

Technical development and extension for the Australian prune industry

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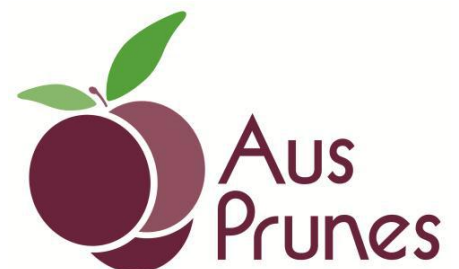
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Technical development and extension for the Australian Prune Industry

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Contents

1. Summary	2
2. Introduction	3
3. Technology transfer and methodology/activities.....	4
Objective 1 Communication Activities.....	4
The Vine Magazine.....	4
Industry Newsletter	4
SMS Alerts	4
Social Media.....	4
Professional Photos.....	4
Objective 2 Consult and Liaise with growers and Industry.....	5
Updated Contact List.....	5
Grower visits and enquires	5
Meetings	5
Objective 3 Research and On-farm trials.....	6
Field Walks	6
Dormex Registration.	7
Objective 4 Develop and implement training programs if required.....	8
Objective 5 Attend APIA meetings and seminars as required	8
Objective 6 International Prune Industry	9
Californian Prune Industry Study Tour.....	9
4. Evaluation	10
5. Discussion.....	12
6. Recommendations	13
7. Acknowledgements.....	14
8. Bibliography	15
9. Appendices.....	16
<i>The Vine Magazine Articles</i>	16-19

1. Summary

The Australian Prune Industry is committed to achieving world's best practice production methods, protecting the environment and maximising returns to industry stakeholders including producers. It is relatively small compared to the prune industries in other countries however this is often used as an advantage when sharing information and experiences.

Australian prune growers are willing to share information and experiences with their peers and the Australian Prune Industry Association (APIA) has been integral in facilitating opportunities for growers to come together for both informal and formal presentations to help exchange ideas. This has been possible through the employment of an Industry Development Officer (IDO).

The industry stakeholders are very aware that to ensure a sustainable long term future for the Australian prune industry improvements in quality, productivity and returns to growers are needed.

Throughout this project, the IDO provided access to information that was current, relevant and timely. This information was delivered in written formats as emails, industry newsletters and article in the industry magazine, *The Vine*, as well as field days.

The topics covered have been varied and included:

- Californian study tour information
- Implications when modifications have been made to drying tunnels
- Seasonal updates such as postharvest care of prune trees
- Updates on the variety trial information
- Potential for new export markets opening

This information has assisted growers to make informed decisions relating to new industry developments and has helped renew the confidence of the growers in the industry.

During the past twelve months the IDO has been able to focus on milestones set by the Industry Reference Group and the APIA Executive Committee including the organisation of the Californian Study Tour. The milestones set by the Executive and the growers involved ensures that the IDO resources are being used to their full potential on projects that will provide benefits to the whole industry.

2. Introduction

Australian Prune Industry Association (APIA), processors and growers strongly agree on the need to stimulate investment in new plantings of prunes varieties and lift the level and quality of Australian production from current levels.

All industry sectors agree that the future for the Australian industry depends on it re-establishing itself as a reliable supplier of high quality prunes on the domestic market and opening export markets that can attract premium prices.

Providing growers with the opportunity to travel to California to witness the production and processing systems of the world's largest producer of prunes was one way to show the Australian growers that we are an innovative industry. While small in comparison, Australian prune growers are very knowledgeable and strive to improve returns through cutting production costs, adopting new technologies and practices and increasing volume of production.

The role of the IDO is to communicate with growers to find out what is working and what is not and to help those that are seeking to improve their production levels and efficiency and adopt the latest technology available.

The IDO uses a variety of methods to communicate with growers including phone, SMS, email, industry newsletters, magazine articles, and field days, discussions at meetings and personal visits on farm. As the IDO only works one day per week, one on ones with growers are often limited so concentrating on sharing information via the industry newsletter has been a priority. These newsletters create discussion points within the industry and keep the growers from other areas informed. Growers that do not travel to attend meetings or field days can still keep in touch with the industry.

Stakeholders in the industry must provide growers with confidence in the future by offering prices at levels that stimulate investment, developing good market intelligence and providing latest research results & information on new technologies and practices which will help growers to increase their productivity and profitability.

3. Technology transfer and methodology/activities

A range of extension techniques were used to increase interest in the industry including field days, study tours, meetings, and a range of communication tools including the industry magazine, e-newsletter and SMS messaging.

A number of key objectives were identified by industry and project activities were tailored to help meet these targets.

Objective 1 Communication Activities

The Vine Magazine

The Vine is the joint Dried Fruits Australia and the Australian Table Grape Association national magazine that is published quarterly. The IDO wrote or sourced articles to be published on behalf of the Australian Prune Industry Association. Two to three articles were provided quarterly to *The Vine* journalist who proof read the stories before publishing. Copies of these articles can be seen in the appendix.

Photographs to support articles were taken and supplied as required.

Industry Newsletter

Regular information updates, disease warnings, event reminders and industry news were distributed to all prune growers using the Australian Prune Industry Association E-news. The newsletters were produced on a monthly or needs basis.

SMS Alerts

SMS alerts were used on a needs basis. This was a really quick way to get in touch with all growers and industry representatives about pest and disease outbreaks or reminders about field days. In January 2014 an SMS alerts was sent to all growers about an outbreak of Queensland Fruit Fly (QFF) in the Griffith area. The IDO and local Agronomists were inundated with phone calls from prune growers who were concerned about their crops. This was an excellent example of the SMS alert system working quickly.

Social Media

The IDO also sourced and distributed material on the Australian Prune Industry Associations social media pages. Evidence has shown that the information best received by the online audience were stories about our Ausprune growers and on-farm activities. Several "Grower of the Month" profiles were sourced by the IDO and posted online. Weekly updates about on farm activities and the orchards development were posted online.

