



Pomewest
Serving WA Pome Growers





Introduction from the Executive Officer



HON Ken Baston MLC with Nardia Stacy showcasing the new WA apple variety ANABP 01 at the 2015 Perth Royal Show.

This provides Western Australian agricultural producers with the legal framework to collect funds to provide for the development and security of their industry sector.

The Pomewest Committee and staff

All major production areas are represented by the Committee representatives.

Harvey Giblett
Newton Orchards, Manjimup, Chair

Mario Casotti
Karragullen Coolstores, Casuarina Valley Orchard, Perth Hills, Manjimup

John Gregorovich
Pickering Brook, Perth Hills

Terry Martella
Santa Rita Orchards, Donnybrook

Mark Scott
Nannup Fresh Fruit Pty Ltd, Nannup

Nardia Stacy
Executive Officer, Perth Office

The Pomewest Committee's prime activities are to manage and approve the FFS budgets and assess to approve project proposals based on pome FFS paying producers' current and future requirements. Pomewest are also exploring ways to continue to co-fund with other entities via grant funding to increase capacity and further benefit members.

BY NARDIA STACY
EXECUTIVE OFFICER, POMEWEST

Pomewest are honoured and excited to join the *WA Grower* family with vegetablesWA (vWA) and the Potato Growers Association of Western Australia (PGAWA). This is a fine example of how like-minded industries can collaborate to achieve common goals and outcomes.

This concept empowers and enables members to benefit by sharing information cross commodity and report on the specialised Pome activities their Agricultural Produce Commission (APC) Pome fee for service (FFS) is able to provide.

Background and objectives of Pomewest

Pomewest is a sub-committee of the Pome, Citrus and Stonefruit Committee (formerly Fruitwest) of the APC. All commercial pome growers of Western Australia, are automatic members of Pomewest, as you contribute a Fee for Service under the *APC Act 1988*.



TABLE 1 APC-Pomewest major projects 2015–16 and their funding allocation

Project	Funding (\$)
Commercialisation for WA (FW Co-operative)	120,000
Maturity standards for identified WA Apple varieties (Ashmere Consulting)	82,000
Medfly surveillance trapping network (Ashmere Consulting)	52,750
Codling moth (DAFWA)	35,000
Markers, markets and validated nutritional qualities of Australian apples (UWA)	25,000
Natural mite control project (shared with the Stone Fruit Subcommittee) (Stewart Learmonth DAFWA)	18,300
Promotion and publicity local project (Fresh Finesse)	16,000
Apple looper project (shared with the Wines of Western Australia) (Stewart Learmonth DAFWA)	4,870

Projects

Pomewest have approved a range of projects this year and some are shared with other APC Committees. These range from marketing and promotion, variety development, research and biosecurity monitoring. The major projects and their funding are detailed in Table 1.

In addition a new Strategic Plan 2016 – 2020 has been developed this year. All the above projects address the criteria within objectives and outcomes of this statement.

Fee for Service

Table 2 demonstrates the FFS payable on pome fruit for both fresh and processed and identifies the newest FFS that provides for a Biosecurity Fund. Note: the main FFS has remained the same since November 2009.

So how can our pome FFS paying producers be more involved in Pomewest in 2016 and beyond?

Essentially

The Committee encourages growers and other stakeholders to consider putting forward proposals to the APC in the next funding round for 2016–17. If you have identified a project and require some assistance to scope a project we can offer assistance.

TABLE 2 APC Fee for Service — pome fruit effective from 1 January 2015


Fee for Service	\$/kg
Fresh fruit — apples, pears, nashi, other	0.015
Processing fruit	0.005
Biosecurity for fresh fruit	0.002
Biosecurity for processing fruit	0.001

Pomewest members are encouraged to attend grower meetings which usually are scheduled pre and post season.

This gives you an opportunity to raise any issues or queries and be informed on projects managed by Pomewest. We also update on other related information at these meetings including information from associated bodies including Apples and Pears Australia Ltd (APAL), Horticulture Innovation Australia Ltd (HIA) and Department of Agriculture and Food Western Australia (DAFWA).

This edition

In this issue we will present on updates from our markers, markets and validated nutritional qualities of Australian apples, climate change and promotions projects. In the future I hope to be able to present other articles based on research outcomes from our other projects and other articles of interest for WA pome growers.

Lastly I would like to thank the committee and all growers for all their support with the recent transition to Pomewest and acknowledge their patience and goodwill in this process. 

