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President's Report

IHC2014

We have almost finished post-management of IHC2014. The final work is on refereeing, editing and publishing all the volumes of the proceedings in Acta Horticulturae. In total there will be 31 volumes of Acta Horticulturae comprising more than 2000 manuscripts. The good news for AuSHS after the daunting task of hosting IHC2014 along with the NZIAHS, we not only hosted an excellent congress, but we also made a very reasonable profit. In summary, after years of hard work by many AuSHS members, we can report a very successful outcome. My thanks again to Russ Stephenson, Nick Macleod, Robin Roberts, John Chapman, Brad Wells, Alistair Gracie, Vicki Lane and Peter Batt.

AuSHS Conference in 2016

It is traditional for AuSHS to hold a biennial conference which would be due in late 2016. As our members who put a huge time and effort into IHC2014, are not keen to launch



into organising another conference at this time, we decided to hold our biennial activities at the ISHS symposia in Cairns from 20-25th November 2016 at the Cairns Convention Centre. The Australian

Institute of Horticulture (AIH) will join us at the Symposia. At the Cairns meeting we will hold various AuSHS activities including:

- The annual AuSHS meeting
- A morning Plenary session, which Nick Macleod will organise
- an AuSHS member get together on one night of the conference
- A combined annual dinner with ISHS and AIH members, which we expect Don Burke to host

The following ISHS symposia will be convened at the conference:

Symposium

- 2nd International Symposium on Tropical Horticulture. Title: “Now is the Era for Tropical Horticulture”
- 1st International Symposium on Beverage Crops
- 1st International Symposium on Urban Landscapes in Tropical Cities
- 1st International Symposium on Tropical Plantation Crops
- International Symposium on Protected Cultivation in Tropical and Temperate Climates & 10th International Symposium on Protected Cultivation in Mild Winter Climates
- 4th International Symposium on Guava and Other Myrtaceae
- 1st International Symposium on Tropical Plant Breeding
- 1st International Symposium on Tropical Plant Genomes
- Poverty, Hidden Hunger and Horticulture

If anyone would like to be on the scientific committees for any of the Symposia or make recommendations for presentations, please send them to me on r.drew@griffith.edu.au.

More information is available at the conference website on ISTTH2016.org

Finally I would like to thank the current executive for all their support and hard work in the past 12 months. In particular, Robin Roberts, Nick Macleod, Vicki Lane and Russ Stephenson and all state representatives. You have made my job enjoyable and you have been great to work with. We look forward to serving the society for our final year.

I'd like to take this opportunity as we enter the Festive Season to wish members a Merry Christmas and refreshing break. All the best for the New Year.
Professor Rod Drew,
President AuSHS

Horticulture Innovation

Australia – the new grower-owned company

Horticulture Innovation Australia (Hort Innovation) is a not-for-profit, grower-owned Research and Development Corporation

(RDC) for Australia's \$9 billion horticulture industry.

Hort Innovation was declared the industry services body for horticulture in November 2014, replacing Horticulture Australia Limited (HAL), and is now undertaking a major business transformation to a grower-owned company with a new operating model.

Hort Innovation invests more than \$100 million of grower levies, investor and government funds in Research and Development (R&D) and Marketing programs annually, to improve on-farm efficiency, increase productivity and boost sales. Ultimately, it's about giving growers the knowledge and services needed to build a profitable and sustainable business.

The government currently contributes a dollar for every levy dollar spent on R&D effectively doubling the funds available to industry to address pressing issues like pest incursion control, biosecurity and improving market access.

Features of the new model include direct consultation with levy payers and other stakeholders, member and levy payer registers, new and flexible advisory mechanisms, and better evaluation of the performance of levies and strategic investments.

A key change to the organisation is the implementation of a two-pool funding model which allows Hort Innovation to invest in industry based R&D and Marketing projects on behalf of levy paying industries (Pool 1) and longer term and larger strategic projects with co-investment from other sources (Pool 2).