Professional Photos

The IDO was asked to organise a professional photographer to take a series of photographs of the Prune Industry throughout 2014. The photo series includes; flowering in spring, harvest and drying during summer, leaf fall during autumn and pruning during winter. These photographs were taken on several farms within the Griffith Area and can be used for media releases, social media, APIA's website, international and domestic communications.

Objective 2 Consult and Liaise with growers and Industry

Updated Contact List

During the first couple of months as the IDO, all growers were contacted individually to update prune industry contact list. This was a very valuable exercise as it allowed the new IDO to introduce herself to all the prune growers in the different growing regions Young, Griffith and South Australia while updating important information. Updating the grower contact list continues to be a major part of the IDO's role.

Grower visits and enquires

Where possible, the IDO has visited several growers on farm to discuss a range of topics. Time doesn't allow for all growers to be visited individually however the IDO takes phone calls regularly from growers to discuss topic such as:

- Disease and pest identification and their management
- Pruning and thinning techniques
- Providing new growers with details of harvest and drying contractors
- Many other requests

Meetings

- *IREC permanent sub-committee*

A permanent plantings sub-committee of the Irrigation Research and Extension Committee (IREC) has been established in the Riverina. Being involved with this sub-committee allowed the IDO to interact with several different industries such as Walnuts, Almonds and Winegrapes, talk to horticultural and irrigation consultants.

- *Riverina Regional Tourism*

The IDO attended several meetings to discuss the potential of APIA investing in the Riverina Regional Tourism Campaign.

- *Sunsweet Growers Information Session*

The IDO attended several information sessions to increase her knowledge of Sunsweet becoming a major player in the Australian Prune Industry. An article was written for The Vine magazine and many phone calls were fielded to discuss the current situation.

Objective 3 Research and On-farm trials

Field Walks

- **Communication**

All field walks/trips were promoted through the APIA E-news email distribution lists. These events were reported as articles in *The Vine* magazine and also through the e-news.

- **Drying Modifications and Farm Field Walk**

The drying modifications presentation and field walk was held on Tuesday 21st January 2014 at Bruce Gowrie-Smith's farm and drying shed in Darlington Point. 35 growers and industry representatives attended this presentation.

Growers were able to see the modifications Mr Gowrie-Smith had made to his drying tunnels. The modifications were installed to reduce the consumption of energy and increase throughput.



Bruce Gowrie-Smith talking to the growers about the drying tunnel modifications.

- **Variety Trial Field Walk**

The Variety Trial Field Walk was held on Wednesday 4th June 2014 at the Darlington Point Variety Trial Site on Tony Toscan's farm, Cavaso. Guest speakers Anne Mooney and Ian Moss were asked to attend and conduct an informal discussion about the ongoing trial. 20 growers attended this field walk.

Growers confirmed their interest in continuing the variety trial project and expressed support of the inclusion of new non-suckering rootstocks such as Krymsk 1 and Krymsk 86.



Tony Toscan and APIA Chairman, Grant Delves inspect the variety, Muir Beauty.

- *Sunraysia Field Trip*

The IDO, with the help of Sunbeam and Yenda Producers staff members, helped organise an overnight trip to Mildura to visit to Sunbeam Foods processing plant in Irymple Victoria. The group of 24 growers and industry representatives spent many hours with Sunbeam staff members over 2 days visiting several processing plants in Mildura and Irymple. Sunbeam staff members then gave the growers a brief presentation of the prune industry's current situation.

This trip was very well attended and as a result, planning is underway for another one like it in the near future.



The grower group inspecting Mildura Fruit Company

Dormex Registration.

The IDO investigated whether Cropcare would be interested in expanding the Dormex label to include a dormancy spray in Plums. It was discovered that there was a label extension that had been submitted to the AVPMA and the change of label should take place in December 2014. While growers won't have had access to it for the 2014-2015 season, indications are that it will be registered for use for 2015-2016.

Growers were informed of these developments via an e-news and at the recent APIA Annual Conference in September.

Objective 4 Develop and implement training programs if required

No Specific training activities were identified by the industry reference group. However, in the near future the IDO will be trained in the use of the Bizmod Prune business model. The IDO will then hold a training day for all prune growers and conduct one-on-one appointments as required.

Objective 5 Attend APIA meetings and seminars as required

The IDO attended APIA's Executive and Prune IAC meetings throughout the year, both AGM's and Prune Conferences. Growers and the Executive were informed of the IDO's activities. From these meeting extra activities for the IDO were discussed with the industry reference group and added to the work plan.

Objective 6 International Prune Industry

Californian Prune Industry Study Tour

In March 2014, the IDO submitted a funding application to HAL for a study tour (DP13701) to take place later in the year. The funding application was accepted and the IDO started to plan the trip. With suggestions from growers who were attending the trip and those who had been to California previously, the IDO put together a busy itinerary.

All sectors of the Californian Prune Industry were considered when planning the trip. To learn the most about the Californian Prune Industry, participants visited processors, researchers, dryers, growers, machinery manufacturers and industry representatives.

The study tour group consisted of eight growers, one horticultural consultant and one observer. The study tour took place in July between 14th and 22nd.

Valuable experience was gained by the IDO when planning the trip and will be used again when planning the next overseas study tour.

The study tour was reported on via several media outlets.

- Two articles were printed in The Vine Magazine
- Two articles were printed in the Area News newspaper. Griffith local paper.
- A travel blog was put together and posted on APIA's social media pages.

The IDO is preparing a final report for Project DP13701 which is due in December 2014.



The tour group on their first day of the Californian Study Tour

4. Evaluation

It has been evident that the general level of grower participation has improved significantly in the past 12 months. This was partially due to the economic shift in the industry and the fact that growers can see a future for prunes in Australia.