MORE INFORMATION ►

I can be contacted on (08) 9368 3869 or nardia@fruitwest.org.au

Industry news: New appointment Dr Peter Richardson



At the recent Fruit West Co-operative Ltd Annual General Meeting the appointment of Dr Peter Richardson as the Business Development Manager was announced.


Peter is already well known to the WA Pome industry as the former National Business Manager for Fresh Produce for the Craig Mostyn Group.

Craig Mostyn has recently exited the fresh produce business.

FWCL have seized the opportunity to engage Peter to work directly with its directors to establish and develop export marketing and broader aspects of commercialisation of ANABP 01.

FWCL has been able secure Peter's services on a part-time basis to leverage off other work he will be doing in the fruit industry both within Australia and in export markets.

Peter has a long association with the Pome industry. He has championed the export of WA apples to the UK and managed the development of the Pink Lady brand across Asia.

He is now poised to apply his experience and skills to the commercialisation of ANABP 01. 

Identification of Australian-bred apples with enhanced health attributes

BY DR CATHERINE BONDONNO
RESEARCH ASSOCIATE, UWA

According to the World Health Organisation, around 30% of deaths worldwide are caused by heart disease. Despite the improvements that have been seen over the past several decades, it remains one of the biggest burdens on our economy.

Many cases of heart disease, however, can be prevented through lifestyle changes such as healthy eating, exercise and avoidance of smoking and alcohol. It is well known that a diet rich in fruits and vegetables is linked to a reduced risk of heart disease.

One theory is that this beneficial effect of fruits and vegetables is due at least in part to flavonoids. Flavonoids are molecules that plants produce as a defence against stress such as sunlight and disease.

It has been suggested that these molecules may work similarly in animals that consume these plants as food.

How are flavonoids protective in humans?

To understand this, we need to look at a very important molecule called nitric oxide. Nitric oxide plays a key role in regulating the constriction and relaxation of blood vessels, and therefore helps to control blood pressure and blood vessel function. Research has shown that flavonoids from fruits can increase the production of nitric oxide in our bodies.

Why apples?

Apples are a huge part of our diet as they are the most consumed fruit in Australia. Apples are rich in flavonoids and we have shown that apples can increase our production of nitric oxide. In fact, more and more research is showing that there is some truth behind the 19th century health promotion message “an apple a day keeps the doctor away”.

If, in addition to having other desirable qualities (taste/texture/colour/keeping quality/yield), an apple can be marketed based on specific nutritional characteristics that enhance health, this could add significant value to the apple and the industry.

What is our research about?

Screening of apples for flavonoid content

The main aim of our research has been to screen apple selections for flavonoid composition, to find out which flavonoids are present in apples and which apple varieties have the highest levels. The results are shown in Figure 1.

We have now expanded the apple screening program and are currently screening the flavonoid composition of 116 selections from the Australian National Apple Breeding Program.

These selections will also be screened for genetic markers, with the aim to improve the speed of future breeding and selection. The next step is to measure the flavonoid content before and after long-term storage to assess how stable flavonoids are during storage.

Demonstrating in humans that consumption of apples will result in heart health benefits.

In a previous study, we have shown that healthy volunteers produce larger quantities of nitric oxide and have improved blood vessel function a few hours after eating apples.

We now wish to demonstrate in human volunteers that regular consumption of apples over four weeks, with high levels of flavonoids, improves risk factors for heart disease.

We are currently running a clinical trial with 33 volunteers who have at least one risk factor heart disease (such as high blood pressure, high cholesterol or central obesity). The volunteers will consume two apples a day with no skin for four weeks, have a two week break and then consume two apples a day with skin for four weeks. Or vice versa.

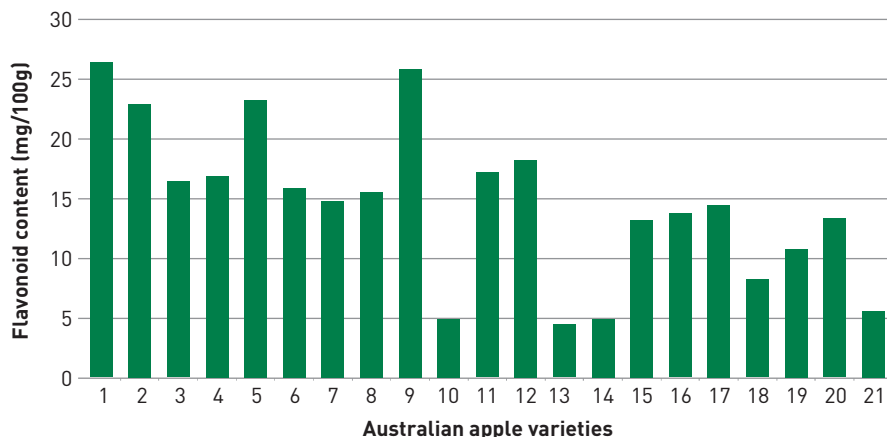


FIGURE 1 Flavonoid content of apple varieties


Source: UWA, 2015



MEASURING blood vessel health.

