

ACTAR

in Vietnam



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Partnership in agricultural research

The way ACIAR program partnerships develop and are maintained encapsulates ACIAR's business model. The ACIAR partnership model is distinctive. ACIAR's mission "is to achieve more productive and sustainable agricultural systems, for the benefit of developing countries and Australia, through international agricultural research partnerships".

The "ACIAR model" has involved bringing collaborating institutions together for long periods to work on a common problem — quite often for a 6–8 year period, or even longer. The staff from the collaborating organisations in Australia and the developing country partners usually work on the ACIAR project alongside their main employment function, with the intention that the aims of the ACIAR work complement those of their main jobs. This is distinct from the common "donor project" modality of establishing project offices staffed by foreign and local consultants and secondees who are specifically engaged for the period of the project. This is evolving, admittedly, as more donors now work within government systems and provide budget support to particular programs. AusAID supports a number of National Targeted Programs in Vietnam in this manner.

Over the last couple of years, ACIAR program modalities and partnerships have evolved in response to a number of changes in our internal and external environment, including feedback from both the international stakeholder survey and the earlier Australian stakeholder survey.

Some of the key drivers of change have been:

- Changes in the international development assistance and agricultural research landscapes, increasing the emphasis on partnerships
- Feedback from ACIAR's international stakeholders relating to their changed needs
- Changes to the institutional environment for Australian researchers
- Changes in institutional environment for development partners researchers

In response, some changes to ACIAR's modalities include

- Move to more specific, targeted consultation processes
- Fewer larger projects
- Greater focus on adoption of research results, leading to greater cross-disciplinary emphasis in problem solving
- More senior project staff and managers based in country
- Greater number and wider range of partnerships with AusAID, other donors, NGOs and the private sector.

The changes ACIAR is making are still a "work in progress", and we are trying to learn from the design and implementation of each major activity. In Vietnam, these changes are reflected in the development of the two large cross-disciplinary projects in the south central coast region and north west highlands.

ACIAR has an important role to play in taking promising agricultural practices from research through a "pilot" or "proof of concept" stage that demonstrates the delivery of impacts to target stakeholders on a significant scale. As a small and specialised agency, focussing on agricultural research for development, we require partnership to extend or scale out results of successful projects and programs. Partners here are varied. They can include government extension systems – or they may be NGOs. Private sector involvement is becoming increasingly important too. ACIAR and its partners also need to think about how to do simple impact monitoring within the projects that goes beyond ex ante cost benefit analysis.

ACIAR also develops partnerships with other donors and development banks, and with the increasing focus of the world community on food security and the higher profile ACIAR gets from having larger projects, this trend will continue. Establishing and maintaining donor relationships takes time and resources but is critical if we are to actively seek opportunities to maximise project impact.

Indicative priorities for north-west highlands of Vietnam



ACIAR held a consultation workshop in Sa Pa, Lao Cai province on 20–21 September 2008. The workshop discussed priorities for collaborative agricultural research for development between Australia and Vietnam in the north-west highlands provinces of Vietnam.

The workshop was attended by senior ACIAR staff, University of Queensland and representatives of the Vietnamese organisations: Ministry of Agriculture and Rural Development (department of Science, Technology and Environment, department of International Cooperation, and the National Extension Centre); national R&D institutes, provincial departments of agriculture and rural development, universities, AusAID, international development agencies and international agriculture research centres.

The participants discussed and agreed with the following priorities:

Better integration of smallholders into profitable markets for high value crops

- Market and supply chain analysis to identify critical points to enhance stakeholder relationships and focus technical intervention to deliver improved competitiveness and smallholder profitability
- Methods for smallholders to access local markets and improved market information
- Development of high value niche products where there is strong market demand and identified competitive advantage
- Market research and quality standards development for enhanced market access for fresh and processed products
- Improving production and post-harvest processing technologies for temperate fruit and vegetable crops

Improved natural resource management to sustain crop productivity and profitability on sloping lands

- Improving crop nutrient management and land management techniques on sloping lands
- Evaluation of alternative / second crop options, such as the introduction of legumes into farming systems

- Integration of agro-forestry into farming systems including evaluation of multi-purpose trees
- Benchmarking present soil fertility status and quantifying soil fertility changes under different cropping systems and integration of local knowledge to improve management practices