Providing growers with relevant up-to-date information is very important. The IDO has been able to organise three field trips that have provided a platform for growers to come together and share information. The drying modifications field walk was extremely relevant at a time when energy costs were increasing and increased pressure is being put on the industry by consumers to provide a green and sustainable product. 35 prune growers and industry representatives from Young, Griffith and Mildura attended this field day which took the IDO and the host, Bruce Gowrie-Smith, by surprise. Previously the participations from growers to field days had dropped significantly to between 5-10 growers. To see such a large number of growers at the drying modifications field day was a positive sign that growers are hungry for relevant information.

The variety field walk was also held at an ideal time as growers were preparing to plant new blocks to accommodate an increasing demand from overseas buyers. The IDO recorded 22 growers who attended this field day. Positives from the field day were that all those who attended agreed that the variety trial sites should continue being monitored and evaluated and where possible should be expanded to include new varieties and rootstocks. Many growers recommended that a variety field day should be held every year so growers are kept well informed of the projects results. The IDO will facilitate this in coming years.

The Sunraysia trip was a great way to link Sunbeam Foods and Angas Park with the primary producers and to demonstrate to the grower's how their product is processed, packaged and marketed.

Further, the Californian Study Tour came at an ideal time as it showed growers that Australia can produce great quality prunes on a smaller scale. It was evident at the Annual APIA Conference, held in Griffith on 8th September, that everyone was very interested in hearing the presentation about the study tour delivered by Peter Reynolds on the day. The audience could have spent a lot longer asking questions about the differences and similarities between the two industries.

The growers who attended the Californian study tour provided feedback on the organisation skills of the IDO and the itinerary that was provided. Here are some of the comments:

- Study tours (by growers & associated industry people) on a regular basis (every 3 to 5 years) to keep existing and new growers up to date with overseas industry. All the growers on the tour wished they had made this visit some years ago. Also if Australia is to be an exporter of prunes, the industry needs to know what other countries are doing and what they need to improve on to compete on a global market.
- 10 to 14 days is sufficient time to investigate an area. If a wider area was to be investigated (visiting different growing regions) then a few extra days would be needed for the extra travel.
- If another study tour is organised by the IDO it should take place over 2 weeks with a 1 or 2 day break (over the weekend) with 3 or 4 days of work either side of the weekend.
- The format was ideal, 2 or 3 meetings per day, all in 1 region.

- Hiring a mini bus was ideal (in USA) as the growers had the flexibility to alter their travel plans as necessary.
- Ideally the trip would take place during or just before harvest so we could see harvest / drying but this is not so convenient for the hosts. Pre harvest is the next best time to visit.
- A future tour may also include more inspection of gourmet prune processors & marketing businesses however these businesses may be reluctant to host potential competitors. As the majority of participants were primarily growers, the focus was obviously on prune production.
- A pre-tour meeting between ALL participants is necessary (where practical) so that the itinerary can be explained and travel tips can be shared.
- A hand-out to each participant would be useful with details of the business to be visited, or verbal information offered before each meeting.
- A pre tour report template could be compiled and handed out so each participant could fill it in during the trip, rather than remembering things afterwards.
- The possibility of submitting the trip report as a verbal report.

The comments and feedback supplied by the growers who attended the trip will be used by the IDO to when planning the next study tour. This feedback can also be used when planning local field days and providing information at these events.

In the future the IDO, where possible, will provide an information sheet at the field day and also an evaluation form so growers can provide feedback on the relevance of the information delivered on the day.

5. Discussion

After several years of lower than average returns to growers, many growers lost interest in the industry. This project has assisted growers to remain connected with the industry and has helped renew their interest.

When updating the prune industry grower contact list the IDO discovered that many growers were not receiving any information from APIA. Correcting the grower database has allowed the IDO to reach all prune growers increasing their awareness of the IDO's activities. Better communication with all prune growers using the industry newsletters, articles in *The Vine*, and SMS alerts allows APIA to provide growers with good, relevant information which can help their planning and decision making. Making sure that all growers are receiving emails such as invitations to field days, reports on the Californian Study Tour and pest warnings keeps growers connected and stimulated their interest in the industry.

Providing the opportunity for several growers to participate in the Californian Study Tour opened up a whole new discussion point for the remaining growers who did not attend the tour. It has shown the growers who attended the trip, as well as those who read or heard their reports, that Australian growers do produce world class prunes with industry best practice. There is always room for improvement however as a very small industry on the world scale, Australia is up there with the best prune producing countries in terms of pest and disease management, irrigation management, implementing new drying techniques to help reduce energy consumption and labour efficiencies.

One area that was highlighted that the Australian Prune Industry could improve on is the development of value added products and marketing of prunes. Many of the processors in California add value to the end product by selling them as diced prunes, cooking additives such as meat tenderisers, individually wrapped prunes, prune purees and prune juices. The Australian research and development budgets are smaller than those in the US however to increase productivity and returns to growers the industry needs to develop and implement an effective education strategy to ensure Australian product dominates consumer preference and that competitors do not dominate the supermarket shelves.

6. Recommendations

The renewed interest in the industry and constant feedback throughout the project reaffirms its value to growers and its role in providing growers with up-to-date information.

Australian Prune Industry recommends the continuation of the Prune Industry Development Project to help the industry to:

- Adopt new technologies and ‘world’s best practice’ management techniques
- Increase production and maintain the viability of its growers, and
- Increase the area of prune plantings

This program will be planned to deliver best practice management information through:

- Field Walks
- Workshops where appropriate
- Information/Fact Sheets
- Improve industry development information in APIA’s social media content
- Industry development articles published in the industry’s magazine *The Vine* and through APIA’s E-news service.

Australian Prune Industry strategic plan states that the industry has the potential to produce 4 500t of dried prunes. With a strong interest from the Californian based Co-Operative, Sunsweet, it is clear that the Australian industry has room to grow and expand.

To increase production levels the productivity of existing growers must be lifted and new growers must be attracted to the industry. The IDO can help guide the new growers in the industry as well as looking at best management practices for the existing growers.

