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**Tree Fruit**

**JULY 2015**



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Cripps Pink fruit that meet marketing specifications for colour can be sold under the trademark name Pink Lady™ but they must have a minimum 40% blush (bright pink) surface coverage.

**Achieving sufficient blush for Cripps Pink to meet these Pink Lady marketing specifications can be difficult because synthesis of red anthocyanin pigments in the skin is reduced by shading and high temperature.**

*Continued from June 2015*

#### Crop load

Crop load is known to influence colour development.

Excessive load with fruit clusters of two to three fruits can reduce blush through direct shading of neighbouring fruit, or through competition for assimilates needed for increased blush (Gurnsey & Lawes 2014; Fox 2014).

#### Regulated deficit irrigation

Regulated deficit irrigation (RDI) reduces vegetative growth thereby allowing more light to penetrate the canopy and colour fruit, however, RDI will reduce fruit size.

#### Root pruning and trunk girdling/scoring

Root pruning and trunk girdling (or scoring) are also likely to benefit blush by curtailing vegetative growth and reducing shading but care must be taken to avoid water stress that will reduce fruit size.

#### Reflective cloths and films

Reflective cloths and films, sometimes called mulches, can be placed on the ground surface between tree rows for two to four weeks before harvest. They reflect light back up into the tree canopy and can increase red colour (Figure 1).

#### Effects of nitrogen

Many studies have reported that red apple colouration decreases as application rates of soil or foliar nitrogen increase (Wang & Cheng 2011) but more research needs to be focussed on Cripps Pink grown under Australian conditions to fully understand the impact of nitrogen on colour development.

Graeme Thomson<sup>1</sup> and Ian Goodwin<sup>2</sup>  
Department of Economic Development, Jobs, Transport & Resources

# Managing blush on Cripps Pink apples (part 2)

<sup>1</sup>AgriBio Centre, La Trobe University Campus - Bundoora, Victoria <sup>2</sup>Horticulture Centre of Excellence, Tatura, Victoria

# Managing blush on Cripps Pink apples

## Drape Net



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One way nitrogen can reduce red colouration is by increasing foliage production, leading to shading and less light penetration into the canopy.

It is now also understood that increasing nitrogen supply delays red colour development by decreasing both anthocyanin synthesis and chlorophyll degradation in apple skin.

Orchard management systems need to supply enough nitrogen to optimise tree health and yields without allowing excessive nitrogen concentrations to build up in the foliage and fruit.

### Application timing

Timing of soil and foliar fertilisation is important.

Applications that are made in spring during periods of rapid vegetative growth are likely to exacerbate shading problems.

Nitrogen applications in the weeks immediately prior to harvest are also likely to impact negatively on blush development.

Negative effects on fruit colouration might be mitigated by moving nitrogen application to the postharvest period. However, postharvest applications of nitrogen could have mixed outcomes in Australia because Cripps Pink is harvested very late and little opportunity would remain for nitrogen uptake to benefit tree health.

### Netting

Some reports show that over-tree netting used for pest, hail and sunburn protection can lower light levels under nets to the point where colour development is impaired.

Conversely, the shade created by netting can reduce fruit temperatures during hot weather and on these occasions there are benefits for anthocyanin accumulation.

# Managing blush on Cripps Pink apples

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The amount of light that is cut by nets depends mainly on weave density (i.e. the porosity) and to a lesser degree on the transmission properties of the fabric.

In practise, netting in the orchard needs to transmit high levels of two different categories of light for best fruit development and colouration. That is, photosynthetically active light to aid sugar accumulation and wavelengths that specifically promote anthocyanin biosynthesis.

Orchardists are advised to seek technical specifications from their net suppliers bearing in mind that blue-violet and ultra-violet wavelengths are believed to be most effective for apple blush induction (Ubi 2004).



Figure 1. Reflective material placed on the ground a few weeks before harvest can bring more light into the lower canopy to help improve colour.

## Conclusion

In summary, there are many orchard practices in Australia known to affect colour development in Cripps Pink apples.

To optimise blush development in fruit, practices that increase anthocyanin development in the skin need to be encouraged while those that hinder colour development need to be minimised.