Improved management and marketing systems for large ruminants and pigs

- Identification of constraints in the livestock supply chains
- Improved feed availability and integration of appropriate forage varieties into the farming system
- Improved management of livestock reproduction and disease prevention and control

Enhanced capacity of local service providers (public and private sector) to enable the long term sustainability and profitability of smallholders

- Improving methods for delivery of advisory services to local farmers which are affordable and appropriate for ethnic minorities
- An improved understanding of appropriate local policy which includes village customary practice and local regulations
- Identification of policies that support more sustainable use of sloping lands

ACIAR will use the above priorities as a framework to develop a program of collaborative research for development in the north-west highlands. The program is intended to include three major collaborative projects to be designed and initiated over 2008-2010.

The initial project is under the final phase of development and is expected to be commenced in the first half of 2009. It will focus on improved market engagement of maize based and high value temperate farming systems, through improvements to long term practice change by smallholders that increase smallholder livelihoods. There will be an emphasis on more sustainable resource management to improve productivity and sustainability on sloping lands with activities initially focused in Son La and Lai Chau provinces.

Sustaining nitrogen efficient rice production

Dr Phan Thi Cong from the Institute of Agricultural Sciences for Southern Vietnam in Ho Chi Minh City, Vietnam, and Professor Ivan Kennedy and Dr Michael Rose from the University of Sydney have recently received a major innovation award from the World Bank in Washington DC.

By Ivan Kennedy

Dr Cong and Professor Kennedy received the \$US 200,000 innovation award in the World Bank's Global Development Marketplace on September 26, 2008 for their project 'Sustaining Nitrogen Efficient Rice Production'.

The group were one of only 22 winners in the competition with 100 finalists, from an original 1800 applicants. The University of Sydney led group was one of just three of the 22 winners selected by the World Bank for special viewing by the World Bank Group President, Robert Zoellick with Dr Phan Thi Cong, the project leader in Vietnam.

The team includes Vietnamese partners from the Biofertilizer Action Research Center in Hanoi, the Institute of Agricultural Sciences of Southern Vietnam in Ho Chi Minh City and the Mekong Delta Research Development Institute (MDI) at Cantho University led by Dr Tran Thanh Be.



The project involves an inoculant biofertiliser technology developed jointly between Vietnam and the University of Sydney (ACIAR project SMCN/2002/073 — Efficient nutrient use in rice production in Vietnam achieved using inoculant biofertilisers), based on an original idea of Prof Nguyen Thanh Hien in Hanoi. The ACIAR project concluded in 2008 and addressed the need to lower rice farmers' costs by allowing crops to be grown with much less nitrogen fertiliser, potentially reducing emissions of the greenhouse gas nitrous oxide.

"The norm in Vietnam is about 100 kg of nitrogen fertiliser per hectare, and with the cost of fertiliser roughly tripling over the past two years — largely as a result of the volatility of oil prices — this translates into increasing hardship for Vietnam's 30 million farmers," explains Kennedy.

"The research and pilot phases of this project, involving field experiments with several hundred rice farmers in northern and southern Vietnam, have shown that fertiliser nitrogen input can be sharply reduced by ensuring that specific micro-organisms are present in the root zones of rice plants. These organisms are added in a biofertiliser product known as BioGro. When seedlings in rice paddies are inoculated with BioGro, they require at least 50 per cent less fertiliser than non-inoculated plants.

"This project is not just making a real contribution to alleviating rural poverty. Excess nitrogen enters the environment, pollutes water and accelerates global warming — nitrous oxide is perhaps 300 times as damaging a greenhouse gas as CO₂. Farmers also say that the inoculated plants are tougher and more resistant to fungi and insects."

The World Bank grant is to "scale up" the project, says Kennedy. "A parent company will franchise provincial factories in Vietnam, providing them with the mother cultures to produce BioGro, and the grant money will be used to develop a viable supply chain from factory to farmer. Quality control is a critical aspect of this phase."

Technology and skills transfer will be a key component of the project. Recent Sydney PhD graduate Mick Rose — part of the project team — is training Vietnamese science graduates in identifying and counting the micro-organisms for rice as an AusAid Youth Ambassador. Next year two young Vietnamese graduates will come to Sydney University under an AusAID ALAF grant to learn these sophisticated quality control techniques.