7. Acknowledgements

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- Grant Delves (Chair)
- Chris Ellis (Deputy Chair)
- Jim Granger
- Michael Zalunardo
- Paul Carver
- Tony Toscan
- Peter Raccanello
- Chris Brooke-Kelly
- Jeff Granger
- Phil Chidgzy (National Secretariat)

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- Corey Fitzpatrick – HAL Industry Services Manager (ISM)

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- Michael Zalunardo
- Paul Carver
- Malcom Taylor (Prune IAC Chair)

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- Kristy Bartrop (Winegrapes Marketing Board IDO)

8. Bibliography

9. Appendices

The Vine Magazine Articles



New IDO for prunes

The Australian prune industry has a new Industry Development Officer (IDO). Ann Furner has been appointed IDO following restructuring at the NSW Department of Primary Industries which led to a change in role for former IDO, Tony Napier. Australian Prune Industry Association (APIA) Chair Grant Delves welcomed Ms Furner to the role.

"Ann comes with excellent qualifications for the job and we are looking forward to her input," he said. While many prune growers may recognise Ms Furner as a horticulturalist with Yenda Producers Co-Operative, they may not know that she is also a grower. Ms Furner and partner Anthony Nehme have 6.4 hectares (16 acres) of prunes and 12ha of wine grapes on their Yenda property.

Ms Furner has a Bachelor of Horticultural Science and was employed as a Quality Assurance Manager at the Panda Ranch Group at Cobram in northern Victoria for three years. There she gained a lot of experience with quality assurance systems including EurepGAP (now GlobalGap), Woolworths Quality Assurance (WQA), Freshcare, SQF2000 and HACCP, before seeking employment closer to family in Griffith. At the Griffith Branch of Yenda Producers Co-Operative Ms Furner worked with a cross section of industries that included prunes, citrus, wine grape, vegetable and stone fruit industries before taking extended leave in 2011 to have her first child. Ms Furner said being a grower offered a totally different insight to that of a consultant and being able to mix the two was a tremendous advantage.

"Going from being in an advisory position at Yenda Producers Co-Op and telling people what to do, to growing our own produce and being responsible for day-to-day operations was a huge learning curve," she said. "Anthony and I have made it work and love living on the farm with the kids," she said.

Ms Furner's position as IDO will see her work the equivalent of one day a week. "I have always wanted to get more involved with the prune industry, so when the opportunity to become the IDO arose, I jumped at the chance," Ms Furner said. "The timing is right for me and I am able to juggle my young family, the farm and the IDO role. I will be very busy, however I feel the industry needs some fresh ideas. "With my background in quality assurance and agronomy I feel as though I have been involved in several aspects of the industry and offer a good fit for the role." Ms Furner aims to follow on from where Mr Napier left off.

"During his 12 months in the role Tony provided growers with some excellent information and completed some very interesting trials, including the work he conducted on thinning. "I'd like to thank Tony for the great work that he did in such a short time and I hope that his new role at the DPI offers as much enjoyment as the prune industry afforded you."

Ms Furner's first task will draw on her extensive experience with QA as she investigates the possibility of incorporating a quality assurance system for prune growers. Another key assignment will be to increase APIA's social media profile using Twitter and Facebook, with the main focus of re-educating consumers about the benefits of eating prunes. As a grower, the biggest challenges we face in the industry at the moment are the increasing cost of production and low prices we are receiving for our product," she said. "While I can't do much about global supplies, I can help share knowledge between growers. Knowledge that may be able to increase efficiencies, improve the quality of the product and identify areas where the industry as a whole may pick up."

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12 *The Vine*

The Vine Volume 10 Issue 1 January – March 2014



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Postharvest care of prune trees

Harvest has come to an end for another year and now the focus turns to postharvest care of the orchard. It is an important time of the growing season as it is the last chance to care for the tree prior to dormancy.

During autumn and winter many tasks should be carried out to ensure that the whole orchard is ready for spring.

Irrigation

Postharvest irrigation is essential for a healthy orchard. The trees' water requirements are reduced following the removal of fruit; however it is important to maintain good soil moisture straight after harvest to ensure successful flower bud initiation and bud development for next season.

The impacts of poor soil moisture after harvest can be seen straight away with the tree experiencing premature leaf drop. The general health of the trees will decline with the lack of water; however some of the effects will not be seen until spring.

Premature leaf drop will impact on the availability of nutrients that trees can take up and store for next season. Lack of water can reduce the movement of nutrients throughout the tree which will impact on spring vigour, resulting in poor flowering and fruit set.

When applying winter dormant sprays such as oil, it is important to have healthy trees that are not stressed due to lack of water. Applying oils to unhealthy trees can result in limb die back. It can also affect the timing of bud burst and flowering and reduce the efficacy of the oil spray itself.

Before irrigation water becomes unavailable during winter, flush irrigation systems to remove fine particles, slime and calcium deposits. Clean and replace filters where needed to ensure your system runs efficiently. For growers who flood irrigate, clean supply and drainage channels to allow for an easier start up in spring.

Pests and diseases

Postharvest rust and mite outbreaks can also lead to premature leaf drop. As the nights become cooler and the mornings become dewy, it is important to maintain a good spray program. Prevention is better than



Suckers compete with orchard trees for valuable nutrients and should be removed.

cure so use registered preventative fungicides to maintain a clean orchard. If an outbreak of rust or mites has been identified consult your local agronomist for advice on control methods. Continually monitor for mites and other pests.

Queensland Fruit Fly (QFF) caught some growers off guard this season. With weeks of temperatures above 40°C it was hard to believe that fruit fly survived. There is always fruit left in the orchard after harvest so it is still important to continue monitoring and baiting for the pest in autumn.

During winter months the QFF population may diminish. However some QFF may survive the winter (overwintering) as adults by sheltering in protected places. Controlling the pest now will help prevent an early outbreak in spring as QFF have been known to attack hard and green fruit to maintain the fly population until more fruit ripens.

Prune trees are susceptible to root rot and one that is commonly seen is *Phytophthora*. Autumn is a good time to treat root rot with an application of Phos Acid through drip irrigation. This also has the added benefit of cleaning drip lines.