Practices that improve skin colour development include canopy management to optimise light penetration and reflective mulches to deliver light into the lower canopy.

Other practices required to optimise blush are proper management of crop load, nitrogen fertilisation, irrigation and appropriate netting that transmits enough light for anthocyanin synthesis.

# It is possible to increase yields of close-planted Williams pear trees by changing the way you manage trees, not by changing the rootstock.

**Fruit set of Williams' Bon Chretien (Williams) has been well documented. For instance it is known that Williams is variably parthenocarpic—which means it sets fruit without pollination—and that pears grow to full size without fertilisation. It is also known that the rate of parthenocarpic fruit set is genetically determined among pear varieties, but is greatly affected by the environment.**

In Australia, Williams flowers were believed to set fruit by vegetative parthenocarpy, and fruit grew without any exogenous stimulant such as pollination or plant growth regulator.

However, trees often took 7 to 9 years before enough fruit could be harvested, and free-standing trees took at least 17 years to settle down to a modest 40 to 45 tonnes per hectare. This was because trees were planted at low density (278–330 trees per hectare), the seedling rootstock *Pyrus calleryana* D6 was

used, and because young trees were pruned hard with many heading cuts made in winter—which resulted in mature trees becoming 'over-limbed' and 'over-shaded'.

## Pollination research

Most research on pollination and fruit set of Williams showed that cross-pollination increased fruit set compared with that of self-pollination.

Research report by Bas van den Ende and Mick Conti\*

# Manage Williams pear trees to boost yields

\* Mick is an orchardist from Ardmona, Victoria



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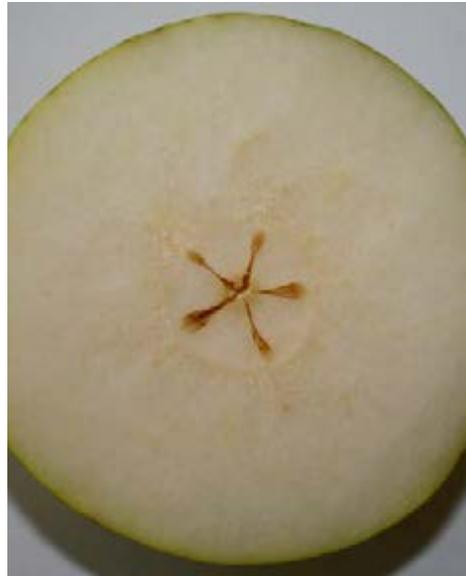
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# Manage Williams pear trees to boost yields



Most research on pollination and fruit set of Williams agrees that cross-pollination leads to higher fruit set than does self-pollination. Cross-pollination often leads to fertilisation but the pears have no seed, because development of seeds has prematurely stopped—leaving small seed-like structures (integuments). It has been reported that auxin and gibberellins that are normally produced in seeds in most fruit, are also produced in the fruitlet's pericarp at high enough levels to induce fruit set and maintain fruit growth.

Cross-pollination often led to fertilisation but fruit remained seedless when ripe because the seeds did not mature, but left small seed-like structures (integuments).

The hormones auxin and gibberellins are produced in seeds in most fruit, and are also produced in high enough concentrations in the fruitlet's pericarp to induce fruit set and maintain fruit growth.



Most Williams trees in the Goulburn Valley are old large trees (dinosaurs), which are expensive to maintain, have generally low yields and poor fruit quality. Many Williams blocks have been bulldozed and replaced with mainly apple trees.

## Seedling rootstock blamed for poor tree performance

Although we know a lot about the Williams pear, most orchardists, especially in Australia, have been concerned that trees take a long time to come into production, and that yields of mature trees are relatively low and fruit is of poor quality.

The use of a vigorous seedling rootstock was often blamed for the poor performance. No wonder much of the research was, and still is, focussed on finding the perfect size-controlling rootstock.

Many believe that the performance of Williams could only improve if trees are planted at high-density and on a size-controlling rootstock. Finding, therefore, the equivalent of the M9 apple rootstock has been, and still is, the Holy Grail of a hardy, size-controlling, precocious rootstock.

The pursuit of producing such a rootstock has been going on unabated for more than 60 years. Some may argue that progress has been made.