Welcome to Dr Peter Horne

The Vietnam office welcomes Dr Peter Horne to ACIAR's Canberra offices as the Research Program Manager for Livestock Production Systems. LPS aims to build a better understanding of the biological, social and economic aspects of smallholder livestock systems (small and large ruminants, pigs and poultry).

Peter has spent most of his career based in Southeast Asia involved in agricultural research-for-development, with a particular focus on forages and livestock systems. This included more than 10 years of collaboration with Vietnamese researchers in the North West, Central Highlands and Central Coast, focused on forages for cattle and ponded-fish production. He has a PhD in Tropical Agronomy from University of New England. He has worked for CIAT in Vientiane, and moves to Canberra after two and half years in Makassar, Indonesia, where he was the Sub-Program Manager for the ACIAR managed project Support for Market-Driven Adaptive Research (SMAR).

We look forward to working with him in livestock projects and believe his experience in South-east Asia will contribute to the success of future projects in Vietnam.



The Plant Protection Research Institute : 40 years of development and achievements

The Plant Protection Research Institute (PPRI) celebrated its 40 anniversary on 24 October 2008. On this occasion, the Institute was awarded the Second Class Independence Order from the Vietnamese government.

PPRI is one of the key agricultural research institutions in Vietnam and has been one of ACIAR's main partners since we commenced working here. So far there has been 12 cooperative agricultural research projects funded by ACIAR covering different fields: entomology, root diseases, citrus greening, and temperate fruit development. These projects have helped strengthen research and resources capacity in both countries in crop protection, biosecurity and contributed to improving food security in Vietnam. Many research results have been adopted by farmers in Vietnam and in Australia.

Dr Russell Haines, Forestry Research Program Manager, representing ACIAR in Canberra, attended the celebration ceremony in Hanoi. In his speech, Dr Haines highly appreciated the research relationship between PPRI and ACIAR over 15 years. He commended all scientists who have been involved in ACIAR funded projects and sincerely thanked them for their hard and good work for the community. He also warmly congratulated PPRI for the Second Class Independence Order, in recognition of its contributions to Vietnam's agricultural sector over the past 40 years.

PPRI can be proud of what it has achieved and ACIAR looks forward to PPRI being a partner in ACIAR projects on its road ahead!



Medal award to Prof. Andrew Beattie



The medal award ceremony 'for the Cause of Agriculture and Rural Development of Vietnam' to Prof. Andrew Beattie was held at the Plant Protection Research Institute on 11 September 2008. Prof. Beattie works at the Centre for Plant and Food Science of the University of Western Sydney, Australia. He is an international authority on integrated pest management on citrus and other crops. He is also a leading expert in research on spray-oil use for pest control in Australia. He is now working with Vietnamese and Indonesian colleagues in research on huanglongbing infected citrus to prevent the disease entering Australia and for managing the disease in Asia, including Vietnam.

Prof. Beattie first came to Vietnam in 1996 to develop a collaborative research with Vietnamese colleagues. He has been the designer and leader of three projects in Vietnam from 1997 to 2008. They are:

- Integrated control of citrus pests in China and Southeast Asia (CS2/96/176) from 1997 to 1999.
- Extension of citrus pest integrated control in Vietnam (2001 – 2002), funded by AusAID's CARD program.
- Huanglongbing management in Indonesia, Vietnam and Australia (CS2/2000/043) from 2003 to 2009.

Research outcomes of the above projects have greatly contributed to the citrus pest management in major fruit areas of Vietnam. Additionally, under the projects two manuals for citrus pest management were published. 3000 copies were distributed to farmers and technical staff across all provinces in Vietnam.

The projects led by Prof. Beattie also enhanced research capacity for the Plant Protection Research Institute and Southern Fruit Research Institute. Equipment for scientific research was provided to these institutes. 15 scientists and 21 technical staff of the related organisations visited Australia for a study tour on integrated pest management for citrus production in Australia. Three Vietnamese researchers: Nguyen Van Liem, Nguyen Huy Chung, and Dao Thi Hang have been and are his direct students from 2000 to 2010 for their PhD study.

The award is well-earned recognition for his contribution to citrus pest management in Vietnam. Congratulations Andrew!