Becoming a member of Hort Innovation is free and brings many benefits for growers, business entities, individuals and the wider Australian horticulture sector. Registering with Hort Innovation shows support for the important work that is undertaken for Australian horticulture. Beyond this, membership also means:



The logo for Horticulture Innovation Australia features the word "Horticulture" in a blue, sans-serif font, "Innovation" in a bold, red, sans-serif font, and "Australia" in a blue, sans-serif font below it.

- a greater direct influence from growers in the future direction of Hort Innovation and how grower levy funds are invested
- a strong voice in a nationwide, multi-sector R&D organisation that works on cutting edge projects with the best researchers in the country
- timely access to industry events, information and news that could change the future success of your business
- invitations to express your views via Horticulture Innovation Australia's ongoing consultation processes.

Visit www.horticulture.com.au/membership to find out more about membership and to register your interest, or just email membership@horticulture.com.au or call the membership team on 1300 880 981* or 02 8295 2300.

For more information about Hort Innovation, go to www.horticulture.com.au or call 02 8295 2300.

Macadamia industry update

Annual macadamia crop forecasts have been produced by H&FS for the Australian industry from 2001 to 2015 as part of DAF-industry co-funded projects. Whilst the accuracy of these varied somewhat over time, major improvements in modelling methods used has resulted in recent forecasts being within the targeted $\pm 10\%$ accuracy range that industry requires. These forecasts have helped the Australian Macadamia Society (AMS) drive the development of a global supply and demand reporting system for the industry. 'This has helped give the market confidence and helped stabilise the price and reduce discounting. It has probably saved the Australian industry hundreds of thousands of dollars.' (J. Burnett, AMS CEO, pers. comm. 2015).

Due to global demand, nut in shell prices (NIS) have increased significantly this season, to well over \$4 per kilogram. If, as predicted, production reaches 47000 tonnes this year, total industry value will exceed \$200 million. Over the long term however the industry has experienced considerable fluctuations in price. Approximately half of Australia's macadamias are grown in Queensland, and there are many more young orchards coming into production in Queensland.

The increased prices for NIS are boosting interest in new more productive genetics. Approximately 20 new Australian bred genotypes are under test in nine sites, ranging from a site at Macksville in southern NSW, to five sites at Bundaberg and one each in Emerald and Mackay. A decision on releasing one or more of these genotypes to industry is expected to be made at the end of 2016, with widespread expectation of significant consequential increases in yield and industry GVP.



Pollination of hybrid seed

New production techniques support the rebuilding of tropical fruit production in North Queensland

Research results from the Rural Industries Research Development Corporation (RIRDC) funded cyclone resilience project 'Improving the capacity of primary industries to withstand cyclonic winds' were presented by DAF Officers **Peter Holden**, **Neil Wiltshire**, **Yan Diczbalis** and **James Drinnan** at a recent field day at South Johnston Research Station.

The project is developing new production practices that tropical industries can use to reduce the impacts of cyclonic winds on their businesses. The tropical fruit industry is currently rebuilding after recent cyclones and many are trialling these new production practices, which will make these industries more resilient to cyclonic damage in the future. Around 45 enthusiastic tropical tree crop producers from across the Far North Region from Ingham to Cape Tribulation

including the Atherton Tablelands gathered to learn about these new production techniques.

Producers learnt about producing plants with stronger root systems through new pot designs and improved nursery techniques, emergency defoliation treatments to reduce wind loads on trees when a cyclone is imminent and tree recovery following defoliation, growing different crops on different styles of trellises, the engineering requirements of trellis structures in a cyclone prone region, the economics of trellising compared to a standard production set up and multi-peril crop insurance policies and how they might work for tropical crops.

Results from the trellis trials are very encouraging with commercial yields being attained after just 2.5 years in many of the crops studied. For example mango (honey gold) produced 8 kg/tree or 11 t/ha, carambola produced 18 kg/tree or 24 t/ha, guava produced 42 kg/tree or 56 t/ha and longan produced 10 kg/tree or 13t/ha. Star apple, durian, white sapote and cocoa are yet to start cropping.