At 50% leaf fall or during winter it is advisable to apply a copper-based fungicide to help prevent bacterial diseases. This application should be a part of a normal spray program.

Weed and sucker management

Growers know that it is hard to stay on top of all the jobs in the orchard leading up to harvest. Driving a tractor down the rows can sometimes knock off fruit. Straight after harvest is a

perfect time to regain control of weeds and suckers.

Weeds and suckers compete with orchard trees for valuable nutrients and moisture and can harbour pests and diseases over winter. Controlling them before applying postharvest fertiliser will limit competition and ensure the nutrients applied are not diverted away from the crop over winter.

Nutrient program

Some growers may not have applied fertiliser since November (before pit hardening) so the level of essential nutrients may be low. With the extreme heat waves and lower than expected yields a good fertiliser program is indispensable.

Nutrients such as nitrogen (N), phosphorous (P) and zinc (Zn) are all used during dormancy break in early spring so a postharvest application of these three nutrients is important to ensure they are stored in the tree over winter, ready for rapid growth in spring.

Postharvest nitrogen applications are largely stored in the tree and utilised the following season for blossom and fruit development. The timing and application rate will vary from orchard to orchard; however it is best to apply nitrogen when the tree is no longer subject to bursts of vegetative growth. Roots continue nutrient uptake for up to 3 weeks after the start of leaf drop. Phosphorus plays an important role in photosynthesis, respiration, root growth and the development of flowers and fruit. A postharvest application will ensure that P is readily available to the tree during bud burst, flowering and fruit set.

Zinc is a micronutrient required in small amounts in prune trees; however it is essential as it helps catalyse the production of auxin, a plant growth



In cases where bark has been stripped off its trunk by the shaker cover the wound with a horticultural sealant to prevent entry of diseases.

regulator (PGR) essential for normal plant growth and development, including leaf and shoot growth.

Zinc availability is reduced in neutral to alkaline soils so a postharvest foliar application can help prevent deficiencies. Chelated zinc foliar sprays are compatible with most fungicides so read the label or consult a local agronomist before mixing products.

Some trees have reacted to the stress of the summer heat and lack of water by producing flowers. It is important not to fertilise these trees too early which will encourage the tree to keep

the flowers and produce fruit. This would only add more stress to the tree leading into winter.

General orchard hygiene

Occasionally during harvest, a tree may have bark stripped off its trunk by the shaker. Covering the wound with a horticultural sealant will help prevent diseases entering the wound. The sealant is best applied straight after the wound is opened; however if this is not possible apply it within a couple of days to help prevent infection.

Autumn is a time where odd jobs can get done. General orchard maintenance is just as important as postharvest care of deciduous trees. Removing broken branches, calibrating sprayers and servicing machinery will make the start up in late winter easier and less time consuming.

Remember the *Orchard Plant Protection Guide* and the *Australian Prune Industry Manual* are excellent references to help make better choices.

Spend a little time in your orchards now and your trees will be healthier come spring.



Field day takes the heat off drying costs



Bruce Gowrie Smith (left) explains the modifications made to his prune dehydration process.

In late January, more than 30 prune growers and industry representatives attended the Prune Drying - Energy Saving Modifications Field Day. Local prune grower Bruce Gowrie-Smith hosted the event at his Darlington Point property.

Dehydration is a major portion of the total cost of prune production. Improving the energy efficiency of this process is therefore of great importance leading to savings in energy consumption and costs and a reduced carbon footprint.

At the field day, Mr Gowrie-Smith explained how he radically modified his dryer by adopting the recommendations made by CSIRO's Dr Henry Sabarez in his report commissioned by the Australian Prune Industry Association (APIA).



Warm air is delivered to the wet end to help dry and pre-warm washed fruit before it enters the tunnels.

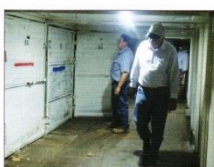
Mr Gowrie-Smith discussed how he installed airflow guidance doors against the front trolley and air blocker overhead slides to prevent hot air loss when trolleys enter the tunnels. He shortened the length of his tunnels to the recommended 5-6metre capacity, and constructed a totally enclosed 'heat recovery ward' to capture all hot air escaping from the dried trolleys.

The heat recovery unit was installed to help reduce the severe spike in energy consumption caused by cool wet fruit entering the tunnels. The system allows for ambient air to be drawn into the ward. Heat energy from the fruit and dry trolleys is transferred to the cooler ambient air, and helps rapidly cool the fruit. This warm air then passes through a heat exchanger where the heat is captured for use in the wet end of the shed.

Mr Gowrie-Smith said the captured heat was reused to help dry off moisture after the fruit has been washed and also helped to warm the fruit prior to entering the tunnels.

Another way Mr Gowrie-Smith is trying to improve his energy consumption is by drawing 60% of all new air into his tunnels from immediately under roof iron where the air temperature is higher.

When dehydrating fruit, managing humidity is very important. To remove all the humid exhaust air Mr Gowrie-



Heat recovery wards capture heat from dry fruit and trolleys for reuse.

Smith installed 18 x 300mm chimneys with a variable 10 horsepower fan.

He has found this harvest to be challenging as managing humidity levels is operator reliant and the humidity continuously changes within a 24 hour period.

After operating with the modification for about two weeks he said the structure appeared more efficient and will not need changing; however the process does need better controls. He suggested that more works needs to be done to automate the process to maximise throughput and minimise energy consumption. He will also improve the pilot light starting system before the start of next season.

Ms Furner thanked Mr Gowrie-Smith on behalf of APIA for hosting a larger than expected crowd and sharing his experiences.

The Vine Volume 10 Issue 2, April – June 2014



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California bound



In July 2014, eight growers and two industry representatives will participate in a study tour looking at the Californian dried plum industry. Tour organisers successfully secured matched Federal Government funds for the project through Horticulture Australia (HAL).