Sawlog project gets under way (FST/2006/087)

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An inception workshop was held in Ho Chi Minh City on 17 October for a new ACIAR project “Optimising silvicultural management and productivity of high-quality acacia plantations, especially for sawlogs”. The workshop had simultaneous translation and after one day and ten presentations all in the room (there were 34 delegates) would have learnt something about the Acacia resource in Vietnam, supply and demand, the fate of the wood and current markets and prices, and where 20 years of joint research in tree improvement between Commonwealth Scientific and Research Organisation (CSIRO) and Forest Science Institute of Vietnam (FSIV) on tree improvement, and about three years in silviculture, had got us to. Mrs Le and Dr Caroline discussed issues of pests and diseases that are deserving of more attention (perhaps a future project!).

Planted forest is a relatively new wood resource in Vietnam and their silviculture for saw logs very much in its infancy. Visits to sawmills where they are happy to saw logs down to 10 cm small-end diameter reminded participants that the industry is already very resourceful. Current practices, however, like high planting densities, and slash pruning and ploughing for weed and fire control, and slow early

growth rates undermine the long-term sustainability of plantation yields. There is plenty of room for increasing sawlog recovery over shorter rotation times using more advanced systems that include thinning and form pruning, and targeted use of herbicide and fertiliser. Developing these systems so that they are suited to the range of environments that are used for planted acacias in Vietnam is what this project is all about.

There is also room for good science as well. Capturing the early growth potential of fast-growing eucalypts is not being done that well in some parts of Australia and elsewhere because of a poor appreciation of the intense inter-tree competition that develops and its effect on tree vigour. In South Vietnam growth rates of these tropical acacias are fast enough to allow us to test the hypothesis that early thinning (when average diameter of trees is 8–9 cm) will lead to higher growth rates and greater percentage sawlog recovery than later thinning (when average diameter of trees is 12–13 cm). These later tree sizes occur 2 to 3 years later. We will also test any interaction with fertiliser application at thinning.

The next few days were used to familiarise Australian staff with the current resource and to look for a site that was suitable for the first core experiment. As the wet season was drawing to a close it was important to get this underway. A willingness by all parties to make this happen led to this experiment being marked out in at a two-month-old second-rotation site at Hai Vuong Joint Stock Company’s Phan Truong Estate near Chon Thanh, Binh Phuoc province. This site has a potential productivity that is typical of those that will be used for sawlog production. In fact the first rotation has just been harvested and at least one-third of the logs were currently being processed in Hai Vuong’s (Victor Wood) new sawmill. Mr Huong and Mr Dat and their colleagues at the sub-FSIV have now completed the first post-planting weed control and applied the base levels of fertiliser. Soil samples that will be used as part of the wider body of research effort to develop a simple decision support system for sawlog plantations have also been collected.

South Vietnam is hot and humid so there’s a lot of sweat to be lost over the next four years.





Bivalve hatchery production (FIS/2005/114)

Scientific and commercial interest in the expansion of bivalve culture in Vietnam has led to rapid initial progress in developing hatchery skills and capacity. The hatchery at the National Marine Broodstock Centre (NMBC), Cat Ba has been built and is being equipped. The staff of the hatchery have made excellent progress with the first commercial batch of Pacific oysters being bred in August 2007 and distributed to grow-out facilities. This rapid development and the timing of project commencement, has prevented staff from New South Wales Department of Primary Industries (NSW DPI) providing advice on initial hatchery design. However, the design of the hatchery is such that it does not preclude the later installation and operation of advanced culture systems and to promote the optimal use of the new facilities. We have accelerated the training and demonstration program and advanced the travel schedule for Australian staff to visit Cat Ba to provide culture advice.

To establish the knowledge base required for the selection of suitable species and their successful production, we have worked with staff from the Research Institute for Aquaculture No. 1 (RIA No1) to develop a list of potential molluscs of commercial interest and then refined that list to those of greatest interest; namely the oysters *Crassostrea gigas* & *C. ariakensis*, the clam, *Luthlaria phillipinarum*, and the pearl oyster, *Pteria penguin*. Vietnamese staff have started to gather information pertinent to the culture of these species, which will be compiled into a database. We have started compilation of a mollusc hatchery manual based on similar manuals for the culture of Sydney rock oysters and are incorporating experience already gathered in operating the hatchery at Cat Ba. To improve overall production performance we have identified a number of algal species likely to be of greatest nutritional value to the target species and have provided isolates of those species for culture at Cat Ba.

Staff from NSW DPI visited Cat Ba in August 2008 to check algal production progress and assist in increasing algal culture reliability and output.

