

# POSITIVE RESULTS FOR FLAVOCIDE™ IN SAFETY STUDY FOR BENEFICIAL INSECTS

- Positive study results demonstrate Flavocide is safer for beneficial insects when compared to a commonly used insecticide
- Many commonly used insecticides are toxic to beneficial insects
- Beneficial insects help reduce pest populations, thereby limiting crop damage
- Results support observations in prior field efficacy tests indicating Flavocide had minimal impact on beneficial insects
- Novel mode of action combined with positive safety profile increases Flavocide's attractiveness as an alternative to other products

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, is pleased to announce further positive safety study results. The results demonstrated Flavocide is safer for arthropods (insects and mites) that are beneficial for high crop yields when compared to a commonly used insecticide. These results complement the positive results that were announced in June that demonstrated that Flavocide has a low toxicity to bees, when compared to commonly used insecticides, indicating its relative safety when used around bees.

Various beneficial insects such as wasps and ladybirds are commonly active in agricultural crop environments and can significantly reduce pest populations thereby restricting crop damage by pests. Many commonly used insecticides are toxic to these beneficial insects leading to over-reliance on chemical control and incompatibility with integrated pest management programs.

The work performed by **cesar**, involved laboratory studies to test the toxicity of Flavocide, against four beneficial arthropod species: predatory ladybird, green lacewing, parasitic wasp and predatory mite. The laboratory trial was designed to compare Flavocide to a commercially popular insecticide known as bifenthrin. Results showed Flavocide is less toxic to these beneficial species than bifenthrin.

Under acute testing conditions in the lab, bifenthrin at an equivalent field rate was toxic to all four species tested for exposure methods and timeframes used in the study. In comparison the predatory ladybird and green lacewing larvae were unaffected by the Flavocide treatments with a low level of toxicity to the predatory mite and parasitic wasp only, which in normal field conditions is most likely to be less evident. This is considered a very positive result that demonstrates that Flavocide is a "softer" class of chemistry than bifenthrin, highlighting its potential as an alternative for use in many pest management programs, and of significant value to future commercial partners.

Dr. Paul Umina, Director of **cesar**, said: "These results indicate that at the rates tested Flavocide is less toxic to beneficial insects than a commonly used insecticide. No acute toxicity was evident in treatments using the proposed field rates of Flavocide in two of the four beneficial species tested, thus demonstrating the potential for Flavocide use in integrated pest management programs where beneficial insects are important in maintaining control of pest populations. Whilst acute toxicity testing is important, this does reflect worst-case laboratory conditions for insecticide exposure, and any toxicity effects are likely to be less evident under field conditions."

Peter May, Bio-Gene Executive Director – Research & Development, said: "The Company is very encouraged by these results.



"This further validates observations in field studies, most notably a rice study with Flavocide in Thailand, where observations were made indicating that Flavocide treatment had minimal impact on the presence of predatory and parasitic beneficial insects in the crop," he said.

These results enable Bio-Gene to move forward with confidence into field studies with Flavocide in order to further assess the scope of activity of Flavocide against pest species as well as the impact on beneficial insects and the overall compatibility of the product for use in integrated pest management and resistance management programs.

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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 animal health and crop protection, as well as in public health, and in consumer applications. The Company's aim is to develop and commercialise a broad portfolio of targeted insect control and management solutions.

#### **About cesar Pty Ltd**

**cesar** is an independent research organisation committed to a sustainable future by providing world leading science, technology and research into agricultural pest control and wildlife conservation.