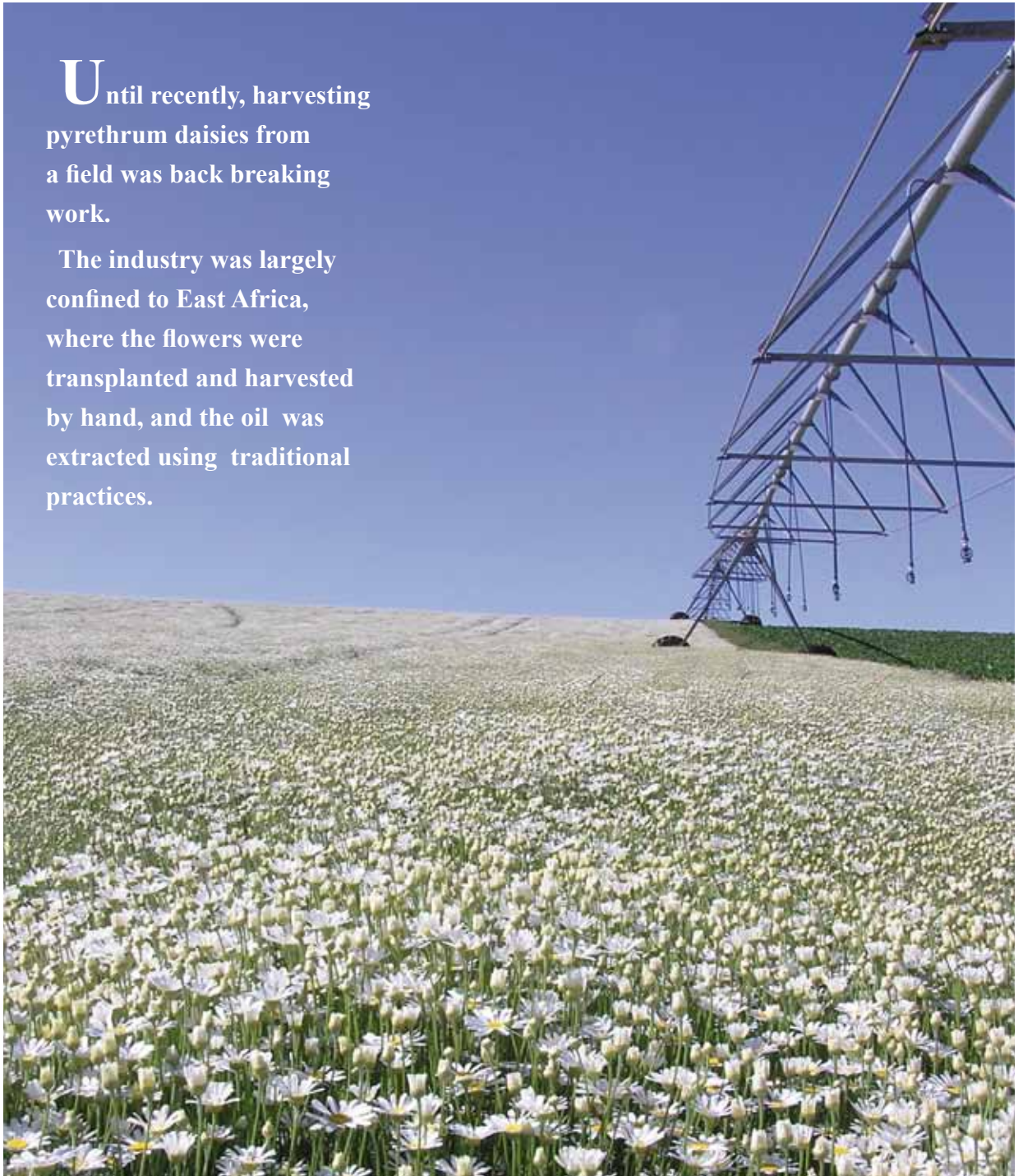




## R&D transforms natural insecticide business

Until recently, harvesting pyrethrum daisies from a field was back breaking work.

The industry was largely confined to East Africa, where the flowers were transplanted and harvested by hand, and the oil was extracted using traditional practices.



*Botanical Resources Australia spends six weeks a year harvesting pyrethrum flowers.*

Fast forward to the 21st Century, and Tasmanian company *Botanical Resources Australia* has used research to transform the pyrethrum flower growing industry.

Pyrethrum is an insecticide

most suited for 'sensitive' uses such as food warehouses, in the home, for public health, organic farms and pet shampoo.

The company has found answers to a whole range of research questions – helped by

tax concessions it has received through AusIndustry.

One of the big questions the company has found a solution to is finding the optimum way to store pyrethrum flower heads once they are harvested.

# The R&D Tax Concession helped achieve real breakthroughs.

The new storage system developed has the potential to save hundreds of thousands of dollars a year, according to Brian Chung, *Botanical Resources Australia's* Manager of Product Development.

"We spend six weeks harvesting, and then the flower heads – thousands of tonnes – are stored for up to six months. We used to factor in that some of the crop would degrade," Brian said.

Part of the work in solving the problem included the CSIRO's Stored Grain Research Laboratory based in Canberra, with scientists spending two years investigating the storage problem.

The scientists, including James Darby and Simon Troman, discovered that the crop was heating up in isolated patches, why it was heating up, and how to solve the problem.

"The solution was to add aeration ducts to the bottom of the piles," Brian said.

The CSIRO worked out how much air needed to be pumped through each minute, the size of the fans, the spacing of the aeration ducts and how to automatically change the air flow, depending on the moisture and temperature of the outside air.

*Botanical Resource Australia's* Manager for Planning and Logistics, Bill Casey, said the data was incorporated into a computer program.

"Now we have a fully automated control system that can be operated independently by our staff," Bill said.

The company has received an *R&D Tax Concession* from AusIndustry since the 2002-03 income year, which has helped achieve real breakthroughs, including finding a way to sow pyrethrum from seed.

Until recently, pyrethrum crops were established using transplants, a very labour intensive and expensive operation.

Major obstacles such as gathering enough good quality seed stock and developing seed drilling and weed control practices were overcome through well focused and funded research.

The tax concession also helped the company develop a completely new way to mechanically harvest the pyrethrum crops.

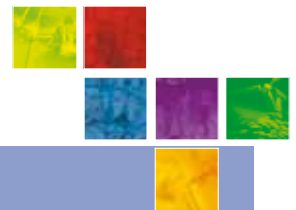
*Botanical Resources Australia* worked out how to convert existing grain harvesters, adding new pick up fronts and modifying the interior with new screens and fans.

The factory in Ulverstone, Tasmania employs the equivalent of 60 full time staff, which Brian says is a real bonus for this rural area.

Looking to the future, the company is planning to expand into two more extractive crops – Echinacea, well known as a cold treatment, and Artemisia, a natural alternative to quinine as a malaria treatment.



[www.botanicalra.com.au](http://www.botanicalra.com.au)  
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## R&D Tax Concession

The *R&D Tax Concession* allows companies to deduct 125 per cent of their research and development expenditure when lodging their tax returns.

The government has enhanced the concession by providing innovative small companies with an *R&D Tax Offset*.

Companies need to register their activities with AusIndustry each year to claim a concession.

## About AusIndustry

AusIndustry is the Australian Government's principal business program delivery division in the Department of Innovation, Industry, Science and Research.

AusIndustry delivers more than 30 products, worth nearly \$2 billion, to more than 12,000 businesses and 85,000 individuals a year.

AusIndustry products include innovation grants, tax and duty concessions, small business development, industry support and venture capital.

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