To aid the development of hatchery programs through an understanding of the reproductive behaviour of the species of interest, Vietnamese staff have been shown first-hand techniques (macroscopic, morphological and histological) for reproductive monitoring, provided with data collection sheets and helped to design experiments to monitor Pacific oyster reproductive condition across three sites and using two culture methods. This monitoring will commence when the current batch of Pacific oysters reach maturity. In the interim, NSW DPI staff have established protocols for routine oyster health monitoring and collecting oyster performance data that will provide useful information on growing Pacific oysters in Northern Vietnam.

The Australian based component of this program has begun and we have commenced assessments of non-chemical means for the production of triploid oysters (Objective 4.1). The impact of temperature shocks on the early developmental stages of oysters has been completed. In a series of trials, the effects of the timing, magnitude and duration of elevated temperatures on newly fertilised oyster eggs has been assessed in terms of percentage development and percentage triploidy. To complement this research, a pressure vessel has been purchased and is being shipped from the US to allow the impacts of pressure to be assessed and potentially used in conjunction with temperature for triploid induction.



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International Spiny Lobster Aquaculture Symposium at Nha Trang city (FIS/2001/058)

From project: "Sustainable Tropical Spiny Lobster Aquaculture in Australia and Vietnam (and Eastern Indonesia)" (FIS/2001/058)

After four years of collaborative research between Australian, Vietnamese and Indonesian agencies, the ACIAR Lobster Aquaculture Project team had a lot to report at the International Spiny Lobster Aquaculture Symposium that was held on 9 – 10 December 2008 at Nha Trang University, Khanh Hoa, Vietnam. The ACIAR project team comprised two Australian agencies, CSIRO Marine & Atmospheric Research and the Queensland Department of Primary Industries and Fisheries, three Vietnamese institutes, Nha Trang University, Research Institute for Aquaculture No. 3 and the Institute of Oceanography at Nha Trang and the Marine Aquaculture Development Centre at Lombok, Indonesia.

The symposium was attended by more than 50 scientists from the Asia-Pacific region with participants coming from Australia, India, Indonesia, Malaysia, New Zealand, Pacific Islands, Philippines and Vietnam. Over the two-day meeting, 20 papers, 16 by ACIAR project team staff, were presented and addressed four theme areas:

- Sustainable exploitation of lobsters for aquaculture grow-out
- Improving lobster nursery culture
- Lobster grow-out systems
- Lobster grow-out feeds and feeding practices.

Project research showed that around 2 million seed lobsters are collected annually from along the central coast of Vietnam and after about 20 months of grow-out the lobsters reach the desirable market size of around 1 kg. Annual harvest of cultured lobsters in Vietnam is about 2,000 tonnes, worth US\$65–70 million. Almost all of this production is marketed as live lobsters into the Hong Kong and southern Chinese markets. At a farmgate value of US\$50 for a 1-kg lobster and a gross profit per production cycle of about 50% in a normal year, lobster farming has become a booming industry. The number of seacages devoted to lobster grow-out in Vietnam has increased dramatically: from fewer than 3,000 in 1998 to 33,000 in 2004 and 49,000 in 2006. However, this expansion has not come without some undesirable consequences, with high nutrient discharge from seacage aquaculture contributing to marked deterioration in coastal water quality. The reliance on trash fish as the food source for the cultured lobsters is a significant cause of the environmental pollution of coastal waters. The environmental and productivity benefit of

co-culturing green mussels with the lobsters was demonstrated although this practice needs to be adopted by all lobster farmers before it can solve the water quality problem. In another approach to limit the environmental impact of intensive lobster farming, project work focused on improved methods for handling and feeding of the trash fish and extending this to developing more stable and less polluting pelleted feeds. Another major concern of the lobster industry is the high mortality of recently captured seed lobsters. Seed lobsters are exceedingly fragile and often have to be transported over long distances from as far north as Da Nang to the grow-out sites that are concentrated around the shallow bays of the central provinces of Phu Yen and Khanh Hoa. It is not uncommon for 50% and occasionally up to 100% of a catch of seed lobsters to die within the first 30–40 days after capture. These seed lobsters are very vulnerable to rough handling and poor water quality — particularly low oxygen and high ammonia levels that result from long transport times — but deaths may not be seen until some weeks later when lobsters are unable to moult and die. Again, the project team was active at defining best practices for holding and transporting these seed lobsters and so markedly reducing the mortality rate.