It is an important time for the Australian prune industry - the future of the industry depends on it re-establishing itself as a reliable supplier of high quality prunes on the domestic market and opening export markets the can attract premium prices.

In order to achieve this outcome, the industry must provide growers with confidence in the future by improving prices, developing good market intelligence and providing latest research results and information on new technologies and practices which will help growers to increase their productivity and profitability.

Study tour participants believe we can learn a lot from the Californians and our objectives for the trip are:

- On-farm visits - to observe and discuss best practice production management
- Prune processor/marketer visits - to observe and discuss best practice processing using the latest available technologies to produce high quality end products. To also assess the latest prune market outlook and gain a better understanding of consumer trends.
- Research (prune breeding) - to discuss and review on-going prune breeding programs in California and

to investigate the potential for a non-suckering rootstock which could add value to the Australian industry.

- Research (water related) - to review research projects being undertaken in relation to water use efficiency.
- Research (solar heat exchanges) - to review the use of solar energy in the dehydration of prunes.
- Research (nutrition, pest and diseases) - to review advances in orchard management.
- Retail visits - to observe and better understand consumer trends and retail marketing developments in California.
- Californian prune industry contacts - to establish new industry contacts and re-affirm others so as to improve the communication between the US and Australian industries and ensure growers in both countries are better informed.

To achieve these objectives the tour group will be visiting the likes of processors such as Sunsweet, Valley View Packing, researchers such as Ted De Jong at the University of California, Davis campus and industry representatives such as the Californian Dried Plum Board and California Prune Bargaining Association.

DP13701 Californian Prune Industry Study Tour 2014 is being funded through HAL using voluntary contributions from industry and match funds from the Australian and Government.

Sunsweet shows strong interest in Aussie prunes

Californian processor Sunsweet is looking to protect their brand and secure their supply by sourcing prunes from Australian growers. Sunsweet President Dane Lance, General Adviser Howard Schenker, and Chairman of the board Gary Thaira, visited Griffith on 19 May to meet with and establish relationships with Australian growers who are interested in supplying them with prunes. The Sunsweet management team has visited Griffith three times in the last six months, a sign that they are very interested in the region.

Sunsweet is a grower owned co-operative with 300 members. It is the world's largest processor of prunes and has drying facilities and processing plants in northern California. The co-op also has processing plants in Chile and Hong Kong.

Supply from California is uncertain due to unpredictable growing conditions and the ever increasing pressure from more valuable crops such as walnuts and almonds.

Sunsweet is looking to import fruit from Australia to help secure the tonnages required to sustain their market share.

The Californian processor is at the point where they will have to tell



Howard Schenker (left) and Dane Lance (right) from Sunsweet talking to growers about growing the prune industry over the next 5-10yrs.

some of their very good customers that they do not have any product to supply them. To lose very good customers will damage the Sunsweet brand, in which they have invested hundreds of millions of dollars developing.

At the meeting in Griffith Sunsweet management said they were buying prunes from Chile to fill the shortfall, and by 2018 forecast 13% of its supply would come from outside the US.

Sunsweet told the meeting they are looking for 5,000 tonnes of Australian prunes within the next five years, with the potential to grow that to 10,000t over 10 years.

Bruce Gowrie-Smith, a prune grower from Darlington Point NSW, has organised approximately 200 tonnes of unprocessed prunes to be exported to Sunsweet in California this year. The first containers were due to arrive on 29 May.

Sunsweet will conduct several trials with Mr Gowrie-Smith's fruit to see whether the different varieties grown in Australia can be pitted and processed successfully. 98% of all prunes grown in California are of one variety, French Improved.

Once the Australian fruit has been processed Sunsweet will provide feedback to the Australian growers about pack outs, pitting success and overall quality of the product.

The Australian Prune Industry Association (APIA), processors and growers agree on the need to stimulate investment in new plantings of prunes and lift the level and quality of Australian production from current levels. Sunsweet's interest in Australia may just provide growers with the confidence and positivity needed for the industry to invest and expand.

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Prune Varieties Field Day



Host Tony Toscan and APIA Chairman Grant Delves inspect the vigorous growth of Muir Beauty.

A renewed interest in growing prunes saw more than 20 prune growers and industry representatives from Griffith and Young participate in a Prune Varieties Field Day. The field day was held at Tony Toscan's farm 'Cavasso', at Darlington Point on 4 June, 2014. The focus of the field day was the new varieties planted as part of the Horticulture Australia (HAL) Project DP12000 Assessment of new varieties to improve fruit quality in dried prunes. The project has four variety evaluation sites - Young, Gobarr, Yenda and Darlington Point - with the latter two providing the bulk of results to date.

Anne Mooney manages the project and was on hand to explain what the project entailed. The goal is to see if we can improve the quality of Australian dried prunes by growing different varieties.

Five varieties - Sutter, D'Agen, Muir Beauty, California French Improved and Van der Merwe - are being evaluated against industry standards. Ms Mooney said the majority of trees were planted in 2010 so they are still young in terms of orchard trees; however measurements of blossom

dates, tree growth, fruit development and some dry-out ratios have been recorded since the start of the trial.

The results will become more interesting in the next couple of years as the trees mature and produce commercial quantities of fruit. This fruit will be evaluated for dry-out ratios and ease of pitting. Several rootstocks are also being evaluated, looking particularly at suckering and stabilising properties. Suckering in prune trees is a concern for all growers. Rootstocks that do not sucker are preferable, as suckers are a drain on the main tree's resources, and must be removed, which can be time consuming and very costly.

Ms Mooney told the field day attendees that prune trees can be quite unstable and can fall over easily. This not only poses a health and safety risk, but results in additional costs associated with replanting the fallen trees.

She said this component of the project aimed to identify rootstocks that would lead to a more stable, longer lasting tree. Mossmont Nurseries supplied the



The grower group was keen to hear from Ian Moss (left) about his recent trip to California.

trees in winter 2012 for evaluation. Owner Ian Moss has been involved throughout the trial and contributed to informal discussion about variety evaluation and rootstocks. Mr Moss travels to California regularly to meet with plant breeders and assess new varieties for potential in Australia. On his most recent trip he saw several of the trial prune varieties in a more mature form and shared his observations with the field day attendees.

