



CASE STUDY OF IMPACT
June 2016



Transforming the world's leading supplier of natural botanical insecticide



CSIRO research has helped Botanical Resources Australia (BRA) to maintain its position as the world's leading supplier of pyrethrum oil for use as a natural insecticide.

The challenge

Botanical Resources Australia (BRA) is a small to medium-sized Australian enterprise (SME) which produces more than half the world's pyrethrum – the key ingredient in household products such as fly spray. With a strong focus on research and development (R&D), like most innovation-active SMEs, BRA does not possess all of the R&D resources that it needs. In particular, BRA faced significant technical challenges arising from the storage of pyrethrum pellets, post-harvest losses and product quality issues.

The response

CSIRO has worked with BRA since 2003, and extensively since 2010. Working with CSIRO, BRA has gained access to expertise in a range of areas including software development, analytical chemistry, organic chemistry, microbiology, product stability studies and process chemistry. BRA has also

gained access to research infrastructure such as nuclear magnetic resonance, mass spectroscopy, ultra-performance liquid chromatography and microbial fermentation equipment.

CSIRO has also been able to draw on its experience in other areas, such as grains storage and apply it to solve BRA's specific challenges. CSIRO's expertise has played a key role in increasing the recovered yield of pyrethrins after storage and processing operations and addressing the quality issues BRA faced.

The impact

Since working with CSIRO, BRA has developed a more sustainable business, with sales having more than quadrupled in 15 years. BRA has been able to scale up production to support the supply of pyrethrin in existing North American and European markets.

An independent economic assessment¹ has forecasted that the net present value (NPV) of CSIRO's work for BRA is approximately \$7.53 million in 2015 dollars over the next 15 years.

BRA's pyrethrin is a natural product, providing users with an environmentally-friendly product for insect control. They have been able to provide significant employment in regional Tasmania and Victoria, and contribute to Australian GDP and exports.

¹ ACIL Allen Consulting, 2016. *Botanical Resources Australia – An Independent Assessment*. ACIL Allen Consulting, Canberra.

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