

A Maturing Industry **A message from Ian Folder**

As BRA enters its eighth year, the theme for the industry as a whole is its growing maturity. We have weathered the teething problems of a young company in a fledgling industry and experienced the teenage growth spurt. Now, with our presence firmly established in the global pyrethrum market, our focus is consolidation, reflection on what we do best, and leveraging off our core competencies.



*Ian Folder -
BRA Managing Director*

BRA has always maintained that its best asset is its people. We underline this in the current issue of Pylines with profiles of two people who have been fundamentally involved in the changing industry. BRA's emphasis at this point in our development is to encourage our personnel to focus on themselves and identify what has been learnt from their experiences with pyrethrum. Many of the skills we have developed in growing the industry are transferable, and this provides the company with a vast array of new opportunities.

BRA continues to present itself as an innovative company that grows, refines, and reliably supplies pyrethrum to the global market. But we are also a highly

skilled, versatile group of people capable of a whole range of contract consulting services from the field to the laboratory to the refinery to the research report. This direction for BRA is limited only by the limits of our potential to think laterally.

One product of this new vision for BRA has already been the establishment of a commercial echinacea crop at Werrin Farms, and the experimental cultivation of a range of medicinal herbs. Lateral thinking here has meant diversification.

BRA has always placed great emphasis on research and we are hoping in coming months to become validated by AusIndustry as a Registered Research

Agency. We have also recently had two large successes in winning research funding, details of which are described in this issue of Pylines.

With another harvest successfully completed, Pyrethrins being extracted and refined, and 1400 hectares of pyrethrum in the field, BRA continues the same. But different. We enter our eighth year with our processes more streamlined, our products more diverse, and our personnel, through their own hard work, infinitely more skilled than when BRA began. Above all, the business enters maturity with a great sense of our own potential, and great scope for new fields of expansion.



BRA echinacea: the largest commercial echinacea crop in Australia

Echinacea and medicinal herbs - new directions for BRA

On a Don hillside overlooking Bass Strait, a sea of deep purple now colours the summer landscape. BRA's 12 hectare planting of echinacea at Werrin Farms and Don Research Farm marks a new direction for BRA, leading to the cultivation and extraction of products other than pyrethrum.

The company obtained Werrin Farms in 2001 and Don Research Farm was the site of BRA's first commercial scale planting of the herb in 2002. The first commercial harvest of echinacea took place in 2003 and BRA now supplies Mediherb, a Queensland based company, with dried echinacea roots for extraction of active compounds.

Echinacea, a daisy belonging to the aster family, is a native of North America. Long known to Native Americans, it was used for a variety of ailments from sore throats to gonorrhoea to snakebite. There are nine different species of echinacea, some of which have immune stimulating



Echinacea purpurea.

properties while others contain powerful anti-inflammatory compounds. Research is currently underway to identify which parts of which plants are most effective for these purposes. BRA grows three types of echinacea: *Echinacea purpurea*, *E. angustifolia* and *E. pallida*. Echinacea is one of the ten top selling herbs in the world today, and essential to complementary medicine.

Werrin and Don Research Farms also accommodate trial plantings of several other medicinal herbs. Astragalus, a Chinese medicinal herb with immune stimulating activities similar to those of echinacea is currently being closely researched. The plant is thought to be



Astragalus: a potential new herb for BRA

particularly useful in boosting the immune systems of cancer patients who have undergone chemotherapy. The northern European bilberry, containing compounds known as anthocyanins which are known to improve eyesight, is another possible new crop for BRA. Also being examined is stevia, a Paraguayan plant that produces substances 200 times sweeter than sugar but with no calorific value.

Under the stewardship of Tim Groom, BRA has had success in this field recently with the award of an R&D grant from Horticulture Australia. The grant, which amounts to \$200,000 a year for three years with Horticulture Australia's contribution matched by BRA, will be used to improve knowledge of *E. angustifolia*. Research will be focused on improving seed germination, finding chemical and non-chemical answers to weed and pest problems, and establishing optimum planting density and time of harvest. As part of the project, researchers at Southern Cross University will also examine differences between immune and anti-inflammatory responses produced by different compounds in different echinacea species. This may eventually lead to breeding of plants that have higher concentrations of selected active compounds, and to optimal extraction methods for those compounds.

