



**2009 NATIONAL CONFERENCE OF THE
AUSTRALIAN HYDROPONICS & GREENHOUSE INDUSTRY**

19–22 July 2009 Sydney Showground, Sydney Olympic Park

Registration Brochure

www.ahga.org.au

Event Overview

Are you unsure about your future? Should you modernise? Should you expand? Would you like to know more? With a theme of 'Modernising Australian Farming', the 2009 National Conference of the Australian Hydroponics & Greenhouse Industry to be held at the Sydney Showgrounds from 19–22 July 2009 will be the largest industry conference and trade exhibition of its kind in the Asia-Pacific region for 2009. The Conference and Exhibition is expected to attract 400–450 commercial growers and allied industry delegates from around Australia, New Zealand, throughout Asia, and elsewhere in the world. The large, fully integrated trade exhibition will provide a unique opportunity for growers and businesses associated with commercial hydroponic and greenhouse crop production to share ideas and exchange information. The Conference and Exhibition will provide commercial growers, industry specialists and sponsors the opportunity to forge closer links.

Themes

- Establishment of the venture in a realistic economic framework;
- Attention to market requirements before production commences;
- Realistic expectation of price, yield and labour requirements;
- Experience in horticultural production prior to entry into hydroponics; and
- Undertaking further improvements to knowledge through training.

Conference Organising Committee

| | |
|-------------------|---------------|
| Len Tesoriero | Saskia Blanch |
| Steven Carruthers | Rick Donnan |
| Stephen Goodwin | Sophie Parks |
| Bettina Gollnow | |

Contact Details

For all enquiries please contact the team at Conference Design for assistance

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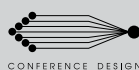
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Who Should Attend?

- Existing and intending commercial vegetable, flower and herb growers
- Installation and equipment suppliers
- Product manufacturers and distributors
- Industry consultants and service providers.
- Industry researchers, educators and students
- Anyone else with an interest in hydroponics and greenhouse technology.

Why Participate?

- Network with other growers and industry experts
- Discover the latest industry trends and news
- See the latest product developments and innovations
- Discuss the present challenges and future needs
- Develop and renew friendships and have a good time.

Sydney, New South Wales

Sydney is one of the most multicultural cities in the world with people from 180 nations, speaking 140 languages.

With a population of 4 million, it is a major Asia-Pacific city, and it is the capital city of New South Wales, the most densely populated state of Australia. On the south-east coast, it is bounded by the Pacific Ocean to the east, national parklands and coastline to the north and south, and the spectacular Blue Mountains to the west.

Sponsors & Exhibitors

If you are interested in sponsoring or exhibiting at the conference please contact Conference Design.

Register online at
<http://www.ahga.org.au/events/2009NICA>



Dream Venue

The Sydney Showground, the site of the 2000 Olympic Games, is a dream venue located in the suburb of Homebush Bay. The venue is Australia's most important and diverse urban precinct, surrounded by one of the largest urban parklands in the world. Each year more than 8.2 million visitors come to the site to enjoy the wide range of leisure, entertainment, cultural, sporting and educational activities.

Located near Sydney's busy wholesale produce market (Flemington), the venue is conveniently serviced by bus, train, ferry and taxi services. For out-of-towners, there is a variety of accommodation available on-site and nearby the venue. For further information about travel, parking and accommodation visit the AHGA website (www.ahga.org.au).

With a population of 4 million, Sydney is one of the most multicultural cities in the world and a major financial, communications and transport hub for the Asia Pacific region. With an average summer temperature of 24 degrees Celsius, Sydney's mean winter temperature is 12 degrees Celsius. Australia's premier city boasts an average 342 days of sunshine a year; the average rainfall is 1216mm, heaviest between February and July.

Conference Centre

The conference will be held in the Southee Complex, Sydney Showground, Sydney Olympic Park.

This is on the corner of Grand Parade and Showgrounds Road, close to the hotels and the railway station (please refer to the map on page 20).

Industry Overview

Hydroponics is the production of crops in isolation from the soil, either with or without a medium, with their total water and nutrient requirements supplied by the system. Production takes place either in a greenhouse or outdoors and systems can recirculate or allow nutrients to 'free drain' for reuse on other crops (eg. trees, pasture improvement, etc). The industry is highly efficient in its use of inputs including water, fertilisers, labour, land and energy. Hydroponics and greenhouse have emerged as commercial alternatives to soil-based production. Significant crops include tomatoes, cucumbers, capsicum, lettuce, strawberries, Mediterranean and Asian herbs, and cut flowers such as roses, gerberas, carnations, lisianthus and Asiatic and Oriental lilies.

The Australian Hydroponic & Greenhouse Industry is valued at over \$1 billion at the farm gate and directly employs an estimated 10,000 people throughout Australia. The industry

is capital intensive with capital costs anywhere between \$100 and \$300 plus per square metre (m²), depending on the sophistication of the greenhouse and the level of equipment being included. Viable production units are a minimum of 1,500m². Commercial success is linked to:

- Establishment of the venture in a realistic economic framework;
- Attention to market requirements before production commences;
- Realistic expectation of price, yield and labour requirements;
- Experience in horticultural production prior to entry into hydroponics; and
- Undertaking further improvements to knowledge through training.

Schedule of Events

The conference format consists of a trade exhibition, lectures, workshops and farm visits. There will also be an industry dinner and an awards presentation. A proceedings book will be published and distributed to all registered delegates. All AHGA members and affiliates qualify for discounted conference packages.

Sunday 19 July

Registration open
Trade Exhibition set-up & public viewing
Welcome Reception, AHGA AGM

Monday 20 July

Flemington Market – Tour and Breakfast
Opening Plenary Session
Concurrent Sessions for Lectures
Trade Exhibition

Tuesday 21 July

Concurrent Sessions for Lectures
Industry Workshops
Trade Exhibition
Conference Banquet Dinner

Wednesday 22 July

Tours of high-tech greenhouses, cut flower & vegetable hydroponic farms and R & D facilities



Sponsors

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Gold



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Session



Welcome Reception Sponsor



Satchel Sponsor



International Speaker

Ben van Onna

PTC+ (Plus)

PTC+ is a Professional Practical Training Centre in the Netherlands that provides training for different sectors in the horticulture and agriculture, nationally as well as internationally.

In horticulture, the training centre offers an extensive package of training courses: greenhouse management, chain management, energy management, climate and water management, plant physiology, crop protection and post harvest. The basis for our training is learning by doing.

Ben van Onna graduated in 1973 at Higher Horticultural School in Utrecht. After that, he completed the teacher's education Den Bosch.

From 1975 until 1978 he worked as an instructor at CST (today PTC plus).

In 1978 he became an adviser for greenhouse vegetable growing, at first in service at the Ministry of Agriculture, Consultancy of Horticulture; later in a private consultancy office.