Although the ACIAR Lobster project has made some giant steps towards improving lobster aquaculture practices in Vietnam, more work is needed to determine the sustainability of the lobster seed that settles along the central coast of Vietnam. The need for this work was highlighted at the Symposium where presentations by scientists working at Aceh, Indonesia, New Caledonia and the Caribbean illustrated how little is known about the cues that cause spiny lobsters to settle from a free swimming larvae to become a benthic juvenile. A further need will be to continue research on reducing the undesirable environmental impacts of lobster farming and to extend these practices to the lobster farming community. This will require a concerted extension effort and on-farm demonstrations to convince farmers that it is better to feed lobsters on pelleted feeds instead of trash fish and to adopt other improved farming practices.

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Fruit fly control by jujube farmers in Hai Phong (AGB/2007/187)



Jujube farmers in Hai Phong are beginning to understand and want to use protein bait for fruit fly control because this method helps them to save labour and pesticide cost, increase productivity and have safe production.

On 18 December, H.E Mr Allaster Cox, the new Australian Ambassador to Vietnam together with ACIAR Vietnam and the Plant Protection Institute (PPRI)'s staff visited the jujube orchard area applying protein bait in Ban La ward, Do Son district, Hai Phong city. This is one of the demonstration models under the project AGB/2007/187.

In Hai Phong, the delegation met officers of the provincial Plant Protection sub-department (PPsD), talked with farmers, and had a short meeting with the chairman of Hai Phong city, Mr. Nguyen Quang Su. Improving quality and safety of agricultural production was discussed in the meeting. The Ambassador was pleased with the early achievements of the model, using protein bait on jujube orchard in Do Son. He also requested Hai Phong leaders to consider and encourage extension of the model across the province.

Hai Phong has about 7000 ha of fruit tree, including mandarin in Cat Ba, pomelo in Tien Lang, guava in Thuy Nguyen, and jujube in Do Son... However, fruit flies occur around the year with worst damage occurring from April to November.

After citrus, jujube orchards occupy the second largest area, but are more damaged by fruit fly. According to 2005 survey by the PPsD, about 30.5% and sometimes up to 77% of jujube was damaged by fruit fly. Review of about 100 ha of jujube in Bang La ward, Do Son district showed 40–60% of damages on jujube are from fruit flies. Thus, the PPRI and Hai Phong PPsD decided to carry out a protein bait trail on these orchards.

Protein bait is most effective when applying in a large area. However, orchards in the North are relatively small, and the cooperation and participation of many farmers is necessary to form an area of some hectares. To do this, the cooperation between the PPsD and local authorities is very important. The local government helps coordinate, encourage farmers and organise training courses, while PPsD staff conduct training and demonstrate techniques in the field.

After some months of selecting location and training for hundreds farmers, the first model was started on 25 ha of jujube and resulted in good outcomes in Dong Tien village, Bang La ward, Do Son district, Hai Phong city.

Mrs Thai, owner of an orchard in the trial area is very happy with her crop. She said 'Protein bait is very good because I don't have to spend much labour force and it is clean, not as dangerous as pesticide. Ripe jujubes without damage by flies look more beautiful. People prefer to buy jujube from my orchard as they know this is clean production'.

The delegation also visited some orchards outside the trial area and saw the differences in quality between these two areas. Farmers outside the trial area would like to try protein bait for their next crops.

The Hai Phong PPsD reported that the productivity of the trial area clearly increased and resulted in better returns to farmers. They normally get only about 100 million dong/ha if applying the classic method. With protein bait, they can get up to 167 million dong/ha while reducing 60% of labour cost, and negative impacts on the environment and human health.

Protein bait is an outcome of many years of ACIAR funded research. It is made from brewery waste which attracts fruit flies. With a pesticide added to it, the bait is applied as a small spot to each tree in an orchard. This method has been adopted and largely used by farmers in the Southern region in recent years. From 2007, this method has been communicated to farmers in the North, such as Lang Son, Bac Giang, Son La, Hai Phong and Thua Thien Hue provinces.

The protein bait production in the North is a joint venture between PPRI, Hoa Binh Chemical Company and An Thinh Brewery. Following the results of this project, ACIAR hopes the joint venture will work with provinces to develop business and promotion plans to expand the area using this technology. The research is now proven for this method. The next step requires further business development and extension.

