



**Plant & Food
Research**
Rangahau Ahumāra Kai

Biocontrol Development from Plant & Food Research

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22 April 2021



PFR products history and future



- » In-market since 2005:
 - » Semiochemicals (pheromones and kairomones)
 - » Mealybugs, avocado leafrollers, LBAM, Desire™ lures, Lurem thrips
 - » BCAs for pathogen control
 - » AureoGold for Psa, BlossomBless for fireblight, Botryzen products for botrytis

- » Currently in development
 - » Entomopathogens (kiwifruit)
 - » More semiochemicals
 - » More BCAs
 - » New MoAs

- » Proud history of success and impact
 - » Coupled with IPM system integration and industry support

Drivers of product development



- » NZ industry needs
 - » Sector good role (CRI Act 1992)

- » Move to more global needs (additional, not instead of)
 - » Economic advantage accrues to PFR through licensing revenue
 - » Self determination to invest internally in product development

- » NEW: PFR internal Technology Development fund
 - » Broaden and strengthen PFR's royalty revenue over and above that of our cultivars
 - » Necessarily for global markets to scale up this revenue
 - » Early and/or late stage development
 - » Internally competitive!

- » In order to achieve success and impact...

Commercial partnerships



- » Product commercialisation
 - » Licensing models
 - » IP sale
 - » Now more open to other business models
- » Product development investment
 - » Previously reliant on MBIE foundation investment (fickle and precarious)
 - » +/- some sector investment
 - » +/- some third party investment (e.g. AGMARDT, SFFF)
 - » +/- some commercial partner investment
 - » Absent: external CAPITAL INVESTMENT options

Commercial partnerships (2)



- » Looking for:
 - » Alignment with companies with appropriate market reach, technical capabilities and vision
 - » A partner in product co-development
 - » ideally from earlier stages of technical development
 - » Spread risk for PFR across product categories per partner

- » Partners needed for
 - » Formulation
 - » Biofermentation (liquid and solid state)
 - » Market insights
 - » Regional testing (overseas)
 - » Global product development insights
 - » Chemistry coming off, plus new developments
 - » Registration for commercial sale

In return, PFR brings to commercial partnerships...



- » Deep science (e.g. MoA) to generate a deep understanding of the control agent
- » Product development capabilities
 - » Beginning to end development, including integration into farming systems
 - » Lab, glasshouse and field infrastructure
 - » BCA culture collection (including pathogen strains)
 - » Active IP management
- » For commercial partners
 - » De-risks discovery and early development phase
 - » Counter-seasonal opportunities for field trials on PFR research stations
 - » Integration into orchard/farming systems (e.g. IPM systems)
- » PFR acting very commercially now for product development

In summary



- » PFR reaching out *even more* for new commercial partnerships
- » PFR open to new models of commercial investment and partnerships for biocontrol product development
- » Global reach desired for our products
- » ‘Upping our game’ to keep filling our pipeline of products (a new TechDev mission)
- » Work closely with end-users to encourage uptake and understanding of biologicals
- » Optimal IP protection more of a focus
- » Still on the ‘to do’ list:
 - » Investment into underpinning science for new and existing MoAs
 - » Enhance efficacy of BCAs



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