Applied Horticultural Research
Capability and Track Record
AHR strengths

Applied Horticultural Research is a multi-disciplinary team of skilled research and communication professionals.

Our research, communications and training supports innovation and sustainability in the horticultural supply chain — from farm to consumer. We work closely with growers, processors and support organisations in Australia and overseas to deliver better products to consumers and returns to growers.

AHR has strong skills in science-based product and systems development, balanced with effective communication skills. The result has been a solid track record of helping growers to meet consumer demands and increase their profits. We manage or lead a large number of horticultural research projects that are strongly focused on vegetable crop production systems. AHR works with other major organisations in the horticultural field.

Organisation capability of AHR

AHR excels in delivering research outcomes to the Australian rural industry and communicating effectively with growers about how to improve the sustainability and profitability of their businesses.

Over the past 20 years, AHR has managed more than 80 major research projects with a value of more than $30 million. Many of these have been Horticulture Innovation Australia (formerly HAL)-funded research projects for the Australian horticulture industry, the Australian Government Department of Agriculture (DAFF), Australian Centre for International Agricultural Research (ACIAR) and private research and consulting.

Please refer to the AHR website www.ahr.com.au for more information about our projects.

AHR office and laboratories are located at 1 Central Ave Eveleigh, NSW 2015.

The company currently has staff members based in Sydney, Cowra and Melbourne. We also have a network of consultants who work for AHR on a contract basis as required.
AHR capabilities:

Research and development
- Field and laboratory based crop research
- Consumer research

Project development and management in Australia and overseas

Rural development and communications
- Video production
- Technical and consumer-oriented copy writing
- Field days and workshops
- Best practice guides

Training
- Master classes
- Webinars
- Tailored training programs

Scientific writing, research papers and reports

Technical specialties

Agronomy
- Vegetable crop production
- Crop physiology
- Sustainable agricultural systems
- Product improvements

Soil health and crop nutrition
- Reduced tillage cropping systems
- Cover crops
- Nutrition research

Irrigation and water management

Postharvest physiology
- Bringing healthier, more appealing products to consumers

Climate change and variability
- Managing power and water for greater profitability and sustainability

Pest and disease management
- Pest and disease guides
- Training
- Research
- Consumer research

Websites
www.ahr.com.au
www.soilwealth.com.au
www.vegetableclimate.com.au
AHR Staff

**Professor Gordon Rogers (AHR Managing director)**

**Role and experience:** Prof Gordon Rogers is Managing director of Applied Horticultural Research and Adjunct Professor of Horticulture at the University of Sydney. Dr Rogers has 30 years’ experience in research, development and extension in Australia and internationally, with expertise in soil health, sustainable production systems, protected cropping, greenhouse gas emissions and climate change physiology, phytonutrients in vegetable and fruit crops, and food production systems in developing countries.

Dr Rogers has managed or led more than 80 major research projects with a total value of more than $30 million. Many of these have been Horticulture Innovation Australia (formerly HAL)-funded research projects for the Australian horticulture industry, but also Australian DAFF, ACIAR and Australian Research Council projects.

Dr Rogers has a PhD in Climate Change Physiology. He was co-convener of the international symposium on Horticulture in Developing Countries & World Food Production at the 29th International Horticultural Congress, Brisbane, August 2014 and has two International Society for Horticultural Science (ISHS) Medals.

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**Dr Jenny Ekman**

**Role and Experience:** Postharvest specialist, food safety and science writer. Dr Ekman has more than 15 years’ horticultural research experience in Australia, USA and the Philippines. She has led research projects on food safety, fruit-fly management, broccoli, chestnuts and vegetables, and developed a definitive postharvest manual and app for the Australian vegetable industry. Jenny has also worked extensively in fruit physiology, completing projects funded by a range of agencies. Dr Ekman has excellent writing and communication skills and is an effective translator of scientific language into information readily understood and used by growers.