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New ACIAR publications

The following is a selective list of recent ACIAR publications. Full information about these and other ACIAR publications can be found ACIAR website www.aciar.gov.au. Information about the publications in Vietnamese language can be seen in page number 11, Vietnamese part of this newsletter.

Monographs

MN136 **Measuring plant-associated nitrogen fixation in agricultural systems**

Nitrogen is one of the key drivers of global agricultural production, with between 150 and 200 million tonnes required each year to produce the world's food, animal feed and industrial products. Improving the efficiency with which Nitrogen is used in world agriculture is vital to the long-term sustainability of the planet, as gaseous losses contribute to global warming, and leaching and erosion losses to the degradation of watercourses and storages

MN135 **Sea cucumber fisheries: a manager's toolbox**

Outcomes of the 'Papua New Guinea, Pacific Islands and Northern Australia Sea Cucumber Fisheries Management Workshop', held at Motupore Island Research Centre, Papua New Guinea, 20–23 March 2006.

MN134 **Growing peanuts in Papua New Guinea: a best management practice manual**

A best management production manual aimed at the wide spectrum of industry stakeholders interested in growing and marketing peanuts in PNG. It is designed to assist agricultural researchers, extension people, smallholder producers, agricultural consultants and commercial producers by providing information on best management practices that will improve peanut productivity and quality.

MN132 **TaroPest: an illustrated guide to pests and diseases of taro in the South Pacific**

A guide to the pests and diseases of taro in the South Pacific.

MN130 **Soil constraints and management package (SCAMP): guidelines for sustainable management of tropical upland soils**

This book describes a decision-support framework called the Soil Constraints and Management Package (SCAMP).

MN129 **Diagnostic manual for plant diseases in Vietnam**

A manual designed to help plant pathologists develop basic skills in the diagnosis of the cause of diseases, focusing on fungal diseases of the roots and stems.

Proceedings

PR130 **Efficient nutrient use in rice production in Vietnam achieved using inoculant biofertilisers**

These proceedings provide a summary of the research outputs of work in Vietnam to assess the significance of a biofertiliser called BioGro, which provides significant benefits for the growth and yield of rice.

PR128 **Management of classical swine fever and foot-and-mouth disease in Lao PDR**

These proceedings are a compilation of research papers presented at a workshop in Vientiane on foot-and-mouth disease and classical swine fever, which continue to be a problem for livestock producers

PR125 **Coconut revival: new possibilities for the 'tree of life'**

Proceedings of the International Coconut Forum held in Cairns, Australia, 22–24 November 2005.

Technical Reports

TR66 **Modelling minimum residue thresholds for soil conservation benefits in tropical, semi-arid cropping systems**

Developing and promoting farming systems that make use of conservation tillage practices in combination with retention of crop residues is a strategy being pursued by many national and international research organisations.

ACIAR's distribution policy is to provide complimentary copies of its publication to developing country libraries, institutions, researchers and administrators with an involvement in agriculture and to any scientists involved in an ACIAR project.

Please contact Ms Nguyen Lan Phuong—ACIAR Office Assistant in Hanoi, tel: 84 4 3 8317755 ext. 265, email: lan-phuong.nguyen@dfat.gov.au if you would like to receive a complimentary copy.

JOHN ALLWRIGHT FELLOWS



Ms Pham Thi Ngoc Linh from Institute of Policy and Strategy for Agriculture and Rural Development (ICARD) has completed her PhD degree at University of Western Australia under John Allwright fellowship scheme. She returned to Vietnam in October 2008 and has just been appointed as the Director of the Centre for Agricultural Policy (CAP), in the ICARD. We hope Linh can utilise her study in Australia and best wishes in her new position.

Congratulations to Ms Luong Thi Song Van, Research Institute of Fruits and Vegetables (RIFAV) who was awarded the ACIAR John Allwright Scholarship. Ms Van will pursue her Master degree on Food Science at the University of Newcastle. She will commence her study in Australia in January 2009.



ACKNOWLEDGMENT

We would like to thank all contributors for sharing their news and views with us, as well as bearing with us if there are any printing/ editing errors. We would appreciate readers' contribution to the next issue by sending us your project's news/ update, photo news and/ or any story you deem relevant, to the address below:

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