, Queensland Government (DAF). This research program was first announced on 23 September 2019 and commenced in January 2020.

Bio-Gene Chief Executive Officer, Richard Jagger said: "We are delighted the second stage of testing is now completed. This is a significant advancement in the program, and one that helps us define the product to be commercialised. **We have demonstrated we have technology which allows one combination product to control all of the common stored grain pests, many of which are highly resistant to currently used products.** There are no single compound products available today that address the market need to control resistant strains of all major grain storage pests and we are therefore very excited by these results. This will provide an effective solution to a major problem currently facing grain producers in Australia, and around the world."

Building on the results of Stage 1 (announced 30 April 2020), Stage 2 testing was to identify product combinations of Flavocide and other compounds to create the optimum treatment for control of all key stored grain pests, being the Lesser Grain Borer, Flour Beetle, Saw-toothed Beetle, Flat Grain Beetle and Rice Weevil. Stage 2 studies were conducted in the laboratory using wheat grain stored under controlled conditions and involved two combination rates aimed at reducing the quantity of chemical required to provide control of the full range of resistant strains of the major pests of stored grain. The results with both combination products showed high levels of control of first-generation (offspring) populations of all target species which supports the commercial viability of this technology.

The collaborating parties (Bio-Gene, BASF, GRDC and DAF) will review the data from the studies to date and determine the preferred treatment for Stage 3 field testing, which will assess the residual efficacy of the optimised combination for Flavocide and other chemical group products.

Stage 3 field testing is planned to begin in November, due to the seasonal availability of the grains, and extend over a nine-month period, with periodic assessments at 0, 3, 6 and 9 months after treatment. Following the results announced on 26 March 2020 that Flavocide was able to control key stored grain pest, the Lesser Grain Borer, for

over 13 months (both in field and laboratory work), the Company is optimistic about the outcome for Stage 3 testing.

In the event of successful Stage 3 results, Bio-Gene will seek to formalise a commercialisation agreement with BASF, for the broad manufacture and distribution of Flavocide.

#### **About Insecticide Resistance in Grain Storage Pests**

Globally, losses of grain in storage can reach up to 50% much of this attributed to insecticide resistant pests. Insect damage and contamination can greatly reduce grain quality, incur additional clean-up treatment costs, and severely impact grain prices and market access. Estimates for the global grain protectant market are currently around A\$1 billion p.a. and growing<sup>1</sup>. Globally over 2,765 million tonnes of grain are produced annually, the major crops being corn, wheat and rice<sup>2</sup>. A product such as Flavocide which introduces a new Mode of Action is critical for effective pest management to address increasing insecticide resistance in the future.

#### **About the Stored Grain Research Program**

The current collaborative Flavocide grain storage project is building on the previous studies completed by Bio-Gene and undertaken by DAF in which Flavocide successfully demonstrated control of a broad range of pests.

The current studies are designed to capitalise on Flavocide's unique attributes to develop a commercially viable combination product that will represent and/or utilise:

- The best combination for broad stored grain pest control;
- The synergistic effects of the combined chemistry;
- The optimum application rates for resistance management; and
- The best suited combinations for residual efficacy testing in the field.

Approved for release by the Chairman of the Board.

- ENDS -

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#### **About Bio-Gene Technology Limited**

Bio-Gene is an Australian agtech development company enabling the next generation of novel insecticides to address the global problems of insecticide resistance and toxicity. Its 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, Grain Storage, Public Health and Consumer Products. The Company's aim is to develop and commercialise a broad portfolio of targeted insect control and pest management solutions.

**About BASF's Agricultural Solutions division**

With a rapidly growing population, the world is increasingly dependent on our ability to develop and maintain sustainable agriculture and healthy environments. Working with farmers, agricultural professionals, pest management experts and others, it is our role to help make this possible. That's why we invest in a strong R&D pipeline and broad portfolio, including seeds and traits, chemical and biological crop protection, soil management, plant health, pest control and digital farming. With expert teams in the lab, field, office and in production, we connect innovative thinking and down-to-earth action to create real world ideas that work – for farmers, society and the planet. In 2018, our division generated sales of €6.2 billion. For more information, please visit [www.agriculture.basf.com](http://www.agriculture.basf.com) or any of our social media channels.

**About GRDC**

The GRDC plays a vital role supporting the grains industry by investing in research development and extension (RD&E) to create enduring profitability for Australian grain growers. The GRDC is a statutory authority of the Australian Government and invests around \$194 million annually in world leading research, development and extension projects to directly address constraints and capture opportunities in grain production systems and value chains.

**About DAF**

DAF works to achieve a productive and profitable agriculture, fisheries and forestry sector by promoting sustainability and innovation. We provide leadership for the sector which adds value to the economy and community. At DAF, we manage community resources, applying science to improve production and products, leading the fight on animal and plant pests and diseases, and working constructively with stakeholders for mutual benefit.

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

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<sup>1</sup> <https://www.researchandmarkets.com/reports/4744816/grain-protectants-global-market-outlook-2017>

<sup>2</sup> <http://www.fao.org/worldfoodsituation/csdb/en/>