**E:** jenny.ekman@ahr.com.au  **P:** 02 8627 1040  **M:** 0407 384 285
Dr Kelvin Montagu

**Role and Experience:** *Soil scientist and research manager.* Dr Montagu has a PhD in Soil–Plant Interface. He managed the CRC for Irrigation and has worked closely with the Climate Change Research Strategy for Primary Industries (CCRSPI) where he developed climate-change policy for various industries. He co-led a review of climate change for the vegetable industry, and earlier in his career worked for NSW State Forests as a key member of the National Greenhouse Strategy team. Dr Montagu manages cover crop and technology projects for AHR and is closely involved in the Soil Wealth extension project.

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Marc Hinderager

**Role and Experience:** *Agronomist.* Mr Hinderager is based in Cowra, in the Central West region of NSW. He has 20-plus years of experience in potato crops in Iowa (US), and more recently, with vegetable and grains crops in NSW. Mr Hinderager was an agronomist with Elders for five years before joining the AHR team to work on Soil Wealth and Integrated Crop Protection – extension and research.

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Adam Goldwater

**Role and Experience:** *Horticulturist.* Mr Goldwater is a research horticulturist with a commercial background in postharvest and agronomy, and enjoys applying research to improve commercial practices. He has a B.App.Sc. (Hons) from University of New Zealand – Massey and an MSc in Environmental Science. He worked in the New Zealand kiwifruit industry after which he moved to Sydney and spent time in the fresh-produce industry, running a fruit ripening program for avocados, kiwifruit and mangoes. Mr Goldwater works on projects including Avocado quality, food safety, agronomy and postharvest.

E: [adam.goldwater@ahr.com.au](mailto:adam.goldwater@ahr.com.au) P: 02 8627 1040 M: 0466 080 693

Liam Southam-Rogers

**Role and Experience:** *Environmental scientist and economist.* Mr Southam-Rogers is a recent graduate from Wollongong University with degrees in Environmental Science and Commerce. He works on technology, mushroom and environmental projects, and has expertise in energy use efficiency as well as finance and economics.

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Dr Pieter Van Nieuwenhuyse

**Role and experience:** A passionate, driven agronomist (PhD), with entrepreneurial acumen and 10 years’ agri/horticultural work experience. Involved in Research, Development & Extension (RD&E). Pieter brings commercial relevance combined with scientific knowledge to influence the supply chain. He also has strong people management skills and ability to build/maintain long-lasting professional relationships.

Dr Van Nieuwenhuyse’s interests include: agriculture/horticulture (vegetables, fruit, oilseed, herbs), agronomy, crop protection (IPM), plant nutrition, end-to-end value chain (from paddock to plate), production/processing/logistics.

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Henry Hyde

**Role and Experience:** Mr Hyde is a recent graduate of The University of Melbourne with a Master’s degree in Agricultural Science. He is currently involved in projects related to the remote monitoring of horticulture in vulnerable coastal ecosystems and improving the sustainability of mushroom production. He is skilled in communication and scientific writing. His interests lie in remote sensing, precision agriculture and supply chain improvement.

E: henry.hyde@ahr.com.au  P: 02 8627 1040  M: 0431306877

Tim Kimpton

**Role and Experience:** Tim works on crop protection, general agronomy in horticulture and agriculture. Recent projects Tim has worked on including: Avocado quality monitoring, nutrient benchmarking of Vic strawberries; monitoring greenhouse gas emissions in processing tomatoes; developing a broad based agronomy package for cultivating high anthocyanin (purple) carrots in Australia; data review on best practice management of lettuce anthracnose; and processing tomato variety evaluations.

E: phytogen@internode.on.net  M: 424 000 562
Ms Kim Saville

Role and experience: Communications specialist: Kim Saville is a communications specialist who helps AHR effectively communicate results to industry. Kim has extensive experience in business communications and support. Kim has excellent writing, communication and interpersonal skills. She played a major role in melding the 10 regional IDOs groups to function as part of a common group in VegNET phase one.

