

July 2005

**As we move into 2005, BRA is as dynamic as ever. New staff arrivals and existing staff movements in the past year have introduced new talent into the company and shifted company experience into different areas. These changes confirm BRA as a growing, forward-looking company, where talent is nurtured and knowledge highly valued.**



*Ian Folder -- Managing Director*

In pyrethrum, several new projects have been initiated, including a highly successful collaboration with CSIRO to research crop storage and post harvest management. Pyrethrum production, the heart of our business, continues its solid success. Pyrethrum yields in the field are steadily rising and we now have a new goal for per hectare production: a 55kg/ha average by 2008. The company retains its strategic stock of pyrethrum and sufficient production capacity now allows us to match our production to

any increases in world market demand in the foreseeable future. Considerable work is in progress to support the re-registration of pyrethrum in Europe via support for the EU Directive 91/414 for Plant Protection Products and EU Directive 98/8 for Biocide Products.

Medicinal crops are becoming an increasingly important part of our new business developments. We grow the largest crop of echinacea in Australia and investment of research time and infrastructure is allowing us to

overcome some earlier obstacles. Echinacea production now looks set to expand considerably in coming years to meet both domestic and overseas orders.

Above all, BRA remains a knowledge-based, science-driven company, which is continually improving its core pyrethrum business, while striving to achieve in new areas. BRA is now a long term reliable producer and supplier to the global pyrethrum market and an innovator with a growing reputation in key medicinal crops.



## Pyrethrum Olympics: Record pyrethrum yields on target

**Under the expert care of Tim Groom, Manager of Agricultural Businesses, and his team, average pyrethrum yields are set for yet another remarkable rise.**

In an effort to increase industry efficiency, the BRA pyrethrum team has embarked on a four year program to lift average per hectare pyrethrum yields to 55kgs/ha and above. To help growers reach this goal, the company has introduced a four year incentive program which will send the three top growers to China to see the Beijing Olympics in 2008.

Along the way, there will be annual recognition for those who reach the qualifying standard of the 55kg/ha average and there will also be incentives to beat the current per hectare record of 75kg/ha set by growers Kevin and Marianne Goodwin in 1997. The 55kg/ha average is no easy target.

The current four year rolling average is already a very good achievement when compared to average yields in splitting and hand planting days, when a yield of 25kg/ha was considered an exceptional crop.



*Field Officer, Ian Charleston, and Lauran Damen, one of the top growers of 2005.*

# New faces...

Late 2004 and early 2005 at BRA have seen much new talent join BRA. In 2004, Maurice Kerr took up the role of Senior Chemist, replacing Helen Faber and plant pathologist, Dr Helen Cole, joined the pyrethrum team as a Research Officer. In January 2005, Dr Kristin Groom also joined the Hobart office full time as Product Development Officer.

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## Maurice Kerr

**Senior Chemist, Maurice Kerr, has worked previously for the State Chemistry Laboratory of Victoria in the areas of agriculture, food and public health and for GlaxoSmithKline on poppies.**

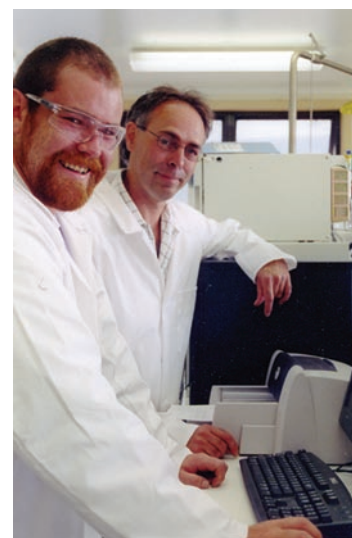
At BRA he is one of four full time laboratory staff and oversees a busy laboratory of 11 chemists/ laboratory staff at harvest time.

Since Maurice came to BRA, the laboratory has been expanding its range of chemical analyses, particularly into herbs. The lab has recently undertaken major analyses of St John's Wort

products for *Choice* magazine and has completed work on the natural sweetener, Stevia.

Under Maurice's care, the lab recently passed a National Association of Testing Authorities (NATA) audit for maintaining its NATA accreditation and for compliance with ISO/IEC 17025. NATA commended staff for their high level of technical expertise.

The lab has acquired new equipment, including an HPLC Fraction Collector, and an Evaporative Light Scattering Detector.



*Maurice Kerr in the lab with Chemist, Dwayne Strochnetter, who joined BRA in 2003.*

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## Kristin Groom

**Botanist, Kristin Groom, has been a part of the pyrethrum scene for many years.**



*Kristin Groom has been working on pyrethrum product registration in BRA's Hobart office.*

She began working on the University of Tasmania's pyrethrum breeding program in 1991 as a Research Assistant and then was appointed as the Plant Breeder on the pyrethrum project. Her PhD, completed in 2003, evaluated this pyrethrum breeding program in detail.

Kristin has brought her research expertise and technical understanding of pyrethrum to BRA and these skills are fully utilised in her current work on pyrethrum registration matters.