# Manage Williams pear trees to boost yields

## Pollinisers, beehives and RDI

When it became known that cross-pollination enhanced fruit set of Williams, orchardists in Australia began to interplant Beurre Bosc (Bosc), which flowered with Williams.

However, copper sprays were usually needed to make the skin of the Bosc brown (russet), while Williams pears had to remain russet-free.

Packham's Triumph (Packham) trees were sometimes interplanted with Williams trees, but Packham was a poor polliniser because it flowered earlier than Williams.

It was later discovered that the nashi (Asian pear) variety Nijisseiki was a much better polliniser, because it started to flower just before Williams did, was very precocious, spurry and compact, and bees liked the nectar.

## Interplanting + bee hives=increased yields

Orchardists who interplanted their old free-standing Williams with Nijisseiki and introduced beehives, saw that yield increased.

## Regulated deficit irrigation reduced vigour

Regulated deficit irrigation (RDI) helped to reduce excessive vigour, but the peculiar fruiting habit of



Results of experiments with Williams on *Pyrus calleryana* D6 rootstock on Tatura Trellis and Open Tatura have shown as early 1975, that trees can be tamed and made productive at an early age. The latest experiment in an Ardmona orchard has shown the true potential of Williams, which may well cause a re-think of this once popular pear variety.

Williams made it difficult to match the production of other spur-type pear varieties.

## High density planting

*Pyrus calleryana* D6 has been widely adopted in Australia since the 1950s.

It is hardy for arid Australia, compatible with all European pear varieties, easily propagated (from seed), and the scion can be made precocious if well managed.

It was not until Williams trees on *Pyrus calleryana* D6 rootstock were planted closely and trellised, nashi pollinisers were interplanted, beehives were introduced, RDI, drip irrigation and Ethrel were used to control shoot growth, that precocity improved and trees could be brought into full production by year six (see *Tree Fruit* November 2003, September 2004, May and June/July 2007).

## How we achieved the highest production efficiency ever

*continued next month*

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Peter Gray

# CPA

The  
business  
of fruit  
growing

**These days there would be rare instances where a business did not produce profit and cash flow budgets—especially larger businesses that carry significant debt.**

## Putting your budgets into context

**The volatile nature of some agricultural production and trading environments has encouraged banks to mitigate their potential lending risk through demanding more comprehensive reporting about each client's financial performance and position.**

In the effort required to prepare that information the bigger, long-term picture of the business and family can be obscured, or forgotten.

One way of breathing life and real interest into the budgeting process is to keep in mind the context in which they are prepared.

### Different circumstances

Naturally, businesses will find themselves in different situations at times in their life cycle.

Some situations are so demanding that any long-term family plans are simply put to one side because short-term priorities rule behaviour. For example:

- **Those in crisis.** Sustaining a number of seasonal losses can place a business in a vulnerable position.

Equity has been eroded, and there may be doubts about the capacity of the owners to meet lenders' debt-servicing requirements.

In this case, long-term plans can be forgotten in the day-to-day demands of generating enough cash flow to merely survive.

- **Those expanding.** Business expansion is a positive thing and is normally undertaken in response to long-term goals.

However, expansion can also come with significant financial risk and, again, the immediate need might be to meet specific, large, funding repayments.

Then there are those in 'stable' environments. These businesses are in that part of the business cycle when things are going pretty steadily from one year to the next. For these owners there is no excuse not to reflect on why they are in business in the first place.

### Longer-term vision and profits

Owners should preferably be trying to ensure that they are considering the business and personal needs and expectations of family members some three to five years ahead, and implementing actions that will create the preferred future.

It is from this exercise that business strategies flow for which financial measurement and reporting is required.

It is the business which must deliver the profit flows that will enable personal expectations to be met.

### Creating and implementing that long-term vision

*continued next month*



Russell Fox

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# IPM Practitioner

This is a series of articles about practical IPM—the IPM carried out by orchardists and advisors—those of us who walk the orchard, monitor, and see what is out there; and then advise on pest, disease and weed control.

## Australia is probably the last country in the world not to have Varroa mite.

We are extremely fortunate being an island nation. However, with increased trade and travel and reduced biosecurity funding and resolution, it is a case of when and not if Varroa mite arrives.