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Ms Sharron Olivier

Role and experience: Video producer and copywriter – production of communication materials. Ms Olivier is an experienced journalist, editor, copywriter and video producer/director/script writer. She has more than 20 years’ experience in making corporate and instructional videos and films. She has powerful and effective writing and editing skills and the ability to unravel complex information and put it into an audio-visual format. She has a strong background in agribusiness communications and was print media team leader and video producer at Anvil Media (an award-winning rural and primary industry communications and marketing specialist) before joining AHR.

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Sandra Marques

Role and Experience: Administration. Sandra is based in the Sydney office and handles accounts and administration for the business. Previously Sandra has undertaken similar roles for small and large business in Sydney.

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Lynn Christie

Role and Experience: Administration. Ms Christie is the AHR business manager. She has managed the business and administration for AHR for the past 15 years.

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Clients

- Horticulture Innovation Australia
- The University of Sydney
- RMCG
- Stoller Australia
- Premier Fruits Group
- Australian Government
  - Australian Centre for International Agricultural Research
- NSW Department of Primary Industries
- Bayer
- Australian Government
  - Department of Agriculture, Fisheries and Forestry
- National Landcare Programme
- driedfruits australia
Current/Recent Research Projects

**Agronomy / Soil management**
- MU16004 Marsh Lawson Research Centre (Joint with USYD)
- VG15062 Review of anhydrous ammonia for vegetable production
- VG15010 Soil borne disease management
- VG15010 Soil Condition Management – Extension and Capacity Building
- INNOV-2001 Demonstrating the benefits of no-till permanent bed vegetable production
- VG13075 Low-cost protected cropping assessment for the vegetable industry
- VG13076 Soil Wealth – Soil condition extension
- BS12010 Determine optimum nitrogen and potassium requirement to maximise yield and quality of day-neutral Victorian strawberries
- VG12017 Controlling multiple heading and transplant shock in lettuce
- VG12115 Integrating sustainable soil health practices into a commercial vegetable farming operation

**Pest and disease**
- VG17012 Capsicum internal rot
- VG15064 Brown Etch disease on pumpkins
- VG13078 Integrated Crop protection extension
- VG13042 Fruit fly field research
- VG12108 Improving the management of insect contaminants in processed leafy vegetables (HAL)

**Postharvest / Food safety / Health and nutrition**
- AV19003 Avocado quality monitoring
- VG16042 Vegetable pathogen persistence
- MU16005 Mushroom Food Safety
- VG14062 Improving retail freshness of broccoli
- DG15001 Colour assessment of dried grapes
- VG13076 A revolutionary new sensor for in-field measurements of food safety in leafy vegetables
- VG13083 Postharvest extension for the vegetable industry
- CH13005 Improved postharvest management of chestnuts

**Environmental**
- NSW EPA Recycled organics in vegetable cropping: This project is evaluating composted green waste (recycled organics) for use as a soil conditioner for the Australian vegetable industry
- Reducing nitrous oxide emissions in key perennial tree crop industries
- Horticulture: Taking action to capture carbon and reduce nitrous oxide emissions AOTGR1-956565-129
- MT12047 Impact of improved inter-row management on productivity, soils and greenhouse gas emissions in apple and cherry orchards
- TM12001 The impact of subsurface trickle irrigation and improved soil management on the greenhouse gas emissions from Australian processing tomato crops
Communications / Education

- VG15049 Coordination of National Vegetable Extension Network
- VG15028 VegPRO Vegetable education project
- SF15003 Produce Stone Fruit Australia magazine (HIA)

International

- Improving income and nutrition in Eastern and Southern Africa by enhancing vegetable-based farming and food systems in peri-urban corridors (ACIAR)
- Improved postharvest management of fruit and vegetables in the Philippines and Australia (ACIAR)
- Integrated Crop Management (ICM) to enhance vegetable profitability and food security in the Southern Philippines and Australia (HORT 2012/020) (ACIAR)
- Improved market engagement for counter-seasonal vegetables producers in North-West Vietnam (ACIAR)

