



GRAEME SMITH CONSULTING (CPAg)

Hydroponic Consultancy Services

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Curriculum Vitae

Education

- 1970 - Leaving Certificate (Electrical), Hamilton Technical School
- 1974 – Telecommunication Technician Certificate, PMG Department Melbourne
- 1997 – Community Support Facilitator & Community Development, CFA Craigieburn
- 2005 – Certified Practising Agriculturist (CPAg), Australian Institute Agricultural Science & Technology



Industry Qualifications

- Agribusiness Quality Assurance
- OH&S Assessment & Training
- Workplace Assessor
- Workplace Trainer
- Integrated Pest Management Training & Assessment
- Certified Practising Agriculturist (CPAg)
- Risk Management Assessor
- Conflict Resolution
- Emergency Management Plan Developer & Assessor
- Accredited Member of the Australian Institute of Agricultural Science and Technology
- Accredited Member of the Australian Association of Agricultural Consultants
- Principal Telecommunications Technical Officer
- Mediation & Facilitation Practitioner
- Community Development

Industry Experience

- 1988 – 1997 Managed family greenhouse tomato enterprise (Woodend Hydroponics)
- 1995 – 1999 Secretary 'Hydroponic Farmers Federation' www.hff.org.au
- 1995 – 2005 Director of Hydroponic Designs P/L
- 1997 – 1999 Committee Member 'Australian Hydroponic & Greenhouse Association' www.ahga.org.au
- 1997 – 2000 Community Support Facilitator for Country Fire Authority
- 1999 – 2010 Committee Member 'Hydroponic Farmers Federation' (ex officio)
- 1998 – 2010 Managing Director 'Graeme Smith Consulting'
- 1998 – 2010 Crop advisory & agronomy services to greenhouse & hydroponic growers of tomatoes, cucumbers, egg plants, capsicum, strawberry, herbs, lettuce, asian greens, figs, gerbera, roses, carnations, etc
- 1999 – 2010 President 'Australian Hydroponic & Greenhouse Association'
- 2003 – 2010 Leader of annual greenhouse study tours to Holland, Belgium or Canada, Nth America & Mexico
- 2003 – 2010 Developed and delivered short-course training in 'Commercial Hydroponic Crop Production'
- 2005 – 2010 Chairman of 'Protected Cropping Working & Advisory Group' for Horticulture Australia Ltd (HAL) & AusVeg inc
- 2005 – 2010 Chairman of ISHS Soilless Culture Symposia Sessions in Singapore (ICESC2005 & 2010)
- 2007 – 2010 Developed and wrote full greenhouse industry training package (inc 63 units of competency) in 'Production Horticulture – Controlled Environment Horticulture' for Certificate II (horticultural worker), to Certificate VI (advanced diploma)
- 2007 – 2010 Developed 'climate & financial study' packages for clients to assess business viability with ROI & EBIT studies. (also investment attraction and marketing package)
- 2007 – 2010 Developed 'due diligence' studies into new and expanding industry projects through professional development of 'independent experts reports' to ensure projects can confidently meet projected production targets.
- 2009 – 2010 Chaired National Forum on 'Pesticide Residues in Hydroponics' for HAL Ltd & AusVeg inc.
- 2009 – 2010 National project leader of series of growers workshops to deliver skills to convert from open (free-drainage) systems to closed (full recycling) systems.

System Design & Project Management

Graeme Smith Consulting has (with Hydroponic Designs P/L), delivered over 40 protected cropping projects around Australia since 1995. These projects have largely delivered modern greenhouse food production systems ranging from 400m² to 50,000m² (5ha) in poly tunnels thru to modern glasshouses. Most food production projects involved full ROI & EBIT studies, system design, costings, project management, commissioning and ongoing crop advisory services.

Graeme Smith Consulting appreciates that project viability is keenly dependent on the ability to deliver on-time, on-budget and to agreed technical specifications, and to also offer ongoing crop support where required. Successful System Design demands an intimate knowledge of greenhouse plant physiology and environmental management and the available technologies and strategies to achieve this. A sound technical knowledge is required in the areas of greenhouse/glasshouse, growing systems, growing media's, irrigation, fertigation, climate management, energy management, crop selection and growing techniques, harvesting, grading and chain management, staff training and management, internal transport and automation systems, etc.