Varroa mites—one of the most serious threats to honey bees worldwide—are infiltrating hives by smelling like bees, according to a new study appearing in *Biology Letters*.

*Continued from June 2015*  
**Chemical camouflage**

This new study shows that Varroa mites were able to switch honey bee hosts by switching their scents—a form of chemical camouflage.

For chemical camouflage we think of squid and chameleons with their colour-changing camouflage. Sex pheromones used in mating disruption of codling moth and Oriental fruit moth are well known.

However, fooling socially sophisticated insects, such as honeybees, requires the faux scents to be incredibly accurate.



Varroa mite on a honey bee.

This is because the complex society of bees comprises tens of thousands of individuals divided by a sophisticated caste system.

So, the mites aren't simply tricking a solitary bee collecting pollen from a flower; they're fooling an entire society. The stealthy mites do this not only by being able to smell like bees, but also by effectively emitting the specific scents of small, individual colonies.

"Mites from Asian honeybees—or the original host—are more efficient in mimicking both Asian and European honeybees," said Zachary Huang, an entomologist at Michigan State University and one of the paper's lead authors.

"This remarkable adaptability may explain their relatively recent host shift from Asian to European honey bees.

"The codes in which the mites communicate are hydrocarbons, the simplest of organic

compounds. By tweaking the proportions of these chemical colognes, the mites give off the correct scents to fool their hosts.

"They are essentially getting through the door and reaching the inner sanctum by using bees' own complex communication codes against them."

Huang and his team showed that Varroa mites are able to change their surface chemicals to mimic an entirely different species of honey bee.

They also revealed that the mites were able to make these changes rather quickly—adapting in days rather than evolving over generations.

"Our study challenged the mites' ability to modify their hydrocarbons," Huang said.

"Conversely, bees are adapting to detect these invaders.

"Our results give a clear illustration of an arms-race between the parasites and the host bees based on chemical mimicry and its detection."

# Varroa mites & honey bees (part 2)



Ken Gaudion

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All about  
**CHERRIES**

## The Federal Government recently released a report on agricultural competitiveness.

You can find it at [agwhitepaper.agriculture.gov.au/white-paper](http://agwhitepaper.agriculture.gov.au/white-paper)

The terms of reference included improving farm gate returns, farm debt and access to finance, supply chain competitiveness, job creation, infrastructure, skills and training, research and development, regulatory effectiveness, market access, and food security.

Plus there is a commitment by the government to review drought support.

These subjects would be of interest to most cherry producers.

### The five main priorities identified are:

- **A fairer go for farm businesses**, to keep families on the farm as the cornerstone of Australian agriculture, by creating a stronger business environment with better regulation, healthier market competition, more competitive supply chains and an improved tax system.
- **Building 21<sup>st</sup> century water, transport and communications infrastructure** that supports efficient movement of our produce, access to suppliers and markets and production growth.
- **Strengthening our approach to drought management** including providing the tools to facilitate more effective risk management by farmers and a long term approach to drought that incorporates provision of enhanced social and community support for farming families and rural communities, and business initiatives for business preparedness and in-drought support.

- **A smarter approach to farming** based on a strong research and development system that underpins future productivity growth; and effective natural resource policy that achieves a cleaner environment as part of a stronger Australia.
- **Access to premium markets** through the availability a large number of premium export markets open to our produce and a stronger biosecurity system that maintains our favourable plant and animal health status.

### Have your say

Fine words and principles all; but unless you as cherry producers are prepared to have a say during the submission period, do not complain about what might be missing or what you might have preferred.

I raise the subject so that you as growers may be more aware. The document is over 120 pages and takes some time to digest.

Access the document and have your say or coordinate a response through your state or federal organisation before submissions close on 12 December 2015 via [agwhitepaper.agriculture.gov.au](http://agwhitepaper.agriculture.gov.au)

# Agriculture White Paper & your business



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The ability to monitor your progress is integral to the Nutrition Farming® approach.

#### **Brix tips**

You are measuring the light refracting through the dissolved solids on the screen of this sawn-off little telescope.