Completed research projects

Agronomy / Soil management

- VG13050 Using vegetable waste to produce fish food
- AP08004 Managing the risk of flesh browning for Cripps Pink apples using a climate model
- VG12046 Identifying new products, uses and markets for Australian vegetables: A desktop study.
- VG11034 Benchmarking uptake of soil health practices.
- Development of a crop-scheduling program for babyleaf spinach in the major growing regions of Australia
- Development of a crop-scheduling program for Cos and Iceberg lettuce in the Major Growing Regions of Australia
- Optimising agronomic and postharvest requirements for a new pomegranate juice industry in Australia
- Agronomic program to improve the uniformity of broccoli for once-over mechanical harvest
- Development of an Integrated Production System for honeydew melons, rockmelons, seedless watermelons and personal melons
- Evaluation of new processing tomato cultivars
- Best practice manual and training for the Australian lettuce industry
- Development of optimal agronomy and postharvest handling for Australian baby leaf salad vegetables (HAL and OneHarvest)
- TM006 valuation of new processing tomato cultivars.
- TM005 Evaluation of new processing tomato cultivars.
- VX02026 Improving agronomic management for seedless watermelons.
- VG03092 Agronomic and postharvest improvement in Iceberg and Cos lettuce to extend shelf-life for fresh-cut salads.
- VX00019 Development of a crop-management program to improve the sugar content and quality of rockmelons.
- VX01033 Establishment of sustainable minimum tillage techniques with Australian vegetable growers.
• Proposal to evaluate the effects of “5th Element” organic liquid fertiliser on yield and nutrient levels in plants, produce and soil
• A novel irrigation strategy for manipulating grapevine physiology to economise on water use in the production of high-quality grapevines. Australian Research Council
• Development of a sustainable integrated permanent bed system for vegetable crop production

Pest and disease
• VG13040 Qld fruit fly GAP analysis
• SAR in rhubarb
• SAR and powdery mildew in cucurbits
• Review weed control in citrus

Market and consumer research
• VG12084 Enhancing market attitudes towards IPM and sustainable vegetable production practices
• Identifying bioactive components and portion sizes in avocados for consumer health

Postharvest / Food safety / Health and nutrition
• VG13086 Broccoli postharvest project
• Development of shelf-life indicators for babyleaf spinach and rocket
• Developing a nutrient and/or health claim label for packaged baby leaf spinach and rocket
• Development of a new, processed carrot industry to export bioactive phytonutrients for juice and nutraceuticals
• Flesh browning in Pink Lady apples
• Development of new quality testing criteria for citrus

Environmental
• VG13051 Feasibility study – On-farm power generation options
• VG12041 and VG12049 Understanding and managing impacts of climate change and variability on vegetable industry productivity and profits
• Quantifying the effects of no-till vegetable farming and organic mulch on greenhouse gas emissions and soil carbon
• Unravelling the links between plant transpiration, soil water and nitrate movement: Impact of high atmospheric CO₂ and irrigation strategy
• Conservation of forest resources by improving sustainability of vegetable production systems
• VG98050 Development of a sustainable integrated permanent bed system for vegetable crop production

Communications
• VG12087 Updating and republishing valuable vegetable industry resources
• AV12005 Evaluation of short video as a tool to communicate project outcomes in avocados

International
• Development of a cost-effective protected vegetable cropping system in the Philippines – vegetable program: component 2. (HORT/2007/066-2 ACIAR)
Reducing pesticide residues, improving cucurbit and leafy vegetable agronomic and postharvest handling in Vietnam through improved varieties, IPM and training CARD (AusAID)

Evaluating the impact of improved soil and water-management practices on Bohol Island, the Philippines (ACIAR)

Training

- Water Use Efficiency – interpretation and training in the use of soil moisture data
- Development of online learning materials for
- Lettuce agronomy and postharvest training

Publications

Books and guides


Recent research publications in refereed journals


Mangmang, J., Deaker, R. & Rogers, G. 2015. Azospirillum brasilense enhances recycling of fish effluent to support growth of tomato seedlings. Horticulturae. 1:1, 14-26