Since 1996 he has given practical courses at PTC Plus, Ede as a tutor in greenhouse climate control, plant physiology and energy management to growers and students, national as well as international.

The last few years he has been involved with T.O.T. (Training Of Trainers) programs for several national training centres worldwide.

The importance of managing actual plant temperature

Temperature is an important factor that influences plant processes. If we talk about temperature, we have to consider the plant temperature. Nowadays we have sensors at our disposal that can measure plant temperature. By means of an infrared sensor it is possible to measure the average plant temperature on an area of 10 – 15 m². Several climate computers have the ability to incorporate this measurement into the growing strategy. In practice a lot of growers have this equipment but mostly use it only for monitoring purposes.

Temperature influences a lot of plant processes:

- The actual temperature, in combination with the actual CO₂ concentration and light level, influences photosynthesis.
- A higher plant temperature rapidly increases respiration
- The average 24-hour temperature influences plant development (flowering speed, growing speed etc.)

- The difference between plant and air temperature determines the level of transpiration but also can cause condensation.
- A temperature difference between leaf and fruit/flower influence the sugar transport inside the plant.

Essential questions are:

- To what extent does plant temperature deviate from the measured air temperature?
- Under what circumstances?
- What are the consequences and how can we manage the crop?

In this presentation I will explain aspects of plant temperature related to plant processes and how to apply it into the growing strategy.

Improvement yields and quality by managing plant vegetative / generative balance

To get an optimal production and a good quality it is important to get a good plant balance during the whole growing season. The right balance depends on the type of crop and the stage of the crop. Vegetable growers and cut flower growers are generally focussed on a high production and a good quality. Additionally, for example for rose growers, the stem length is very important. Pot plant growers are more focussed on the compactness and the flowering stage.

For about 10 – 15 years several growers have used methods based on "crop recording". They select some "count-plants" and record, for example, fruit setting, number of flowers, number and length of internodes, stem diameter in the top, plant load, growing period of a fruit/flower etc. By putting this data in a computer bases system, making tables and graphs and comparing this with colleagues they learn how to interpret the balance of the crop and how to maintain plant balance.

What is a 'vegetative' and 'generative' plant?

To see if a plant is 'vegetative' or 'generative' requires a good eye and some training. We have to look at the top of the plant to see how the plant is growing at present. Lower on the plant we can see how the plant has grown in previous weeks or months. For short crops that do not produce flowers or compact plants, such as lettuce and several pot plants, it does not supply. Plant balance is, simply said, the balance between leaves and fruits/flowers on a plant. The principle can be used for fruit-producing crops as well as for flowering ornamental crops. There must be a balance between production of sugars (source) and the demand for sugars (sink).

Aspects of 'vegetative' and 'generative' balance to be discussed:

- How to recognise generative or vegetative plants.
- What aspects play a role (e.g., greenhouse equipment, climate, irrigation, variety, plant stage, season, crop handling)
- What instruments does a grower have to steer the plant into the right balance to improve yield and quality.



Invited Speakers

Dr Mike Nichols

Mike Nichols was made an Honorary Research Associate in Horticulture at Massey University, New Zealand when he retired from academia in 2007 but continues to have an active professional life, undertaking research, and presenting papers and consulting internationally.

He was awarded a BSc in horticulture in 1957 from the University of Nottingham (UK), and MSc from the same University in 1965, and a PhD from Massey University in 1971.

He served in a range of Executive positions in the International Society for Horticultural Science, including Chairs of the Section Root and Tuber crops and of the Commission for Education and Training and has chaired the organising committees of 3 ISHS symposia. In 2006 he was elected an Honorary Member of the ISHS for Horticultural Science, and is currently a Member of ISHS Award Committee.

He has very wide research interests, which include biochar, (and hence global warming), plant factories, hydroponics, bioremediation, asparagus, aquaponics, and cannabis.

He has consulted internationally worldwide for a number of international organizations (including FAO) as well as agribusiness, and has been an Expert Witness in courts in USA, Australia and New Zealand.

He is the author (or co-author) of over 100 research papers and over 300 technical articles. He continues to contribute regularly to specialist industry magazines, such as *Practical Hydroponics* and *Greenhouses*, and attend several international symposia each year.

For relaxation he and his wife (Lyn) have a small farm on which they grow hazel nuts, walnuts and a few sweet chestnuts for the local market.

New crops for greenhouse production

Traditionally greenhouse crops have a very limited range. Vegetables tomatoes; cucumbers and sweet peppers; flower crops such as chrysanthemums, carnations and roses, and (of course) a wide range of nursery crops.

A growing awareness of “food miles”, combined with a developing culture that high quality seasonal products should be available to consumers year-round sets the scene for a return to the continuous local production in greenhouses of seasonal crops which are currently air-freighted world wide into Australia. This would be almost a return to the strategy of the gardeners of stately homes in UK in the 19th Century.

This will put pressure on greenhouse technology, as the production costs (particularly in a developed country) will be significantly higher than the production costs in a developing country with a suitable climate. But this will need to be analysed in relation to freight costs (which are likely to rise significantly due to increasing fuel prices), the advantage of fresh local production, and the simplicity of the supply chain.

Obviously there is unlikely to be any advantage in producing crops which can be efficiently sea-freighted, such as banana and pineapple, but many horticultural products have very short shelf lives, eg asparagus, strawberry.

The potential for a range of high value crops will be discussed.

Biochar as a hydroponic growing medium

World-wide the most successful growing medium for greenhouse crops is rockwool, which is manufactured by melting granitic rock and spinning it into standardised candy floss-like slabs filled with 93% air space. Large amounts of energy are required to manufacture these slabs, which are shipped world-wide from a few specialised factories. Large amounts of energy are also required to melt the slabs after use into blocks of rock.

In Alberta, Canada a study has been initiated to develop a hydroponic growing medium based on biochar. The study includes comparisons of cucumber crop production in 3 biochar media produced from 3 different organic materials. These results will be presented and discussed and the potential for developing biochar as an environmentally friendly hydroponic growing medium will be considered.

Dr Kaye Ferguson

Dr Kaye Ferguson is a research scientist with the Horticulture Pathology Unit of the South Australian Research and Development Institute (SARDI) based at the Plant Research Centre, Waite Research Precinct in Adelaide. For the past three years Dr Ferguson has been working on a project investigating sustainable management of leaf diseases in greenhouse crops. Dr Ferguson's previous experience includes disease management in a range of other crops including citrus, grapes and potatoes.

Managing leaf diseases in your crop

Accurate disease diagnosis is crucial to managing diseases in a crop. Selection of an effective disease management strategy is dependent upon identifying which disease is being dealt with. This presentation will provide pictures and descriptions of the major leaf diseases of greenhouse vegetable crops and outline the strategies that are available to manage the various diseases in a sustainable way.