*Continued from June 2015*

#### **Foliar formulation to lift Brix**

An appropriate foliar formulation will rapidly lift brix levels in your crop.

This understanding can serve to help determine the most suitable foliar spray at any given time.

#### **Here's how you can make this work for you.**

You have a field of wheat and you know that it could be performing better. Something is missing and you can only guess what that missing link might be.

Your guesses can be far more informed if you do the following: using a hula hoop to represent one square metre, you can field test your theories.

One m<sup>2</sup> is one 10,000<sup>th</sup> of a hectare. If you were intending to use 5 L per hectare of a liquid fertiliser, for example, that is 5000 mL per hectare or 0.5 mL per m<sup>2</sup>.

In this instance you would simply add that amount of the fertiliser to a little water, in a 500 mL spray bottle, and apply that to the area enclosed by the hula hoop.

You might use a similar process to deduce a suitable rate for other likely candidates on the trial area.

You might, for example, field test four possibilities in this fashion. Leave the treated areas for 60 minutes and then re-test the respective brix levels of the crops within the four hula hoops.

The formulation that delivers the best brix level increase within the allotted 60 minutes is the formula that will deliver the best response on your crop.

There may even be formulations in your field trials that will actually drop brix levels within that time frame. You will be thankful that you did not select these inputs to improve crop nutrition.

This technique offers immediate feedback to determine the most productive input at any given time and it can be a productive yield-building strategy.

#### **Brix levels and storm warning**

Brix levels can also offer a warning of damaging storm events.

Typically, the plant builds brix levels with photosynthesis throughout the day. At around 5 pm this process stops and soon after, the plant begins to pump sugars down to the roots and the beneficial organisms surrounding those roots. As a result, Brix levels will always be higher in the late afternoon than in the morning.

If you notice a sudden drop in brix levels outside of those times, it may be a warning of an impending storm.

It turns out that plants have a barometer-like capability that enables them to forecast a sudden change. If the brix level plummets at midday you might choose to batten down the hatches because trouble is brewing.

Brix levels should never fall during the day and if they do, it may be linked to a survival strategy. The plant 'knows' that a hail storm may strip all of its leaves, so it pumps down as much sugar as possible to the roots, as an energy reserve to fund the rebuilding process.

Unfortunately, this understanding is of little solace to the grower who is about to lose a season's investment. There is usually not much we can do about a hail storm.

#### **Brix and boron levels**

*continued next month*

# The beauty of Brix (part 3)

# Packing logistics is as easy as ABC!

## Packhouse software specialists **ABC Software** have created a comprehensive packhouse software solution called **ABC Pack**.

The software encompasses **Bin Delivery, Grading Batch/Run, Palletising, Inventory Management, Sales Orders, Despatch and Invoicing.**

Each of these modules can be customised to your needs, and additionally new modules can be developed, such as Grower Payments.

“It’s packing software made to fit your processes and unique business requirements,” says Business Development Manager, Chris Shakeshaft.

“Our team has spent the last 18 months perfecting ABC Pack. The end result is a comprehensive solution that can then be customised to suit each individual packing operation no matter what they’re packing.”

### Working with horticulture

ABC Software has been working alongside large horticultural organisations for many years.

A well-established respected technology company, ABC Software specialises in providing efficient, quality solutions in both Australia and New Zealand.

Sharon Chapman and Julie Gillies, co-owners of the company, are both IT professionals with many years experience in designing and building tailor made solutions.

Their aim is to make a real and positive difference to their customers’ businesses through software excellence and outstanding customer relations.

### Relationship with Mr Apple NZ

“The relationship Mr Apple has with ABC Software is a type of business relationship a company is always looking for,” says Andrew van Workum, General Manager Mr Apple NZ Ltd.

“They work with us to find a solution rather than trying to tell us what we need.”

### Four keys of success

All ABC Software’s solutions are designed with four keys of success in mind:

- Efficiency—improved profitability and positioning for growth
- Accuracy—having confidence in your data
- Traceability—giving your customers confidence in your product
- Visibility—real-time controls.

### Working with One Harvest

“The efficiencies ABC’s software has created are game changers,” said Andrew Beard, IT Manager, One Harvest.



“At the completion of a day’s packing we can have the end-of-day process—including all reporting—done in ten to fifteen minutes.