Working with Manager of Product Development, Brian Chung, Kristin is preparing the large quantities of data and

reports required to support the continued registration of pyrethrum in Europe via the EU Directives 91/414 and 98/8. In addition, Kristin is assisting customers in Asia and other parts of the world to put together pyrethrum data packages to fulfill their local member state registration requirements.

Whilst embracing these regulatory duties, Kristin also retains her active interest in the pyrethrum plant breeding project and is looking forward to making more innovative changes within the plant breeding program to support the beyond 55kg/ha strategy.

## Helen Cole

**Before joining BRA, Helen worked at the University of Queensland's Leslie Research Centre in Toowoomba, where her primary focus was on a Grain Research and Development Corporation funded project on Yellow Spot Disease of wheat.**

At BRA, Helen divides her time between pyrethrum and medicinal herbs. Helen is collaborating with the Tasmanian Institute of Agricultural Research (TIAR) and Tasmania's Department of Primary Industries, Water and Environment on a project to determine threats

from *Botrytis* infection in pyrethrum flowers. She also works extensively on echinacea, researching levels of active constituents in the roots. Levels of these vary throughout the year and Helen's research will help determine an optimal time for harvesting.

In addition, Helen is working with Southern Cross University at Lismore to research and compare different immune stimulatory properties in various echinacea species.

*Helen Cole in the TIAR labs examining Botrytis growth in pyrethrum flowers.*



# And familiar faces in new places...

## Helen Faber



**In August 2005, when John Boevink retired, Helen Faber took over as Manager of Chemical Processes. She now heads both extraction and refining as well as retaining an overview of the laboratory.**

Although production processes remain much the same as they were under Helen's predecessor, she has recently been responsible for implementing capital upgrades that will result in improved throughput together with an enhancement in

the quality of the exported end product.

Helen's move to the new position has come after she completed an MBA through the University of Tasmania, a qualification which she feels has helped to give her a broader overview of BRA's business. The MBA was first suggested to her by BRA's Managing Director, Ian Folder, in 2000 and the course of study was also financed by the company. BRA congratulates Helen on her achievement.

*Helen Faber in her new domain.*

## Bill Casey

**Joining Helen Faber in the move to a new area of the business is Manager of Planning and Logistics, Bill Casey.**

As well as being responsible for one of the industry's most crucial aspects, the harvest, and another essential element, IT systems, Bill has now expanded his area of responsibility

to include post harvest management of pyrethrum to the point of extraction.

Bill has initiated a major research and infrastructure project in conjunction with the CSIRO, which has recently completed its first stage. The objective of this is to improve product storage conditions for pyrethrum, prior to extraction.

*Bill Casey (left) and Simon Troman of the CSIRO, with the newly installed cooling equipment.*



## Pyrethrum storage goes high-tech

**With the help of crop storage expert, Dr. James Darby and Simon Troman, from the CSIRO's Stored Grains' Research Laboratory in Canberra, BRA has recently installed a prototype crop aeration and drying system in its Ulverstone warehouse.**

The introduction of this infrastructure is the first stage of a project to investigate and remedy the problems of spontaneous crop heating in stored pyrethrum. The

project, initiated and coordinated by Bill Casey, has examined harvested pyrethrum in a number of ways to determine the cause of heating.

The prototype infrastructure provides cooling and aeration, as well as a sensor system which will be monitored to verify the effectiveness of the equipment. The system is backed up by sophisticated Adaptive Discounting Control software, developed by CSIRO in conjunction with the Australian grain handling industry

and used in the storage of various grain types. This is the first time that the system has been adapted for use on pyrethrum. If the new prototype system is successful on pyrethrum, a permanent system will be installed in BRA's 25,000 cubic metre storage warehouse in 2006.

Work is concurrently in progress to improve the storage of pyrethrum pellets. This project is being funded by AusIndustry, which awarded BRA a \$700,000+ grant for the research in December 2003.

## Forging ahead with echinacea

**Some 20 hectares of purple echinacea flowers now grace the paddocks of Tasmania's north-west coast.**

The past twelve months have seen the solving of many of the challenges of growing the crop, including problems with crop establishment, weed control and harvest efficiency. Initial germination difficulties with *E. angustifolia* have also been overcome.

The 2005 harvest was

able to fulfill the order to our existing customers and BRA will be evaluating the options for an echinacea extraction plant on site at Ulverstone. In 2005, BRA harvested both roots and tops of echinacea for the first time. To support the growing harvest, a modified hop drier has been installed at Werrin Farms, as well as a BRA-designed high volume washer. These new facilities have the capacity



*Harvesting the echinacea crop*

to process one tonne of crop material per day. The 2005 harvest produced over ten tones of dried Echinacea tops and roots from *E. angustifolia* and *E. purpurea*.



*Fenella Pinner*

## Something in the air

**There's something more than the sweet smell of echinacea in the air at BRA with a sudden rash of weddings in 2004.**

Field Officer, Fenella Robertson, married Brock Pinner, and Research Officer, Ashley van Essen, married Rebecca Brotheridge, who had worked for some time at the BRA lab. Fenella and Brock's first baby was born in May this year. Fenella will be on maternity leave from BRA for some time. Congratulations to all concerned, and especially to the new proud parents of Hamish!

**PYLINES**  
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