The economic analysis indicated that for rambutan production a 14 % yield increase is necessary to justify the additional costs of trellising over conventional planting. However when the risk of being impacted by a cyclone is taken into account the yield increase required drops to around 5%.



Cyclone Resilience – Field day demonstrating trellising of tropical tree crops

Do strawberries have health benefits?

Under the Australia New Zealand Food Standards Code – Standard 1.2.7 – Nutrition, Health and Related Claims (<http://www.comlaw.gov.au/Details/F2014C01191>), if a product has more than 2g of fibre per serving and at least 10% RDI of a mineral or vitamin then this fact can be specifically mentioned on the food product label. Therefore strawberries can make a nutrient claim for fibre, iron, molybdenum, folate and vitamin C. Furthermore strawberries can make a nutrient claim for potassium due to their content of 228 mg (per 144 g serving), which fulfills the alternative criterion (as per Standard 1.2.7) of content of at least 200 mg.



Red Rhapsody strawberry from the Queensland strawberry breeding lines

Strawberries are also rich in a variety of phenolic compounds, including anthocyanins, flavan-3-ols, ellagitannins and ellagic acid glycosides, cinnamic acid conjugates, and flavonols. This data comes from a USDA study involving 27 cultivars and also data from recent analysis of Queensland-grown commercial strawberry varieties. The significance of these compounds is that they are thought to play a key role in mediating, along with fibre and micronutrients, the health benefits of strawberry consumption. As a part of a current project, run by Kent Fanning, Michael Netzel and Mark Herrington, analysis of the phenolic compounds will be undertaken in commercial varieties being grown in Queensland, from different growing regions, for the 2015 season.

New products to fight macular degeneration.

A study by the Macular Degeneration Foundation in Australia found that vision loss associated with macular degeneration cost Australia \$5 billion in 2010. Approximately 1 in 7 Australians aged over 50 (1 million people) show some evidence of macular degeneration. Around 50% of all blindness is associated with macular degeneration, and it is four times more prevalent than dementia. Scientific studies are increasingly suggesting that the yellow pigments, zeaxanthin and lutein, in the macula protect the eye against the progress of macular degeneration. These pigments are not synthesised by the body and so we must rely on dietary intake.



One of the major sources of zeaxanthin and lutein in our diets is sweet corn. A conventional breeding program conducted by officers from H&FS, Queensland Alliance for Agriculture and Food Innovation (QAAFI) and the University of Hawaii has been able to increase natural levels of zeaxanthin by 700-1000%, without affecting sensory characteristics of sweet corn. This has led to the coining of the phrase 'superyellow' sweet corn. A small cob is all that is required to meet the body's needs. Other consumer and cooking tests have shown that the newly developed sweet corn hybrids have acceptable flavour, and that cooking degrades zeaxanthin only by a small amount.

When commercialised, 'superyellow' sweet corn should grow the sweet corn category and potentially be very useful in slowing down the development of macular degeneration in older Australians.



Retirement of Russ Stephenson

Russ Stephenson retired from DAF Queensland in 2015 after 35 years of meritorious service. Russ is widely known within DAF for his outstanding work on the organising committee of the very successful IHC held in Brisbane last year. His commitment and passion to this task over at least the last 10 years to bring the event to fruition is a testament to his perseverance. The successful Congress was a very fitting finale to an illustrious career.

Russ has also played an important role in AuSHS over the years, acting as Secretary from 2004 to 2008 and as Newsletter and Membership coordinator on the Management Committee from 2013 until 2015.

Many thanks to Russ for his outstanding contributions over the years and all the best for a well-deserved retirement!



Russ looking very relaxed in pre-retirement mode after his final seminar presentation



Cyclone Resilience – Trellised longan tree

Message from the editor

Each edition of the AuSHS newsletter will feature research and industry news in each state on a rotation basis. This edition featured Queensland horticulture R&D.

Each edition will also contain a brief snapshot of what is happening in each state and an update from Horticulture Innovation Australia.

If you would like any news or other information published in the newsletter then email to the AuSHS secretary vicki.lane@daf.qld.gov.au

Wishing you all a great Christmas break!

Cheers

Jodie Campbell