“Prior to ABC’s software it would have taken hours.”

### Understanding client requirements

“Understanding the diverse requirements of our clients and then developing solutions for them is what we do best,” says Ms Chapman.

A mantra of ABC Software is to deliver quality-centric business solutions. This means taking clients through a step-by-step process of their requirements to ensure the solution will meet their required outcomes.

ABC Software’s clients fully participate in the development process giving them confidence the solution is fit for purpose.

### No obligation demonstration

At no obligation, ABC Pack can be demonstrated to allow a prospective client to see how the software functions and visualise/discuss how it may work in their organisation.

Once the unique requirements of the client have been identified, ABC Pack is tailored to suit, and delivered to the client.

ABC Software provides ongoing support and will continue to develop ABC Pack to meet the evolving needs of the client.

### Working with Fruitpackers Co-op

“We have found the ABC Software team to be extremely adaptable to our changing needs and responsive to any changes we require during the season,” says Chris Dillon, General Manger, Fruitpackers (HB) Co-Operative Ltd.



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## SPLAT Bloom™

Pollination enhancer for honey bees, *Apis mellifera*

ISCA Technologies is proud to introduce its Specialized Pheromone & Lure Application Technology (SPLAT) for the enhancement of pollination by honey bees.

SPLAT Bloom is designed to improve honeybee pollination of flowering crops by increasing the bees' foraging range and productivity, and inducing them to remain in the treated field for longer.

Honeybees typically prefer to forage relatively close to their hives, and selectively target flowers that offer the most plentiful stores of pollen and nectar.

SPLAT Bloom applied in small dollops directly to the surfaces of plants, steadily releases predetermined quantities of a semiochemical naturally produced by worker bees, called Nasonov pheromone, to mark the flowers they visit, indicating to other bees productive sources of pollen and nectar.

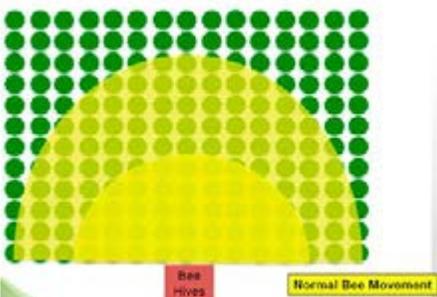
When dispersed throughout the field, SPLAT Bloom induces foraging honeybees to regard the treated crop as a desirable food source, thereby preventing them from leaving the field in search of alternative sources.

Field studies conducted in apples and almonds showed that treatment with SPLAT Bloom resulted in consistently higher levels of pollination and fruit set in both crops, as compared with untreated control plots.



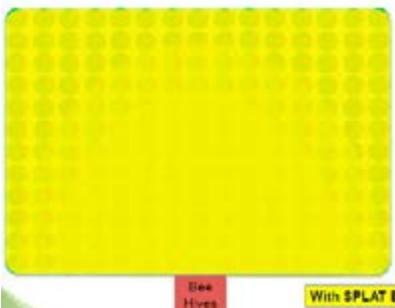
Clockwise: SPLAT Bloom dollop, honey bee pollinating flower, caulking gun application of SPLAT Bloom.

### How to use SPLAT Bloom



Normal Bee Movement

### How to use SPLAT Bloom



With SPLAT Bloom

# Pollination issues a thing of the past



Pollination issues are a thing of the **past thanks to new and emerging product development undertaken by ISCA Technologies.**

**Organic Crop Protectants are proud to offer Australian growers a new and stable bee foraging enhancer.**

Splat Bloom is an inert organic matrix that is non-toxic and environmentally friendly.

Splat Bloom is specifically formulated to encourage honeybees (*Apis mellifera*) to move further, be more active and stay longer in the field.

Without Splat Bloom bees stay closer to hives, reducing bee movement in the middle and along edges of plots and reduced overall bee activity.

What this means for growers is a greater requirement for more hives to ensure optimum pollination.

Splat Bloom is applied at 750 grams per acre spread evenly throughout the field or orchard.

Splat Bloom is readily available from all good rural resellers this season.