Leanne Forsyth

NSW Department of Primary Industries

Improving the control of bacterial canker of tomato in Australia

Leanne Forsyth, Fiona Lidbetter, Pauline Cain, Ania Deutscher, Tehgan Crowe and Len Tesoriero

Bacterial canker of tomato is an important disease in Australian tomato production. The disease is caused by systemic vascular infection of the bacteria *Clavibacter michiganensis* (Cmm). Canker infection can result in yield reductions of up to 100%. Currently there is no effective chemical or biological control for canker; the only effective methods are the quarantine and eradication of infected plants. The external symptoms of bacterial canker have altered over the past decades. Whether this is due to the use of newer tomato cultivars which react differently to infection or due to the introduction of new genetic strains of the bacteria is not known. It is possible that there are new strains present in Australia since Cmm can be seed-borne and imported seed is generally untreated since the relaxation of Australian quarantine requirements in the early 1990s. Research is being undertaken at the Elizabeth Macarthur Agricultural Institute (EMAI) to assess the diversity of Cmm within Australia and comparing it with strains collected from around the world.

Disease control is multifaceted and should be examined two ways: reducing the spread of disease; and reducing the severity of the disease. Reducing the spread of disease primarily should rely on good hygiene, supplemented by preventative antibacterial methods as appropriate. Cmm is capable of producing long-lasting, chemical- and heat-resistant endospores which are thought to allow its survival in soil and infected plant debris for long periods. Cmm can survive in tomato debris, in alternative weed hosts, in water and in soil. Research is being undertaken at the Gosford Horticultural Institute comparing the use of different disinfectants on different surfaces and substrates to determine the most efficient way to eradicate Cmm. As the industry moves towards water recirculation or reuse of waste water it will be necessary to develop effective disinfection strategies to ensure the disease does not spread uncontrollably through crops.

The activation of endogenous natural plant-defence chemicals is now a common mechanism for controlling a number of diseases including Fusarium wilt, Phytophthora root rot etc. In the USA there has been considerable amount of work done on Bion® (Acibenzolar-s-methyl) and its combination with copper sprays to reduce the spread of Cmm within, and between, plants. There have been some reports showing different biological control products can reduce the spread and incidence of Cmm. Potentially these different biological control organisms could be combined together with chemical

sprays to further reduce disease incidence. The combination of plant defence activators and biological control agents or chemical control options offers the possibility of not just reducing the spread of Cmm but reducing the severity of the disease. Glasshouse trials will be undertaken at EMAI to assess the combination of plant defence activators and commercially available biological control organisms.

Marcus Brandsema

Marcus Brandsema, a tomato grower from Turners Beach, Northwest Tasmania. I have worked for 10 years as an electronics tradesman, before joining the now third generation family business. My brother (Anthony) also joined the business at about the same time, and we have grown the business from a market garden, to a greenhouse operation of about 1.1 Ha.

Practical energy saving: Ex boiler as a heat exchanger

We have installed an ex 3.5 MW steam boiler on the back of our existing 1MW wood waste boiler, to recover the heat from the flue emission, and thus save energy. If time permits, I will also like to briefly mention other bio-fuel heating options.

Gerard McEvilly

Gerard McEvilly indulged his passion for horticulture for nearly fifteen years with Horticulture Australia Limited, managing around a thousand projects over that time. He also headed up the Sustainable Development team leading programs such as "Horticulture for Tomorrow" and the Horticulture Water Initiative. These days Gerard works with teams specialising in supply chain and climate change.

He also lectures at Sydney Uni and recently compiled a Rural Press education supplement. Gerard is honorary secretary for the International Horticulture Congress in Brisbane in 2014, hoping this can help trigger a wave of enthusiasm for horticultural technology over the next five years.

Future vision – expected impacts of climate change on intensive horticulture

Over the last couple of years there has been a growing avalanche of information, comment and debate about climate change and what we should do about it. It is time to separate facts from hot air, to understand the potential impact of climate change itself, as well as climate change policy, on production, the supply chain and the marketplace. This presentation considers potential risks and opportunities presented by the two broad responses available to us – Mitigation or Adaptation – from the perspective of the protected cropping sector.



Geoff Connellan

Honorary Fellow, Department of Resource Management and Geography, University of Melbourne & Director, G & M Connellan Consulting

Geoff Connellan has extensive experience in research and teaching in horticultural technology. His areas of expertise include greenhouses and urban water management. His greenhouse research has covered greenhouse design, solar greenhouses, greenhouse covering materials, energy conservation and nursery watering systems.

He has over 100 technical publications covering greenhouse technology and water management. He has been invited to present at numerous national and international greenhouse and hydroponic conferences on greenhouse technology.

Optimisation of the greenhouse environment to produce quality crops is of particular interest. In recent years Geoff has focussed on greenhouse cooling and the need for effective ventilation of greenhouses.

Geoff has a Master of Engineering Science Degree and Bachelor of Engineering (Agriculture) and is a certified trainer for the nursery WaterWorks program. After 30 years at Burnley College, he is now operating a consultancy in the environmental horticulture sector.

Developments in greenhouse cooling

There are a range of options to assist in keeping greenhouse air temperatures within acceptable limits. They include preventative strategies as well as the use of active cooling systems. Understanding the principles, benefits and limitations of the various techniques is the first step in implementing a successful cooling program.

This presentation will cover topics such as shading and the role of crop cooling as well as ventilation strategies. The fundamental principles of both fog cooling and evaporative cooling will be described.

The interaction between the greenhouse microclimate associated with each cooling technique and the crop is important when considering cooling options. Achieving the right balance of light, temperature and humidity in growing a crop in a cooled environment is a challenge.

Developing an integrated approach incorporating greenhouse design, crop management, air exchange, active cooling and adaptive climate control is the core message of this presentation on greenhouse cooling.

Greenhouse technology and management – Getting started

Prior to making any decisions regarding the selection of a greenhouse the first step should be to gain an understanding of the environmental conditions that best suit the particular crop and product to be grown.

The conditions that exist in a greenhouse at any point in time are dependent on many interacting factors including the nature of site, the greenhouse design, construction materials, environmental modification technologies, the crop and management practices employed in the greenhouse.

This presentation will cover the influence of shape, layout, dimensions and ventilation system on greenhouse climate. The technologies used to modify temperature, both low (heating) and high (cooling) and relative humidity, and the associated costs, are all important in determining the success of a greenhouse. Environmental control strategies that can be used to achieve optimum growing conditions will be described.

A checklist, that can be used in making the right greenhouse selection, will be outlined.

Chris Fry

Chris is National Manager for Agribusiness Financial Planning with NAB, which sees him responsible for the financial planning advice provided to NAB's farming clients via a specialist team of Agribusiness Financial Planners.