In coming years, BRA hopes to develop this new branch of the business considerably, growing and extracting a range of botanical products for the domestic market and for export.



Tim Groom, Manager, Agricultural businesses



Ashley van Essen inspecting echinacea for quality

Harvest 2004

This year's harvest was marked by difficult weather. January was particularly unseasonal, with 275mm of rain falling in three days at the end of the month. Luckily, good progress with the harvest meant that 85% of the crop was already in storage before the biggest rain hit. Remaining windrows in paddocks held up well in the rain, and the target 14 day average drying time was maintained. Despite the weather, for the seventh year in a row the harvest was finished as planned, in the second week of February. Harvester numbers were down this year to 18 machines but good management and coordination allowed some 5000 tonnes to be harvested within schedule despite the difficult weather. This is an extremely pleasing result and confirms the resilience of our harvesting process and continuing average yield improvement.



Harvest horsepower at the ready

60% of Australians use alternative medicines and medicinal herbs to cure common complaints

John Chilcott: **50 years of experience brought to pyrethrum**

It is fifty years since John Chilcott's first crop harvest. At 63 and a half and with no plans of retiring yet, John brings to BRA invaluable expertise as a hugely experienced field officer.

John left school at 15 to work on the family farm. By 18 he already had his own cartage contracting business. Then came field officering work with a string of the big names in Tasmanian agribusiness, including Edgells, Norton Harvesters, Devlaun, and Vecon, with stints of farming in between. In 1997 John began work with BRA, initially as a consultant and then a full time field officer.

"I knew Ian Folder through my time at Edgells...we had a few late nights talking about py," says John, "so I knew the operation well before I even came here to work." Since John arrived at the company, things have changed considerably for BRA's field officers. "We'd just started direct seeding...so of course we made some mistakes. But BRA put huge amounts of energy into

R&D and transfers this very well into the field. That's really the field officer's job." When John began work with BRA, there were only three field officers. Not long after, there were nine. "Working with pyrethrum was a breath of fresh air," he says. "It's a broadacre perennial crop, and that's very different. I'd also come from an extremely large worldwide company to a company that was Tasmanian owned, and where you could talk to the boss. That really allowed change to happen quickly."

As the secrets of being an effective field officer, John lists an excellent memory, thorough record keeping, reliability, attention to detail, and not leaving anything to chance. As one who knows personally most of the farmers in northern Tasmania, he also champions the importance of having a good name. "Your reputation is essential," he says. With his half-century experience of farming and field officering, mentoring younger field officers has also been one of John's key roles at BRA.

And what has John gained personally from his many years in the field officer's job? "The job has made me who I am today. Some of the experiences I've had have been life changing. There's been such a sense of achievement for all the different things we've done, particularly being involved in the creation of a whole new industry."



John Chilcott: Senior Field Officer and mentor

Peter Radford: **a relationship forged by the harvest**

For someone who started out with one harvester on a 30 acre trial crop of pyrethrum, and only 5 weeks of harvesting work, Peter Radford has done well. Today, head of Radford Harvesting at Latrobe, Peter runs 16 machines for 10 months of the year on a range of crops in Queensland, New South Wales and Tasmania. He acknowledges that it was his work in the pyrethrum industry that helped him get there. "That first year was so successful," he says, "that [BRA's] Bill Casey wanted another two machines. So the company helped out with contracts, and I got two more." Now with 15 pyrethrum harvests behind him, first with CIG, BOC and then BRA, Peter is the most enduring harvesting contractor working with Tasmanian pyrethrum.

Peter began harvesting pyrethrum in the days before windowing, when the crop was brought in green from the field. He has been at the forefront of adapting

headers for pyrethrum and developing specialized harvest techniques. "I've got some wild ideas," he says, "but when you get a bunch of contractors together, we're a group of guys with a common goal – it's pyrethrum."