**For further information feel free to contact Organic Crop Protectants directly or talk to your local OCP territory manager.**



NSW	James	0408 025 139	QLD	Andrew	0448 016 551
WA	Steven	0420 718 720	FNQ	Andrew	0408 063 371
VIC/TAS	Scott	0488 717 515	SA	Gordon	0488 173 181
WEB	ocp.com.au		E-mail scott@ocp.com.au		

## Transtak<sup>®</sup> Engineering & Equipment bin carriers & aluminium picking ladders

Transtak Engineering & Equipment manufacture and supply the Transtak<sup>®</sup> range of fruit bin carriers and aluminium picking ladders to orchardists.



### Bin carriers

The Transtak bin carriers are either front mounted or towed by the tractor, with capacities to carry three, four or six bins at a time.

The Transtak 1500L low-lift carrier will load and carry three bins; the Transtak 1500LE low-lift carrier is fitted with fork extensions to carry three or four bins where the orchard permits.

The Transtak 3000LT will carry 6 x 500kg bins and is also fitted with forks tilt to assist with loading of bins.

The Transtak 3500N carrier has the capacity to load and stack bins enabling this carrier to move six full bins and six to nine empty bins at any time. This carrier has forks tilt function and hydrafloat accumulators fitted for a smooth ride.

### Side-shifting forks

A recent development of side-shifting forks for the Transtak 3500NS 6-bin model allows the plastic Mega-bins to be more easily handled.

This carrier will save the larger fruit grower thousands of dollars in bin handling costs, as many more bins can be transported with one tractor and carrier than any other system.

### Aluminium ladders

The Transtak aluminium picking ladder is the strongest high tensile aluminium ladder available to the fruit grower, having been designed and constantly improved over 20 years.

The ladders are rated at 180kg industrial ladder AS/NZ 1892.1:1996 standards.



*Ladders: available from our Australian distributor E.E. Muir & Sons Pty Ltd—branches throughout Australia; IK Caldwell Rural in Northern Victoria; Serv-Ag stores in Tasmania. Visit [www.eem.com.au](http://www.eem.com.au) for a store near you.*

*Bin carriers: Contact Peter [peter@transtak.co.nz](mailto:peter@transtak.co.nz) or [sales@transtak.co.nz](mailto:sales@transtak.co.nz) Visit [www.transtak.co.nz](http://www.transtak.co.nz) to view a video of carriers in operation.*

## Speak to growers

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[www.fruittreemedia.com.au](http://www.fruittreemedia.com.au)

Promoting agribusiness

## Answer to uneven cherry flowering

Even flowering on cherry trees can be quite difficult to achieve from year to year. Climatic conditions play a major role in contributing to chill hours.

Colin Campbell (Chemicals) have developed tools named Armobreak and Armogan to help encourage an earlier bud break, even flowering, and to compact the flowering period—which can lead to a more even maturity of fruit.

### Drop in water volumes

One issue with Armobreak in the past was the high water volume needed to get optimum results.

With new surfactants developed, we looked at ways to reduce the overall volume of water and product needed to get results.

Trial work was conducted throughout the 2011–13 seasons in cherries (Lapins) using Armobreak and Armogan in conjunction with Du-Wett.

Results showed conclusively that this was possible.

**For more information**  
[info@campbellchemicals.com.au](mailto:info@campbellchemicals.com.au)  
[www.campbellchemicals.com.au](http://www.campbellchemicals.com.au)

## Pick 'n' mix— how to get netting right

The NetPro Group has worked with many clients to source and design products that optimise crop production. Netting is a tool—as is irrigation or fertiliser.



Product quality is the single most important reason to invest in nets.

With good overall management, clients are achieving A-grade pack-outs as high as 90–95%.

**Location—crop—variety—canopy:** NetPro Consultants are experienced in balancing these factors to recommend the best net for the purpose.