Some projects included are:

1. Full 5ha turnkey project for the Moraitis Group in Victoria (inc glasshouse, seedling nursery, staff facilities, technology areas, office, toilets, grading and packaging areas, etc)
2. Independent expert reports for the Costa Group to increase truss-tomato glasshouse facility in New South Wales (from 5ha to 10 ha, then to 20ha)
3. Initial system design for the Waite Institute for the 'National Plant Phenomics Facility in Adelaide
4. Investment Attraction package for the Tasmanian Department of Economic Development to promote protected cropping opportunities in the states North Coast region with the advent of natural gas to the area.
5. System Design & Project Management for New Life Industries Ltd in Tasmania for a modern 3ha capsicum glasshouse production facility
6. System Design for a 2ha modern glasshouse facility for Holla-Fresh P/L in South Australia to produce premium herbs in a moving-gulley automation system
7. System Design for a 1ha glasshouse facility for strawberry production in hanging gutters in Western Australia
8. Climate & Financial studies for a range of international locations (inc SALT Jordan, Hong Kong, Balito South Africa and Las Vegas Nevada)
9. System Design & Project Management for Biological Services in South Australia for a greenhouse beneficial insect breeding facility.
10. System Design, Climate & Financial Study for proposed 'National Training Centre for Controlled Environment Horticulture', a national industry training facility to deliver training services to all greenhouse growers in Australia, New Zealand, Singapore, Malaysia, Indonesia and other pacific rim countries.

Published Works (1995 – 2010)

- Location, Siting & Layout of Greenhouse Systems
- Greenhouse Structures & Environmental Management
- Water Quality, EC & pH
- Basic Hydroponic Systems & Components
- Crop Varieties, Media Types & Characteristics
- Plant Structure, Nutrition & Nutrient Management
- Common Greenhouse Pests & Diseases & IPM
- Quality Assurance, OH&S, I.T. & Production Plan
- Light, a plants eye view
- Irrigation, Media's manager
- Crop Registration, professional approach to growing
- Plant Management, physical and cultural requirements
- Recirculation, how to convert to a closed system
- CO2 enrichment of greenhouses
- Practical EC & pH Measurements in Crops
- Implement a Hydroponic Maintenance Program
- Implement a Plant Establishment Program
- Implement a Pest & Disease Control Program for Hydroponic Systems
- Implement an IPM Program
- New Greenhouse Investment & Technology Considerations
- Implement a Plant Monitoring Program
- Introduction to Plant Physiology, Monitoring and Management
- Nutrient Uptake Influences
- Seedling Propagation Management
- Acid & Chlorine Sterilisation Worksheet
- Dripper timing Calculations
- Environmental Settings: Summer & Winter Plantings
- Field versus Glasshouse Tomatoes
- Greenhouse Management Program for Closed Systems
- Rootstock Power & Options
- Greenhouse Climate Management Influence examples
- Greenhouse Cooling – Negative Pressure Effect
- Greenhouse Environment Management
- Identifying Plant & Fruit Problems
- Influence of Greenhouse Temperature
- Initial Crop Targets
- Maximising Greenhouse Efficiency & Energy Conservation
- Nutrient Deficiency Chart
- Plant Photosynthesis & Temperature Relationships
- Plant Transpiration Principles
- Plant Vigour & Balance Chart
- Rockwool Water-Content Steering
- Summer Vegetative Treatments for Greenhouse Tomatoes
- Spray System for Greenhouse Crops
- Treatment Spray Chart for Greenhouse Crops
- Typical Nutrient Feed Solutions for Greenhouse Vegetables
- Understanding Irrigation in Protected Cropping & Soilless Culture
- Greenhouse Ventilator & Heating Set-points
- Water Content Monitoring – Overfeeding in Period 2
- Managing Plant Balance
- Potential for New Biospheric Greenhouse Industry in Victoria
- The Case for Devonport
- AHGA Bumblebee Application – Executive Summary
- Where is the Best Place to Grow Greenhouse Crops in Australia?
- Overview of the Australian Protected Cropping Industry
- Radiation Transmission Thru Greenhouse Claddings

Industry Awards

- Winner 2006 – Most Outstanding Contribution to the State Industry (HFF biennial conference)
- Winner 2007 – Most Outstanding Contribution to the National Industry (national AHGA biennial Conference)
- Final 3 2008 – Industry Award (AusVeg Annual Conference)
- Final 3 2009 – Industry Award (AusVeg Annual Conference)

Industry Association Memberships

- President – Australian Hydroponic & Greenhouse Association (AHGA)
- Chairman – Protected Cropping Working & Advisory Group (HAL & AusVeg)
- Ex officio – Hydroponic Farmers Federation (HFF)
- Member – International Society Horticultural Science (ISHS)
- Member – ISHS Commission for Substrates & Soilless Culture
- Member – ISHS Commission for Protected Cultivation
- Member – Australian Association Agricultural Consultants (AAAC)
- Member – Australian Institute Agricultural Science & Technology (AIAST)

Referees

- Rick Donnan (Growool Horticultural Systems) – 0403 971 769, rickdonnan@westnet.com.au
(past president 'International Society for Soilless Culture' and AHGA)