Previously, Chris was Regional Agribusiness Manager, heading up a team of Agribusiness Managers covering South East Victoria, Melbourne and Tasmania. Prior to this Chris held branch and portfolio management roles across Wagga Wagga, Deniliquin, Corowa and Armidale, as well as Head Office roles. In total Chris has over 20 years' experience with NAB's rural clients.

Chris is a graduate of the Australian Rural Leadership Program, and holds a Masters of Applied Finance, Bachelor of Agricultural Economics and Advanced Diploma of Financial Planning. He is a fellow of FINSIA, President of Hillcrest Tennis Club, and Chair of the Mossman Gorge Steering Committee for the Indigenous Land Corporation.



Sophie Parks

Dr Sophie Parks is a plant physiologist at the NSW Department of Primary Industries based at Gosford on the Central Coast of NSW. Sophie carried out her PhD in plant nutrition at the University of Western Sydney and joined NSW DPI in 2002.

Sophie currently leads two Horticulture Australia Ltd (HAL) projects, one aimed at improving the efficiency of production in low-medium technology greenhouses, and the other aimed at determining the nutritional requirements of Asian vegetables. Sophie is also interested in the reduction of pesticide residues in greenhouse horticulture, and the role that this industry can play in the response to climate change.

Henk van Tuyl

Export Manager of KUBO Greenhouse Projects

Innovations in greenhouse construction - the ULTRA CLIMA greenhouse

Revolutionary greenhouse design for hydroponic production of vegetables in areas with low humidity.

One of the major challenges in protected cultivation of vegetables in many regions in Australia is to maintain a sound temperature and humidity level.

The existing fogging and pad & fan systems provide only partial solutions and come with big disadvantages.

The ULTRA CLIMA concept is based on constant supply of conditioned air, keeping the greenhouse at over-pressure.

Air can be taken from outside, inside or mixed.

The distribution of air is very equal with zero horizontal temperature gradient.

An unprecedented level of control over humidity, temperature and CO₂ level is achieved.

As a result yields are taken to the next level and at the same time energy and water consumption are strongly reduced.

Because low value heating is used the application of renewable energy sources is extremely feasible.

Other features are:

- Maximum food safety and minimum carbon footprint
- Cost price reduction of over 20% is possible
- Minimises usage of pesticides
- Already 16 hectares in production.

Rick Donnan

Chemical engineer. Managing director Growool Horticultural Systems P/L.

Founding president and life member AHGA and recipient of its first award for outstanding contribution to the hydroponic industry. Hydroponic writer and readers' inquiries columnist for *Practical Hydroponics and Greenhouses* magazine since 1992.

All that jazz – fundamentals of managing hydroponic systems.

This lecture gives an overall view of all aspects of the management of commercial hydroponic systems. It is aimed at intending and new growers, but is also a refresher for experienced growers.

The introduction gives a brief look at significant aspects outside of direct hydroponic management. Important aspects of system design are discussed. Then considered in detail, for both open and closed systems, are the management of EC, pH, oxygen, and water, including irrigation. A major topic is nutrient management, including the importance of raw water quality, and minimising waste.

Improving nutrient management through:

(a) using on-farm meters" - Sophie Parks, NSW Dept of Primary Industries, and

(b) interpreting nutrient analysis" - Rick Donnan, Growool Horticultural Systems.

Managing nutrient balance can be difficult, especially in closed (recirculating) systems. Nutrient analysis of plant tissue and nutrient solutions are a basic requirement of effective management. One method of getting nutrient analysis is to use on-farm meters. These are very handy, but have their limitations. Also guidance is given in interpreting analysis results to improve yields and quality, and reduce wastage.



Graeme Smith

Hydroponic Vegetable Grower

9 years growing crops in controlled greenhouse production system in Woodend, Victoria.

Hydroponic Farmers Federation Inc

Foundation Secretary from 1995 (currently ex-officio)

Australian Hydroponic & Greenhouse Association Inc

Committee member in 1995 and national president since 1999 (cont.)

Graeme Smith Consulting

- Company formed in 1998 to offer system and crop consultancy services to new and existing growers. Currently providing crop advisory services to 65+ growers (inc tomatoes, cucumbers, capsicums, lettuce, herbs, strawberries, gerbera & roses) across Australia.
- Company offers system design and project management for large-scale protected cropping systems throughout Australia.
- Company has developed full training package in commercial hydroponic crop production.
- Facilitated a 5-year plan for the development and delivery of a skills training package for all industry growers across Australia.
- Company facilitates greenhouse study tours of Europe & Canada, encouraging growers to assess firsthand new and emerging technologies and how to integrate into their existing systems.
- Graeme is a Certified Practicing Agriculturist and is an Accredited Member of the Australian Institute of Agricultural Science and Technology (AIAST).

Greenhouse cooling – negative pressure effect

Normal greenhouse cooling is typically achieved by passive means by operation of the ventilators in response to greenhouse set-points and climate conditions.

Additionally, simple greenhouse systems can employ roll-up side gables to assist the ventilation capacity, although this assistance is restricted to relatively narrow greenhouses.

In warmer climates and seasons, passive cooling systems may not be able to meet the needs of the greenhouse crop (due to the huge energy inflows to the greenhouse) and therefore active cooling systems should be considered to achieve desired temperature and humidity targets.

The typical Australian summer is characterised by higher temperatures and radiation sum and low humidities that challenge growers' capacity to steer their crops and maintain yield and quality.

Common active cooling systems used in Australia today include high-pressure fogging and pad/fan systems. (refrigerated systems are rarely used due to high capital investment and energy costs)

The challenge for Australian greenhouse growers is to maintain both yield and quality during extreme climatic conditions, therefore an effective evaporative cooling system is a cost-effective tool to be considered.

This presentation compares the common evaporative cooling systems today and an innovative approach using a unique combination of high-pressure fogging and pad/fan technologies for hot/dry climates leading to:

1. Greater cooling capacity
 2. More even conditions across greenhouse
 3. Less investment
 4. Less water use;
- by employing negative pressure cooling.

Brian Freeman

Regional Manager Asia Pacific

Dr Freeman is Regional Manager- Asia Pacific for Chrysal International, a Dutch company that is the world's leader in flower food technology. He has plant physiology background and has over 20 years commercial experience in the cut flower industry. He manages Chrysal's commercial interests in the Asia Pacific region including most countries from Australia northwards to South Korea.

Cut flower post harvest accountability underpins vase-life guarantees

Summary: The growth in cut flower sales in Europe is largely driven by vase-life guarantees. These guarantees rely on post harvest protocols throughout the distribution chain. Maintenance of these standards uses tracer technology to enable timely and cost effective auditing of post-harvest applications.



Donald Lester

Donald Lester is the Plant Products Manager at JH Biotech, Inc., a U.S. based manufacturer of conventional and organic fertilisers and pest control products for the commercial agriculture, nursery and landscaping sectors. Donald has a Master's degree in agronomy with an emphasis in entomology. He is an agricultural scientist with over 10 years of agricultural research experience and over 50 publications to his credit in the areas of entomology, plant pathology and organics.