Flavonoids are concentrated in the skin of apples. We will be taking measurements before and after each of the 'apple eating' periods, to assess changes in heart and blood vessel health as well as cognitive function. We can then compare flavonoid rich apple skin with flavonoid low apple flesh, by seeing if there are any differences in the results of the measurements that we take.

What is the significance of our research?

The main goal of our research and collaboration with Pomewest is to transform the efficiency of the Australian apple breeding program, to produce apples with a higher nutritional value. Our research will facilitate the release of flavonoid-rich apples with proven heart benefits. This important research will provide impetus for the promotion of increased intake of apples, for heart health and will provide new therapeutic options for the treatment of heart disease and its risk factors. Additionally, the release of flavonoid-rich apples with proven heart benefits will benefit both Australian industry and the general population. 

MORE INFORMATION ►

Please contact Nardia Stacy at Pomewest on **(08) 9368 3869** or nardia@fruitwest.org.au



Aussie Apples at Perth Royal Show



AUSSIE apple juice was offered again this year, providing an affordable and healthy drink to show goers.



BY NOELENE SWAIN
FRESH FINESSE

Apples were once again a key attraction at the Perth Royal Show in the popular children's pavilion — Farm 2 Food.

This integrated, hands on experience for kids allowing children to gain a better understanding of where food comes from. It also provides a good opportunity to connect local fruit production in the mind of children and families.

Strong Aussie Apples messages displayed in the backdrop signage whilst a 'farmer' styled team were armed with Apple Skinky machines to swirl and twirl their way through over 3,000 Pink Lady and Granny Smith apples whilst chatting to show goers about the importance of eating locally produced fruit.

The opportunity to buy a \$1 apple slinky was extremely well received by show goers eager to take a break from the usual show food and keen to enjoy something fresh, crisp and healthy.

Sale of the Apple Slinky machines appealed to those keen to continue the apple 'magic' at home. Such a simple tool provides a key easy mechanism for kids (of all ages!) to enjoy apples fresh

or to prepare apples for cooking. These machines have a strong following in Primary Schools and school canteens. Even young adults drooled affectionately over the apples as they recalled their primary school memories.

Sale of cups of chilled 100% Aussie apple juice was also offered again year, providing an affordable and healthy drink to show goers whilst also providing an additional income stream to assist fund the cost of the promotion.

Generous assistance from Harvey Fresh was much appreciated to allow this element of the program to work so well. Over 5,000 cups of juice were served during the show with warm weather contributing to their popularity.

The apple stand provided an opportunity for an early introduction of the un-named new dark skinned apple. People were able to taste samples of the new apple and were asked to complete a survey to collect responses to the flavour, texture and appearance. Responses of over 2,000 people have been gathered. Analysis of the data is not yet complete however responses were very positive.

The high excitement of local teams in the football finals and grand final disrupted the attendance early in the show which impacted accordingly on the daily figures. Despite the footy fever, the final budget closed on a positive note and proved to be a successfully self funded promotion with strong engagement of families. We would recommend continued involvement in this pavilion in future years.

MORE INFORMATION ►

Contact Nardia Stacy on (08) 9368 3869 or nardia@fruitwest.org.au





SUSIE Murphy White counting flowers to determine full bloom.

Apples & pears in a changing climate

BY SUSIE MURPHY WHITE
PROJECT MANAGER (POME), POMEWEST

With mean temperatures in Australian apple and pear growing regions predicted to increase by up to 1.2 degrees by 2030, two national projects funded by Horticulture Innovation Australia (HIA) and the Australian Government aim to reduce the vulnerability of fruit production to a changing climate.

The project is investigating the implementation of appropriate adaptation strategies to reduce the apple and pear industry's vulnerability in the longer term.

It is not yet clear how warmer average temperatures and increased frequency of extreme heat days will impact on apple and pear production, which is why this research is so important.

To investigate the potential impacts of a warming climate, three years of temperature data have been collected, along with bud burst and flowering time of apple and pear varieties from the growing regions of Applethorpe in Queensland, Shepparton in Victoria and Manjimup in Western Australia.


Bud burst and flowering dates were generally later and more protracted in Manjimup, which is possibly a result of inadequate chill experienced in the milder winter conditions of that region.