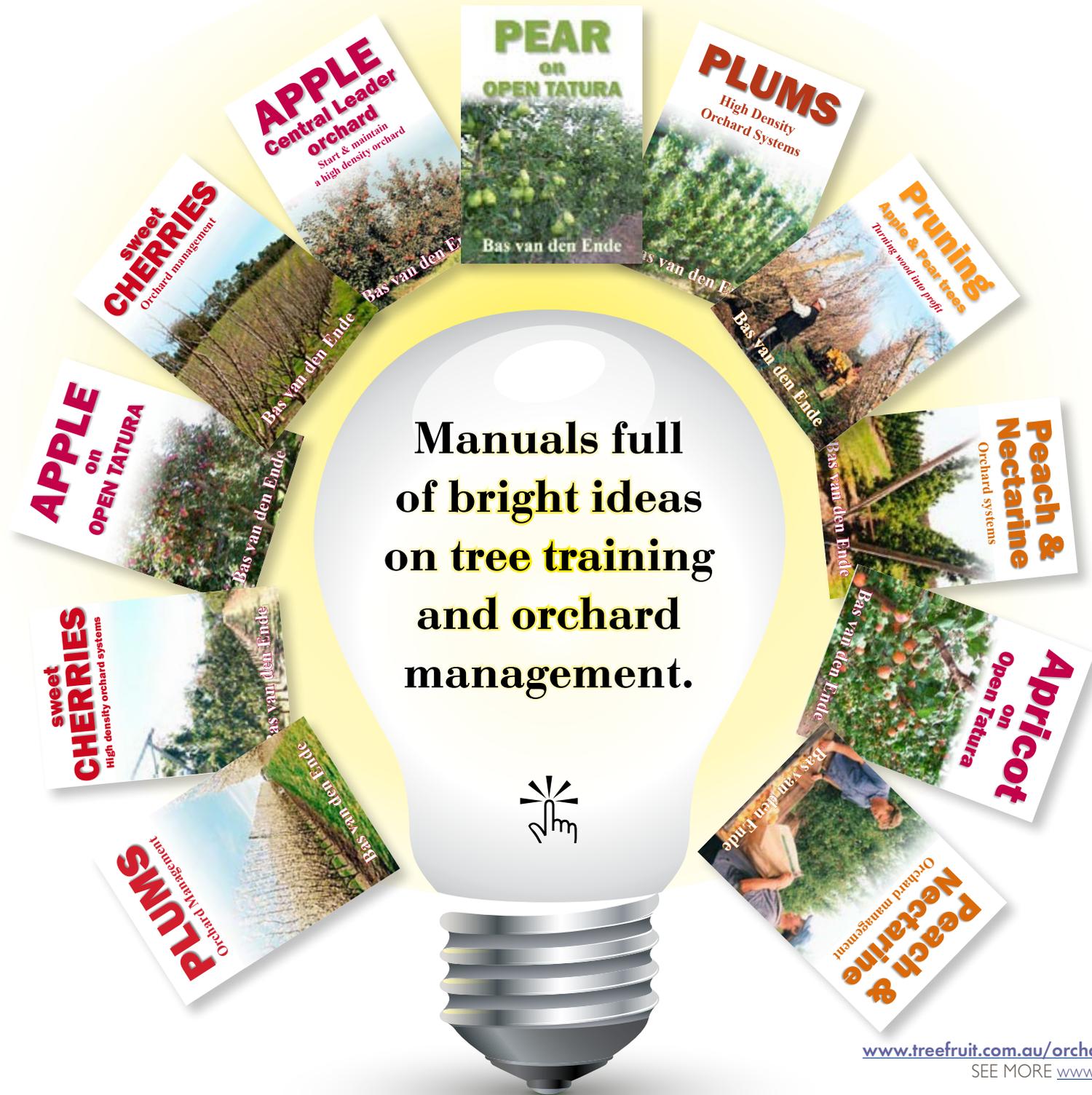
**Water:** NetPro has many clients reporting 30% reductions in water use under protective canopies.

**Throw-over nets:** Netpro Group is a large-scale supplier of throw-over nets.

**Market leader** Netpro Group is the market leader, with over 20 years in the protective canopy business.

We have covered everything from abalone in SA to lychees in Qld and kiwifruit in NZ.

**For assistance with choosing the right canopy or throw-over, please contact Netpro Group directly on 1300 NET PRO (638 776), or visit our website [www.netprocanopies.com](http://www.netprocanopies.com)**



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**SPLAT Bloom™**  
 Pollination enhancer for honey bees, *Apis mellifera*



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