Biological control: Past, Present & the future

Biological control is no longer a theory, nor a concept that is new in the agricultural world; rather, it has become a widely accepted reality and practice. Biological control is bringing it back to basics and allowing the pests and diseases to be reduced and/or eliminated by their natural enemies, more simply, letting nature fight nature. Biological control should be used as a component of a holistic approach of an integrated pest management strategy.

Modern agriculture is an ecologically unbalanced system which invites disease outbreaks. Prevention of such outbreaks has traditionally been achieved through the use of chemical fungicides. However, consumers are becoming increasingly concerned about chemical pollution of the environment and pesticide residues on food, and farmers are more often being faced with pathogens resistant to available chemical fungicides. Furthermore, there is a need for efficient measures to combat soil-borne disease and inoculum build up. Therefore, both consumers and industry have turned to safer means of agriculture — biological control, using biological control agents (BCAs).

Replacement or reduction of chemical application has been achieved through the use of biofungicides, a concept included in the broad definition of biological control proposed by Cook and Baker (1983) – “Biological control is the reduction of the amount of inoculum or disease-producing activity of a pathogen accomplished by or through one or more organisms other than man.” This broad definition includes the use of less virulent variants of the pathogen, more resistant cultivars of the host, and microbial antagonists such as fungi and bacteria “that interfere with the survival or disease-producing activities of the pathogen”. The applications of such are becoming a norm in hydroponic production through the development of commercial products that are root competent and effective in being antagonistic or competitive to the pathogens that so significantly affect production systems worldwide.

It is unlikely that biological control will completely replace chemical pesticides in the near future, it is however expected that there will be some decline in chemical control, particularly in developed countries where the trend is already occurring to accommodate for the consumer and market demand in a push towards safer and organic agriculture for the good of the grower, consumer and the environment. Biological control is the future path of agriculture, for safety and long term sustainability.

Peter Dal Santo

AgAware Consulting Pty Ltd

The Strategic Agrichemical Review Process (SARP) conducted for the protected cropping vegetable industry assessed the importance of diseases and insects (plant pests) and their current management practices.

The SARP evaluated the availability and effectiveness of fungicides and insecticides to control the plant pests and determines any 'gaps' in the current pest control strategy.

In general, the information gathered from industry showed that pest management with pesticide was appropriate and according to current legal requirements. There were a few situations where pesticide selection did not provide the desired results with respect to control or market compliance. For these situations the SARP is working to identify alternative pest management strategies.

The SARP also identified high priority diseases and insects for which there are no current pesticide control options.

The selection of any new pesticides will have the benefit of:

- IPM compatibility, wherever possible
- Improved scope for resistance management
- Sound biological profile
- Residue and trade acceptance domestically and for export

The outcomes of the SARP will provide the protected cropping vegetable industry with sound pesticide options for the future that the industry can pursue for registration with the manufacturer, or minor-use permits with APVMA.

Leigh Pilkington

Leigh is a graduate of the University of Canberra and soon after joined the Agricultural Scientific Collections Unit, NSW Agriculture*, in 1997 as part of the fruit fly monitoring team. In 1998 he was offered a short-term position at The University of Sydney undertaking a survey of lucerne seed crops to assess the impact of Australian lucerne yellows (ALuY) phytoplasma disease.

Leigh spent 1999 travelling internationally taking part in volunteer conservation activities such as informal environmental impact statements in Thailand and Burma, mapping of clearing activities of Australian wattle in South Africa, monitoring of endangered loggerhead sea turtles in Greece and tracking condors with the United States Fish and Wildlife Service.

The Rural Industries Research and Development Corporation (RIRDC) in Australia approved a funded project for a PhD student to study ALuY, its epidemiology and its vector(s) with the aim of producing a management plan for the disease. Leigh was appointed to this position in February 2000 and completed his PhD at the University of Sydney, Orange under joint supervision of Geoff Gurr (University of Sydney) and Murray Fletcher (NSW Agriculture) and graduated in December 2003.

Leigh joined the Hoddle laboratory at the University of California, Riverside, in April 2004 and was involved in researching the developmental and reproductive biology of three *Gonatocerus* spp. that are associated with the biological control of *Homalodisca vitripennis*, an important pest in southern California and in many parts of the world such as Tahiti and Hawaii. He is continuing some of this work now with a project focusing on risk assessment and preparedness for the incursion of the insect pest or the disease it vectors.

Since joining the Department of Primary Industries in March, 2006, Leigh has been involved in the development of Integrated Pest Management (IPM) strategies for protected horticulture. His work involves the development and optimisation of biological control agents, reduced risk pesticides and good agricultural practices within these systems.

*NSW Department of Primary Industries was formed on 1 July 2004 through an amalgamation of NSW Agriculture, NSW Fisheries, State Forests of NSW and the NSW Department of Mineral Resources.

Good bugs, good practices, good sense.

Dr Leigh Pilkington, NSW Department of Primary Industries, will be showing some beneficial insects and mites like you've never seen them before. By taking a "bug's eye view" we can see how beneficial insects actually do their work and this will demystify some of the ideas behind biological control. Working towards biological control is not a one-step process and Leigh will also outline the techniques that will assist you towards your goal of biological control and getting the insects to do the work for you. All of the steps detailed will benefit your growing in many ways and many are low cost and will ultimately save you money in the long run. This topic will be relevant to a number of crops.

Stephen Goodwin

Biocontrol Solutions

The challenge for protected cropping in semiurban areas – new opportunities

In Australia at the moment there are two new projects that seek to provide for the future development of the greenhouse industry in Australia. They address issues of providing significant area for expansion, proximity to major produce markets, and importantly, overcoming current problems faced by greenhouse industries located near major urban centres. New greenhouse precincts are proposed, one in East Devonport, Tasmania and the other in Western Sydney. This presentation discusses the difficulties currently faced by greenhouse producers located in semiurban areas and details of the new greenhouse precinct projects involving public private partnerships. Particular emphasis will be placed on the attempt to establish a new greenhouse centre for Sydney Basin growers with close proximity to the Sydney Markets.

Frank Drum

NAB Agribusiness Economist

Frank Drum is National Australia Bank's specialist Agribusiness Economist, based in Melbourne, Australia, and responsible for NAB's agribusiness commodity analysis.

Prior to commencing with NAB in January 2008, Frank was an experienced commodity analyst for ABARE, focusing on Crops, Livestock and Food Industries.

Frank has been involved with Agribusiness from a young age, having grown up on a sheep-wheat property in the Southern Riverina district. He also holds an Honours degree in Agricultural Economics from the University of New England.