Everyone agreed that Mr Toscan has managed the trial site exceptionally well and the trees are in an excellent condition. Industry Development Officer Ann Furner, on behalf of the Australian Prune Industry Association, would like to thank Ms Mooney and Mr Moss for the information provided on the day, and express gratitude to Mr Toscan for hosting the field day.



The variety trial site on Tony Toscan's property at Darlington Point.

Aus Prunes fan base grows



Grower profiles such as this featuring Michael Nehme and dog Daisy were popular on social media and helped connect with consumers.

The Australian Prune Industry Association (APIA) rebooted its social media campaign this year with a revival of its Facebook page and Twitter account, both of which were launched in 2011. This gave us a valuable platform from which we could engage once again with leading food and health media in the traditional and social media spaces and with the general public.

The campaign focused on educating the public about Australian prunes (branded: Aus prunes) and encouraging consumers to choose local product by connecting them with growers and the industry.

We posted photos and stories from the orchards and from the processor/packers. We also posted our own recipe ideas and recipe links, as well as industry news such as the 2013 International Prune Association Congress in Australia and the latest health research about prunes.

On a number of occasions we profiled a "grower of the month", posting photos and news from a grower's orchard. These proved to be the most popular posts on both Facebook and Twitter, attracting many likes and shares, showing that consumers are keen to know more about the farmers who grow their produce.

As soon as the campaign began, a number of key food and health media identities expressed their support for Aus Prunes and posted positive comments about the health benefits of prunes, as well as photos and recipe ideas, particularly on Twitter. The campaign also forged new connections with leading social media identities and their followers.

We started with just 32 likes on our Facebook page in June 2013 and with careful promotion, this grew to fan base of 1,500 over the 12 months of the campaign. However, the beauty of social

media is that the messages are shared and distributed to a far greater number of people.

Facebook measures how many times a post appears (impressions) and the number of people it reaches (reach), as well as engagement levels (those who like a post, click through on a link, view an image or video, comment or share the post). The total number of impressions during the 12 months was over 1 million (1,003,397) reaching over 400,000 people (401,572). Of these, around 1.5%, or just over 6,000 people engaged with the page.

Another highlight of the Facebook campaign was the competition that ran in May. The prize was a hamper of delicious, local Riverina gourmet foods, including Aus Prunes. Our posts promoting the competition were shared almost 500 times and attracted over 140 entries. Many thanks go to the wonderful suppliers who supported us with product.

In Australia, Twitter has only one-fifth the number of Facebook users (approx. 2.5 million on Twitter compared to 13.2 million using Facebook) and our Twitter account reflects this, with 245 followers. Our campaign focused on seasonal and health messages about Aus Prunes and building conversations online with key food identities. A number of high profile foodies began following us early in the campaign, including Lyndey Milan, Paul Wilson, Audra Maurice and others.

Recent updates to the APIA website include links to our Facebook and Twitter pages and the addition of a new page, from Plum to Prune to further educate consumers about prunes.

The APIA now has a stronger base from which to continue telling the Aus Prunes story and encouraging consumers to 'buy local'.



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Sunraysia trip sparks renewed enthusiasm in prunes



The grower group visiting Mildura Fruit Company.

Australia's prune growers are keen to learn more about the processing side of the industry with a recent trip to Sunraysia, Victoria, well attended. The group of 20 prune growers and four industry representatives from Yenda Producers Co-Op visited the Sunbeam Foods and Angas Park processing plant in Irymple.

In 2013, Sunbeam relocated the Angas Park processing plant from Angaston, South Australia to Irymple, Victoria. This was an attempt to centralise their processing facilities and update technology. And it worked. The growers on the tour have now seen both processing plants commented on the vast improvements compared to the old facility.

Growers were able to see their own prunes being processed as well as several other dried fruit lines including sultanas and apples. This was just a few lines of dried fruit that Sunbeam Foods pack on site.

An upgrade to the prune pitting machine and streamlining the packing process has allowed Sunbeam Foods to process and pack prunes at a faster and more consistent rate resulting in a better quality product for the consumers. Sunbeam staff admit that there is still room for improvement; one area in particular is in grower feedback, which growers welcomed.

During a quick presentation after the plant tour Sunbeam staff spoke positively about the future of the prune industry, marketing ideas and

improving overall prune quality. To help improve the quality of the fruit at the start of the supply chain Sunbeam staff members hope to have a greater presence in the growing regions during the growing season. A grower feedback and quality improvement system is still in development; however growers welcome the changes and hope it will help provide the consumers with a more uniform product.

Once again, the importance of growing high quality, consistent product was highlighted.

Sunbeam Foods General Manager Grant Leydon, spoke briefly about the promotions of prunes. He mentioned the *Everyday Gourmet* Television show with Justine Schofield on Channel 10 at 4 o'clock on weekdays and how it is helping to move away from the breakfast bowl by demonstrating the diverse uses of prunes and other dried fruits when used to make healthy snacks for kids, main meals and desserts.

It is understood that households have around 12 standard meals that they alternate regularly. With Ms Schofield's help Sunbeam is hoping to get prunes into at least one of those meals. Mr Leydon said the people over the age of 45 were the main purchasers of prunes but *Everyday Gourmet* targeted young

mothers and helped bring prunes to a younger audience.

After the presentation the grower group enjoyed an informal relaxing dinner at the Pizza Café in Mildura with delicious food and wine.

Several of the growers from Griffith also grow oranges and were interested to visit Mildura Fruit Company and Mildura Fruit Juices while in the region. Once again, the importance of growing high quality, consistent product was highlighted. Growers were told how this helps take advantage of export markets that attract premium prices. This is something the Australian prune industry can relate to at the moment with potential long term export markets opening.