It's interesting that Manjimup's winter chilling climate is similar to that of the projected climate for the other regions being investigated, providing the potential to assist in determining appropriate adaptation strategies for these regions.

The effectiveness of different types of netting to protect fruit from sunburn damage is being investigated as a potential adaptation to increased frequency of extreme heat events. Findings to date suggest that netted fruit is less likely to be rejected or downgraded due to sun damage than non-netted fruit.

Further investigations are underway to determine the suitability of currently available physiological models to predict the timing of bud burst and flowering for apple and pear varieties.

The research is being led by the Department of Agriculture and Fisheries, Queensland in conjunction with the Department of Economic Development, Jobs, Transport and Resources, Victoria (DEDJTR), Department of Agriculture and Food Western Australia (DAFWA) and now Pomewest.

This project demonstrates how beneficial collaborative work among research agencies nationwide is to producing strategic outcomes that can be applied to more than one specific growing region. 

MORE INFORMATION ►

More information about the project can be found on the DAFWA site <https://agric.wa.gov.au/n/4863>

Lower cost and water security

prompts change to drip irrigation



BY ROHAN PRINCE¹ AND SUSIE MURPHY WHITE²

¹ DEVELOPMENT OFFICER, DAFWA

² PROJECT MANAGER, POMEWEST

The whole netted apple orchard demonstration site is being converted to drip irrigation, reflecting the great results of improved water use efficiency over the past two seasons.

Previously divided into four blocks, the 1.2 hectares of established Cripps Pink and Fuji trees will comprise of three new drip irrigated treatments.

The original demonstration, established 2013 at the Lyster's orchard in Manjimup, comprised of sections of black and white 16mm quad netting, each covering 0.25ha, with the remaining areas of un-netted orchard divided into another two comparison blocks; a DAFWA-managed no netted area and a grower practice no netted area as control treatments.

All treatments were irrigated using under tree sprinklers, in the 2013–14 season. A 15% reduction in water use was recorded when irrigating using under tree sprinklers under net compared to outside the net. Last season, four double rows of drip irrigation were installed under the netted area with great results. A 45% reduction in water applied to trees under net, occurred using drip irrigation compared with under tree sprinkler irrigation. There was a 51% reduction in applied irrigation for drip sprinklers compared to under tree sprinklers with no netting. There was no decrease in yield measured when using drip irrigation.

With no reduction in yield, the Lyster's have decided that drip irrigation is worth installing to reduce input costs and help make the farm water supply more secure in years of low rainfall. Benefits seen from last year's mini trial of four drip lines included lower pumping costs due to the lower volume used, lower labour from reduced maintenance of sod culture and better control of tree vigour, which should lead to lower costs for tree pruning.

This year the demonstration will comprise of three treatments:

1. Black net, drip irrigated
2. White net, drip irrigated
3. No net drip irrigated.

Evaporation based scheduling will be used to apply irrigation appropriate to crop stage and vigour, with soil moisture monitoring used to confirm the effectiveness of irrigation and the water potential in the soil, preventing unwanted crop stress.

The reduction in water requirement by 45% using drip irrigation was expected, and reflected the orchard area shaded by canopy. Measured by a method described by Goodwin, I (2009) '*Determining effective area of shade in orchards and vineyards to estimate crop water requirement*', leaf canopy coverage is taken into account to calculate water requirement of orchards of different densities. The full text can be found at www.depi.vic.gov.au, No: AG1383.

When the canopy coverage of the demonstration block was measured, only 54% of the total area was effectively shaded by the canopy. With irrigation limited to the canopy area and removed from between the rows where the sod culture is grown, the significant reduction in water required was reflected in the water metre readings.

The proportion of shade was calculated by measuring photo synthetically active radiation (PAR) using a hand held ceptometer, on a clear sunny day in February 2014 and 2015. Several measurements were taken throughout the orchard at morning, solar noon and afternoon to measure the amount of the shade created by the trees.

Following this season the Lyster's suggested that not only the netted area was converted to drip, but the un-netted section was as well.

Grower, Ann Lyster commented, "The less the pump is turned on the better. It saves in fuel and therefore money." The lower the input cost with the same return means greater profit. ☺☺☺

MORE INFORMATION ►

The work is supported through funding from Royalties for Regions Department of Regional Development, Horticulture Innovation Australia and The Commonwealth Department of Agriculture, and Water Resources.

Search Netted apple demonstration on DAFWA's website for updates or for more information contact Rohan Prince on (08) 9368 3210, email rohan.prince@agric.wa.gov.au, or Susie Murphy White on (08) 9777 0151, email susan.murphy-white@agric.wa.gov.au



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