AHGA Conference 2009 – Detailed Program

Day 1 – Sunday 19 July 2009

| | |
|---------------|---|
| 1.00 – 5.00pm | Trade exhibition open to public & delegates |
| 1.00 – 6.00pm | Registration |
| 1.30 – 1.45pm | Official opening trade exhibition |
| 5.15 – 7.00pm | AHGA AGM, discussion on future directions of the industry |
| 7.00 – 8.00pm | Welcome cocktails |

Day 2 – Monday 20 July 2009

| | |
|-------------------|--|
| 5.00 – 8.30am | Bus visit to Flemington Market and market breakfast |
| 8.00 – 9.00am | Registration & trade exhibition open |
| 9.00 – 10.00am | Welcome, official opening, presentation of awards & scholarships |
| 10.00 – 10.40am | Keynote address <i>Future vision – expected impacts of climate change on intensive horticulture</i> Gerard McEvilly, E3international |
| 10.40 – 11.30am | Morning tea |
| 11.30am – 12.10pm | Concurrent Session 1 Choose one of the following sessions: <ul style="list-style-type: none">• <i>Improving yields and quality by managing plant vegetative/generative balance</i> Ben van Onna, PTC+, The Netherlands (also on Tuesday)• <i>Biochar as an hydroponic growing medium</i> Mike Nichols, Massey University, New Zealand• <i>Greenhouse technology and management – getting started</i> Geoff Connellan, University of Melbourne, Burnley (also on Tuesday)• <i>Bacterial canker management</i> Leanne Forsyth, NSW Department of Primary Industries (also on Tuesday) |
| 12.15 – 1.05pm | Concurrent Session 2 Choose one of the following sessions: <ul style="list-style-type: none">• <i>Alternative greenhouse crops</i> Mike Nichols, Massey University, New Zealand• <i>The challenge for protected cropping in semiurban areas – new opportunities</i> Stephen Goodwin, Biocontrol Solutions (also on Tuesday)• <i>Spots, wilts and rots – disease threats from overseas</i> Len Tesoriero, NSW Department of Primary Industries (also on Tuesday)• <i>Innovations in greenhouse construction</i> Henk van Tuyl, Kubo Greenhouse Projects, The Netherlands (also on Tuesday) |
| 1.05 – 2.30pm | Lunch |
| 2.30 – 3.10pm | Concurrent Session 3 Choose one of the following sessions: <ul style="list-style-type: none">• <i>Good hygiene cuts costs</i> Jeremy Badgery-Parker, NSW Department of Primary Industries (also on Tuesday)• <i>Up close and personal with common pests and how to manage them</i> Leigh Pilkington, NSW Department of Primary Industries (also on Tuesday)• <i>Developments in greenhouse cooling</i> Geoff Connellan, University of Melbourne, Burnley & Graeme Smith, Graeme Smith Consulting (also on Tuesday)• <i>Future availability and price of hydroponic fertilisers</i> Trevor Dennis, Haifa Australia |

| | |
|---------------|--|
| 3.15 – 3.55pm | <p>Concurrent Session 4 Choose one of the following sessions:</p> <ul style="list-style-type: none"> • <i>World economic trends - what should growers know?</i> Frank Drum, National Australia Bank • <i>The importance of measuring and managing actual plant temperature</i> Ben van Onna, PTC+, The Netherlands (also on Tuesday) • <i>Waste not, want now – delivering biocontrol agents on target</i> Marilyn Steiner, Biocontrol Solutions (also on Tuesday) • <i>Improving nutrient management through (a) using on-farm meters & (b) interpreting nutrient analysis (also on Tuesday)</i> Sophie Parks, NSW Department of Primary Industries & Rick Donnan, Growool Horticultural Systems |
| 3.55 – 4.30pm | Afternoon tea |
| 4.30 – 5.10pm | <p>Concurrent Session 5 Choose one of the following sessions:</p> <ul style="list-style-type: none"> • <i>Biological control – past and present</i> Donald Lester, JH Biotech, United States of America • <i>5 ways to grow your business</i> Marcus Kroek, Action Coach • <i>Managing leaf diseases in your crop</i> Kaye Ferguson, South Australian Research & Development Institute (also on Tuesday) • <i>All that jazz - fundamentals of managing hydroponic systems</i> Rick Donnan, Growool Horticultural Systems (also on Tuesday) |
| 5.10pm | Monday program finishes. Evening free. |

Day 3 – Tuesday 21st July 2009

| | |
|-----------------|---|
| 8.00 – 9.00am | Registration & trade exhibition open |
| 9.00 – 9.40am | <p>Concurrent workshops <i>Practical business opportunities and support</i> <i>Getting the best out of your technology</i> <i>Herb and spice workshop on industry matters</i></p> |
| 9.45 – 10.25am | <p>Concurrent workshops <i>Flowers – what's new?</i> <i>Lettuce and Asian greens</i> <i>Vine vegetables</i> <i>Herb and spice workshop on industry matters (continued)</i></p> |
| 10.25 – 11.10am | Morning tea |
| 11.10 – 12.10 | Major workshop – <i>Pesticide and food safety issues</i> |
| 12.15 – 12.55pm | <p>Concurrent Session 6 Choose one of the following sessions:</p> <ul style="list-style-type: none"> • <i>All that jazz - fundamentals of managing hydroponic systems</i> Rick Donnan, Growool Horticultural Systems • <i>Waste not, want now – delivering biocontrol agents on target</i> Marilyn Steiner, Biocontrol Solutions • <i>Bacterial canker management</i> Leanne Forsyth, NSW Department of Primary Industries • <i>Taking the plunge – two growers' experience of making a major hydroponic investment'</i> Robert Hayes Freshzest & Anne Wilson, Bellarine Hydroponics |
| 12.55 – 2.30pm | Lunch |

| | |
|---------------|---|
| 2.30 – 3.10pm | <p>Concurrent Session 7</p> <p>Choose one of the following sessions:</p> <ul style="list-style-type: none"> • <i>The challenge for protected cropping in semiurban areas – new opportunities</i> Stephen Goodwin, Biocontrol Solutions • <i>Good hygiene cuts costs</i> Jeremy Badgery-Parker, NSW Department of Primary Industries • <i>Improving nutrient management through (a) using on-farm meters & (b) interpreting nutrient analysis</i> Sophie Parks, NSW Dept of Primary Industries & Rick Donnan, Growool Horticultural Systems • <i>Greenhouse technology and management – getting started</i> Geoff Connellan, University of Melbourne, Burnley |
| 3.15 – 3.55pm | <p>Concurrent Session 8</p> <p>Choose one of the following sessions:</p> <ul style="list-style-type: none"> • <i>Innovations in greenhouse construction</i> Henk van Tuyl, Kubo Greenhouse Projects, The Netherlands • <i>Managing leaf diseases in your crop</i> Kaye Ferguson, South Australian Research & Development Institute • <i>The importance of measuring and managing actual plant temperature</i> Ben van Onna, PTC+, The Netherlands • <i>Up close and personal with common pests and how to manage them</i> Leigh Pilkington, NSW Department of Primary Industries |
| 3.55 – 4.30pm | Afternoon Tea |
| 4.30 – 5.10pm | <p>Concurrent Session 9</p> <p>Choose one of the following sessions:</p> <ul style="list-style-type: none"> • <i>Spots, wilts and rots – disease threats from overseas</i> Len Tesoriero, NSW Department of Primary Industries • <i>Developments in greenhouse cooling</i> Geoff Connellan, University of Melbourne, Burnley & Graeme Smith, Graeme Smith Consulting • <i>Crunch time - how greenhouse technology and climate affects cucumbers</i> Sophie Parks & Jenny Ekman, NSW Department of Primary Industries • <i>Improving yields and quality by managing plant vegetative/generative balance</i> Ben van Onna, PTC+, The Netherlands |
| 5.10pm | Tuesday program finishes |
| 7.00 – 7.30pm | Pre-dinner drinks |
| 7.30pm | Conference banquet dinner |