The trip was finished with a BBQ lunch at Loch 11 on the Murray River. It was beautifully timed so the visitors could see the Loch in action as a paddle steamer headed upstream. The river was a gorgeous setting to relax before for the five hour bus trip home.

On behalf of the Australian Prune Industry Association, Ann Furner, would like to thank Sunbeam Foods Management team Chris Ellis, David Swain, Mr Leydon and Grant Sinclair for taking time out of their busy schedule to spend with the grower group. Also, a special thanks to Yenda Producers Co-Operative who provided the bus and driver for the trip and staff Trevor Piva and Peter Calabria who organised the bus and accommodation.

US study trip confirms new opportunities



Large scale organic prune orchard at Taylor Bros' Farms, Yuba City, California.

A positive vibe for Australian prunes has gained momentum following a recent trip to California.

A delegation of eight growers, a consultant and one partner travelled to California in mid-August to study the Californian prune industry. The group visited many areas including: Sacramento, Yuba City, Live Oak, Orland and Red Bluff and met with growers, packers, machinery manufacturers, contract harvesters, researchers, and representatives from the Californian Dried Plum Board and Californian Prune Bargaining Association.



Erick Nielsen Enterprises' heavy duty pruning saws.

Prune acreage

A major aim of the project was to evaluate the current shortfall of Californian prunes, determine the causal factors and the impact on future production from the region. Plum acreage has, and continues to

be replaced by much higher return crops such as almonds and walnuts. A recent survey of eight of the 10 major nurseries revealed growers have planted an additional 19,400 hectares (48,000 acres) of almonds in the last 12 months. This is an increase of 25% over the previous year.

Interesting the group observed old plum trees were generally not being replanted to plums and most of the new plantings were walnuts. One example is the Lindauers orchard at Red Bluff which was 100% prune three years ago, but is now 70% plums and 30% walnuts.

Water issues

Prolonged drought has seriously reduced water availability particularly in Southern California. Drilling is rampant throughout the state as desperate growers sink bore deep into the aquifers below.

Some large diversion schemes in the North (Sacramento to Red Bluff) have no allocation of water, but are surviving on carryover trading between shareholders.

Land values

Prices for land suitable for permanent plants ranged from \$37,000 to \$69,000/ha (\$15,000 to \$28,000 per acre).

Varieties

The majority of the Californian plums grown are of the variety French Improved. Sunsweet has confirmed that all three Australian varieties - 707, 698 and 303's handled well during processing.

Australia's 707's appear to have different tree cropping characteristics. Fruit shape and suitability to their pitting machines compared to the old US 707's. As such Sunsweet will refer to the Australian varieties as AUS707, AUS698 and AUS303 in the future.

Established plum orchards

The group observed a small percentage of relatively new (3-5 years old) well managed plum orchards with trees planted at higher densities (4.2 metres x 5.4m; 14 feet x 18ft).

Generally trees on the older plantations were of a smaller stature than well grown Riverina trees. Fruit size immediately before harvest was only average.

Several orchards had as many as 15% of trees missing. The trees had not been replaced, further reducing the productive capacity of the orchard.

The size and vigour of orchards were better in the north of the state.

Most blocks were drip irrigated. Trees that were flood irrigated were generally short and labour intensive.

Despite the small stature of trees many blocks were manually staked to support branches. These stakes would be removed just before harvest, an operation requiring further labour.

Drying prunes

A number of well-designed drying operations were inspected. Most loaded trolleys are assembled and are exposed to the elements as there is a very low chance of rain.

The drying temperatures (82-88°C; 180-190°F) are similar to Australia. The ambient humidity is low in the drying months and in one case the end dryer doors were removed. Gas and labour are 50% cheaper than Australia.

All drying trays are made out of local wood. They refused to be drawn into debate on the risks of wood splinters even though splinters were very evident when examining freshly made trays.

Clearly their surplus drying capacity allows them to handle most of the crop at optimum sugars.

Packers

Taylor Bros' whole operation including their organic orchard was a showplace. Most of their sales (80%) were exported. They have a packing facility in Poland.

Sunsweet claim to be the world's largest dried fruit packing facility with a reported turn of 40,000 cartons/day. The group were given the opportunity to examine the high tech pitting machines which in the past have been off-limits. The Australian fruit (707's) being steamed, pitted and packaged on the day of our visit was being handled in exactly the same format as the best of their French Improved variety.

Environmental laws

New pollution laws are gradually coming into effect in California and impacting growers and processors. The tougher laws are forcing machinery manufacturers such as COE and OMC to fit new lines of diesel John Deere motors to prune harvesters.

Concern for native fauna and habitats, particularly those associated with the waterways continues to create havoc for the horticulture industry. The group witnessed the forced retirement of a fish diverting ladder which was replaced with a new \$180 million system to ensure no loss of salmon fingerlings.

Ongoing drought conditions have seen many growers sink bore to keep their trees alive. Bore water is not currently monitored, but the growing number of bores and reliance on underground aquifers has raised the ire of environmentalists and the general public, with an increasing call for new reforms in this area.

Outcomes

The full itinerary of the study tour provided participants much to talk about of an evening.

As the US struggles through drought and increased pressure from more valuable crops the group feel there is room to expand plantings and grow the Australian industry. We have good growing conditions and readily available water which could help make up the US tonnage shortfall.

Each day the group was encouraged by what they saw and the potential marketing opportunities that lay ahead.



Young prune orchard in Orland, California.

They acknowledged that their US counterparts are much more advanced when it comes to promotion. They have been able to:

- Better educate their consumers about the health benefits of prunes
- Changed the focus from just the digestive benefits
- Maintain promotions in both good and bad production years to continuously have prunes in the back of the consumer's mind.

A lot of money, time and research has been put into developing new products and novel way to use prunes. Some of the new ideas include:

- Diced prunes
- Single packaged prunes
- Prune Puree as a meat tenderiser

The trip to California was a very worthwhile effort. The group returned with a renewed sense of confidence in the future of the Australian prune industry and lots of great ideas to share with their fellow colleagues.

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