As Peter's business grew with the company, it grew into other areas as well, but he has remained loyal to his long association with BRA, and is still involved in every pyrethrum harvest. "The harvests are easier now than they've ever been," he says. "There are even times when everything is running faultlessly and you sit down and twiddle your thumbs and you think... I should be a bit busier than this! That's how much progress we've made." For the phenomenal advances he and the pyrethrum industry have made, Peter credits perseverance, and the value of people who stick at things. "Our whole industry has been like that...and I say our industry because that's how I feel about pyrethrum. The ones that just come in for a job, just to earn a wage and be there week to week...they're not there anymore. It's the ones who have persevered and innovated that have stuck with the industry and grown with it."

Which is just what Peter has done, to his own credit, and the undoubted benefit of Tasmanian pyrethrum.



Peter Radford: Endurance and teamwork through years of pyrethrum harvests



Federal Government awards BRA with major research grant for continuing innovation

One hectare of top quality BRA Pyrethrum crop is sufficient to fill 60,000 domestic aerosol cans

BRA's Christmas came early last year with the announcement on 24th December that we had been awarded a major AusIndustry research grant to study the storage of harvested pyrethrum. The work will be in conjunction with CSIRO. The grant, worth \$700,000 over two years, will fund research into the causes of heating in stored pyrethrum, a growing problem in BRA's 25,000 cubic metre warehouse at Ulverstone.

The reasons for spontaneous heating of stored pyrethrum material are currently unknown, but possible explanations include continuing seed respiration, plant fungus or moulds, and moisture in harvested material as well as atmospheric moisture. Heating in stored crop can be quite substantial over time, and may damage heat-sensitive Pyrethrins.

BRA will undertake extensive sampling of plant material brought in for storage, and scientists from CSIRO's Stored Grains Research Laboratory in Canberra will test these samples against a number of parameters to determine the causes of heating. The research will allow the development of predictive tools which will lead to better harvesting regimes and improved management of harvested product by BRA. Once the cause of crop heating has been established, the grant also allows for the design and construction of prototype physical infrastructure to solve the problems identified. By harvest 2005, BRA hopes to have an innovative system to control heating issues. This will reduce

crop damage as well as the potential for loss of Pyrethrins. It will result in better utilisation of existing storage facilities, and may allow BRA to use its Ulverstone warehouse to store other harvested crops on contract.

The R&D program is an exciting one for BRA as well as for CSIRO. This is the first time that CSIRO has worked on pyrethrum storage, and the crop presents a number of interesting challenges that will broaden the research agency's knowledge of crop storage generally. The research may produce applications for the storage of other non-homogenous crops that suffer heating problems similar to those of pyrethrum.

Official handover of the grant took place on 24 February at BRA's Ulverstone site. Federal Senator Richard Colbeck officiated, representing Industry Minister Ian Macfarlane and AusIndustry's Leah Dent represented the granting body.

Congratulations particularly to Bill Casey and his team who have worked tirelessly to obtain this major R & D grant.



Official presentation of the grant by Senator Richard Colbeck and Leah Dent (second from left) of AusIndustry. BRA's Bill Casey is third from the left.



Prime Minister John Howard with Brian Chung in BRA's refinery (Photo courtesy of The Advocate)

The Prime Minister visits BRA

On 14 February 2004, Prime Minister John Howard visited BRA's Ulverstone site as part of his tour of Tasmania's northwest. The Prime Minister inspected BRA's laboratory where the chemical background to pyrethrum was explained by Helen Faber. A factory tour followed, in which Brian Chung talked the Prime Minister through the refinery processes. The site tour was followed by addresses from the head of the Cradle Coast Authority, Roger Jaensch, and the new Vice Chancellor of the University of Tasmania, Professor Daryl Le Grew. In his address, the Prime Minister called BRA "an example of leading edge scientific capacity" before announcing a Commonwealth Government contribution of \$577,000 for promoting science education in the Cradle Coast region.



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Edited by Gabi Mocatta



Botanical Resources
AUSTRALIA

ACN 072 872 201

8 Gregory Street, Sandy Bay Tasmania 7005 Australia

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