Day 4 – Wednesday 22nd July 2009

Farm visits (optional extra)

| | |
|----------------|--|
| 8.15am | Buses depart Novotel Hotel, Homebush |
| 9.45 – 11.15am | <p>Morning tea and inspect Elizabeth Macarthur Agricultural Institute</p> <p><i>Highlights:</i></p> <p>Research comparing biological control agents on diseases in a leafy hydroponic crop. EC management of Asian vegetables and demonstration of on-farm nutrient meters. Tour of Plant Health Diagnostic Laboratory and talk.</p> |
| 12.00 – 1.00pm | <p>Visit cut flower farm</p> <p><i>Highlights:</i></p> <p>View greenhouse production areas and automated packing shed.</p> |
| 1.15 – 2.45pm | <p>Lunch and visit tomato farm.</p> <p><i>Highlights:</i></p> <p>View greenhouse tomato production technology. Technical presentation on managing bacterial canker Lebanese feast</p> |
| 4.00pm | Buses arrive at Homebush or Sydney Airport |

Registration, Fees & Entitlements

All delegates must register individually for the conference.

Full registrations received before 1 July 2009

| | |
|---------------------------------------|-------|
| Full Registration - Early Member | \$600 |
| Full Registration - Early Non- Member | \$700 |

Full registrations received after 1 July 2009

| | |
|--|-------|
| Full Registration - Standard Member | \$700 |
| Full Registration - Standard Non- Member | \$800 |

Other registrations

| | |
|--|-------|
| Day Registration | \$400 |
| Student | \$400 |
| Grower – Additional (from the same small farm) | \$450 |

Payments

All payments must be received within 14 days of registering. Accounts not paid before the conference will incur a \$50 processing fee. All accommodation accounts must be settled on checkout.

Registration Entitlements

The full registration fee includes:

- All Conference sessions
- Welcome Reception
- Conference Dinner
- Morning tea
- Lunch
- Afternoon tea
- Satchel

The day registration fee includes:

- Conference sessions on one day
- Morning tea on one day
- Lunch on one day
- Afternoon tea on one day
- Satchel

The farm tour is an additional event and is not included in the registration fee.

Tax Invoice and GST

A tax invoice will be emailed once your registration has been confirmed. All prices are quoted in Australian Dollars (AUD\$) and include GST.

Cancellation Policy

Cancellations notified in writing by 01 July 2009 will be eligible for a refund less \$150. Cancellations notified after this date will not be eligible for a refund but another person may attend the Conference.

Payment Options

All payments must be received prior to the conference.

1. Credit Card Payments

Conference Design accepts Visa, MasterCard, American Express and Diners. Credit card payments will appear as 'Conference Design Pty Ltd' on your statement.

2. Cheque Payments

Please send your cheque made payable to Conference Design (AHGA09) with a completed registration form or invoice number.

3. EFT Payments

Please send your Electronic Funds Transfer to the account below and fax or email remittance advice when the payment has been made.

| | |
|----------------------|--------------------------------------|
| BSB: | 017 324 |
| Account #: | 1085 82575 |
| Account Name: | Conference Design Conference Account |
| Bank: | ANZ, Sandy Bay Branch |
| Swift Code: | ANZBAU3M |



Social Functions

Welcome Reception

When: Sunday 19 July 2009
Where: Sydney Showgrounds
Time: 7pm – 8pm
Cost: Inclusive for full delegates
Additional tickets: \$50
Dress: Smart casual

Welcome to Sydney! Join us for a drink and casual get-together. The Welcome Reception is an ideal opportunity to catch up with your interstate colleagues and exhibitors, and is a great time to meet delegates who are attending the AHGA conference for the first time.

Conference Banquet Dinner

When: Tuesday 21 July 2009
Where: Sydney Showgrounds
Time: 7pm – 11.30pm
Cost: Inclusive for full delegates
Additional tickets: \$95
Dress: Smart casual

The Conference Dinner will be another night of great food, wine and entertainment. Help us celebrate the 2009 AHGA Conference with a wonderful evening at the Sydney Showground's Southee Complex.

Sydney Market Tour and Breakfast

When: Monday 20 July 2009
Cost: \$20

Sydney Basin Farm Tour and Luncheon

When: Wednesday 22 July 2009
Tickets: \$55

General Information

Weather

In July Sydney has a mean maximum temperature of 17°C and a mean minimum temperature of 7°C. Sydney boasts an average 342 days of sunshine a year; the average rainfall is 1216mm, heaviest between February and July.

Dress

Dress throughout the Conference is neat casual. Dress for each function is indicated in the function description.

Privacy and Delegate List

Conference Design Pty Ltd will gather and record personal information necessary for your attendance at the Conference. Personal information will be gathered, stored and disseminated in accordance with the National Privacy Principles.

Delegate List

A delegate list with name, organisation, suburb, state, country and email address will be supplied to all Conference attendees including exhibitors and sponsors. Please email Conference Design if you do not wish to have your details included on the delegate list.

Photocopying at the Conference

There are no photocopying facilities at the Conference venue, so please ensure you bring a sufficient number of any handouts.

Smoking

The Conference and social functions are non-smoking.

Name Badges

Name badges will be issued when registering at the conference. For security purposes the Conference name badge must be worn at all times during the conference and social functions.

Parking

Casual parking is available for \$4 per hour or \$20 per day maximum please bring change for coin operated machines.

Baby Sitting

Please contact your chosen hotel to arrange a baby-sitting service. If you have any queries please contact Conference Design.

Accommodation Accounts

All accommodation accounts must be settled on check-out. The Organising Committee and Conference Design will not be responsible for accommodation accounts.

Accommodation

Rooms have been reserved for delegates at the following hotels and can be booked when registering. All rates are per room, per night and do not include breakfast unless otherwise specified. If you have any questions or require alternative arrangements please email Conference Design.

Accommodation Payments

Bookings will be confirmed on receipt of a credit card guarantee or a pre-payment. You need to pay any incidental expenses incurred during your stay (for example, mini bar, telephone or dry cleaning) when checking out.

Accommodation Cancellation

Cancellations must be advised in writing to Conference Design at least 7 days prior to your arrival. Cancellations received within 7 days of arrival or 'no-shows' will attract a penalty of at least one night's accommodation.

Credit Card Guarantee

Your credit card details will be forwarded to the hotel to secure your reservation. No amount is deducted from the credit card until you check out of the hotel.

Accommodation Pre-Payment

You may pre-pay one room night or the total room cost. Please indicate how much you wish to pre-pay on the Registration Form.

Accounts

All accommodation accounts must be settled on checkout. If you wish to receive an invoice you must organise this directly with your hotel before you arrive. Contact details for your nominated hotel will be supplied with your confirmation.

Hotels & Rates

All the following hotels are in the heart of the Sydney Olympic Park precinct, surrounded by 640 hectares of parklands with over 20 kilometres of walking tracks. Relax at the Sydney Olympic Park Aquatic Centre pool and gym, unwind at the Golf Centre's driving range or putt-putt course, book a court at the Sydney International Tennis Centre, try the Monster Skate Park, hire a bike to explore the parklands, try archery or trapeze, or relive your favourite sporting memories with an ANZ Stadium tour.

Pullman Hotel at Sydney Olympic Park ★★★★★

\$275 Superior room

The Pullman Hotel is eco-friendly with solar hot water and power-saving devices throughout the hotel. It offers restaurant, wine bar, fitness centre, broadband internet access, business centre. All rooms include an I-Pod docking station. Full breakfast buffet is available at \$35 and parking is \$35 per day. Non-smoking hotel.

Novotel Sydney Olympic Park ★★★★★☆

\$215 Standard room (Queen & Sofa or 2 x Doubles)

The Novotel offers bars and restaurants, wireless/broadband internet access and in-house movies. Full breakfast buffet is available at \$25 and parking at \$25 per day. Smoking rooms are available.

Ibis Hotel Sydney Olympic Park ★★★★★☆

\$149 Guest room (Queen or King Single)

The Ibis is recently refurbished and has internet access, blackout shutters, in-house movies. It is part of the Novotel & Ibis complex. A full buffet breakfast is available at \$25. Smoking rooms available.

Formule 1 ★★★

\$119 King Zip

The Formule 1 is a budget hotel. There is internet access available, television and radio, laundrette and vending machines. A continental breakfast is available for \$7 and there is limited parking at cost. This is a non-smoking hotel.



2009 NATIONAL CONFERENCE OF THE AUSTRALIAN HYDROPONICS & GREENHOUSE INDUSTRY

Sunday 19 –Wednesday 22 July 2009,
Sydney Showground, Sydney Olympic Park

Tax Invoice
Conference Design
ABN 72 050 482 507
All prices include GST

Registration Form

Personal Information

Title: Mr Mrs Ms Miss Prof. A/Prof.

Given Name: _____

Family Name: _____

Organisation: _____

Position: _____

Address: _____

Suburb/Town: State: _____

Postcode: _____

Country: _____

Telephone (w): _____

Facsimile: _____

Mobile: _____

Email: _____

Name Badges

Delegate: _____

Partner: _____

Special Requirements

Please advise specific dietary or medical requirements:

Conference Registration

All delegates must register individually for the conference.

Full registrations received before 1 July 2009

Full Registration - Early Member \$600

Full Registration - Early Non-Member \$700

Full registrations received after 1 July 2009

Full Registration - Standard Member \$700

Full Registration - Standard Non-Member \$800

Other registrations

Day Registration \$400

Student \$400

Grower- Additional (from the same small farm) \$450

Social Functions

The following Social Functions are inclusive for full registrations.

Welcome Reception

Sunday 19 July 2009

Inclusive for full registrations

Additional tickets \$50 X _____ \$ _____

Sydney Market Tour and Breakfast

Monday 20 July 2009

Tickets – tour \$20 X _____ \$ _____

Conference Banquet Dinner

Tuesday 21 July 2009

Inclusive for full registrations

Additional Tickets \$95 X _____ \$ _____

Sydney Basin Farm Tour and Luncheon

Wednesday 22 July 2009

Tickets – tour and lunch \$55 X _____ \$ _____

Accommodation

Only complete this section if you require a booking made on your behalf. Indicate in order of preference (1, 2, 3).

Valid credit card details must be forwarded to guarantee your reservation, otherwise a deposit equal to one night's accommodation must be sent with your Conference Registration Form.

All accommodation accounts must be settled on checkout.

Hotels & Rates

Please refer to the Conference Website for full accommodation descriptions.

Pullman Hotel at Sydney Olympic Park ★★★★★

\$275 Superior room

Novotel Sydney Olympic Park ★★★★★☆

\$215 Standard room (Queen & Sofa or 2 x Doubles)

Ibis Hotel Sydney Olympic Park ★★★☆

\$149 Guest room (Queen or King Single)

Formule 1 ★★★

\$119 King Zip

Booking Details

Check-in Date _____

Check-out Date _____

Sharing with _____

Request Smoking Non-smoking

Accommodation Credit Card Guarantee

Use the following card to guarantee my booking:

Card Number: _____

Card Holder: _____

Expiry Date: _____

Signature: _____

Accommodation Pre-Payment:

Debit my card for \$ _____

Invoice me for \$ _____

Accommodation Cancellation

Cancellations must be advised in writing to Conference Design at least 7 days prior to your arrival. Cancellations received within 7 days of arrival or 'no-shows' will attract a penalty of at least one night's accommodation

Payment Policy

All payments must be received within 14 days of registering. Accounts not paid before the conference will incur a \$50 processing fee. All accommodation accounts must be settled on checkout.

Payment Summary

| | |
|---------------------------|-----------------|
| Registration | \$ _____ |
| Functions | \$ _____ |
| Accommodation pre-payment | \$ _____ |
| TOTAL | \$ _____ |

Payment Options

Credit Card Payment

Visa Diners Amex MasterCard

Card No: _____

Name: _____

Expiry: _____

Signature: _____

Amount: _____

Cheque Payment

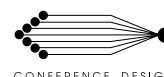
Please forward your cheque made payable to Conference Design with the completed registration form.

EFT

BSB: 017 324
Account No.: 1085 82575
Account Name: Conference Design Conference Account
Bank: ANZ, Sandy Bay Branch
Swift Code: ANZBAU3M

Conference Secretariat

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228 Liverpool Street
Hobart 7000
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F: 03 6231 1522
E: info@cdesign.com.au



CONFERENCE DESIGN