Tatura Trellis—from the beginning (part 2)

The business of fruit growing: Succession & Estate Planning (part 2)

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The Tatura Trellis celebrated its 40th birthday recently, having been born under extraordinary circumstances in July 1973.

Bas van den Ende

Consultant
fruit production
(retired)

Tatura Trellis—
from the beginning
(part 2)

At the first sign of mites on your crops, give them the best protection. Acramite's unique chemistry targets mites within 3–4 days, with minimal effect on beneficial insects and predatory mites. What's more, Acramite provides long-lasting residual control to wipe out nymphs and hatches. So shut the door on mites, use Acramite in your resistance management program.

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Declining export markets, high inflation, poor returns, low yields, reconstruction schemes, tree-pull schemes, waterlogging—this was the depressing jargon of the fruit industry in the early 1970s.

Continued from last month

Blueprint for efficient orchard

In 1973 the time was ripe to combine the different fields of expertise to develop a blueprint of a modern and efficient orchard system.

One for the orchardist to follow throughout the life of the planting.

The blueprint was to integrate tree density, arrangement of trees, and training and pruning to maintain the desired configuration.

Added to this was soil management to maintain optimum growing conditions, efficient use of water for irrigation, use of irrigation water to manipulate growth and cropping, mechanical harvesting of the crop, mechanical trimming of the canopy in summer, designing special equipment to apply sprays efficiently, and an economic evaluation.

The blueprint also included the development of cheap methods for orchardists to propagate their own canning peach and pear trees from cuttings. This type of research became known as systems research because knowledge from various disciplines was integrated to form the Tatura Trellis.

Tree design

The tree design with the most commercial promise for canning peaches had only two limbs, which grew out at right angles across the inter-row traffic lane.

The limbs were trained up in the form of a V at an angle of 30 degrees to the vertical towards corresponding limbs in the adjacent row.

As the name implied, the trees of the Tatura Trellis were trellised and intensively trained until they reached full size.

These trees were smaller than those in the old free-standing open vase system.

Planting density

In July 1973 the first experimental planting was established to determine the optimum planting density.

Tree densities ranged from 1111 to 6666 Golden Queen peach trees per hectare. The size of the experimental block was 0.3 ha.
The original Tatura Trellis planting at the Tatura Research Institute consisted of steel A-frames welded together to form Vs.

Trellis design

The first trellis consisted of elaborate steel structures of A-frames joined to make Vs.

The tops of the A-frames were later cut off to allow a specially built mechanical pruner to reach inside the V-canopies.

A number of other trellis materials made of steel and wood were experimented with, but the final trellis structures consisted of treated pine poles.

The 3-metre rows proved to be too hard to manage and were changed to 6-metre rows. The non-statistically designed experiment was flexible so that we could change the new system and ensure that orchardists could easily manage it.

First peach crop

The first crop was harvested in 1975, 20 months after the peach trees were planted.

The canning-grade yields ranged from 18 to 30 tonnes per hectare. Canning peach trees that were conventionally grown would not crop until they were at least four years old.

The outstanding early performance of the Tatura Trellis created much interest among local orchardists and people associated with the fruit industry.

In 1975, the late John Cornish established the first commercial planting at his Willowbank orchard, with canning peach trees grown from cuttings.
Ross and Bruce Turnbull, and Jack and Andrew Simson also planted canning peach trees on Tatura Trellis. All plantings were close to the Tatura Research Institute and these pioneers were major players in the canning fruit industry.

Another Tatura Trellis planting was established in South Africa by Rhodes Fruit Farms.

**Other crops**

Experiments with apricot and pear started in 1975 followed by apple, nashi, cherry, plum, persimmon, table and wine grape and peaches for the fresh market.

Specific methods of training were developed to suit the different growth and fruiting habits of these types of fruit trees and grapevines.

**Mechanisation**

A grant from the Rural Bank gave the go ahead for design and construction of a mechanical pruner and harvester.

Another harvester was manufactured in West Australia for the West Australian Department of Agriculture, and tested at Tatura.

**Promotion**

The virtues of the Tatura Trellis were widely publicised through field days, workshops, Agnotes, research reports and numerous articles in local, national and overseas papers, and in agricultural and horticultural magazines.

A series of scientific papers were published, and a Ph.D. thesis on, *Calculation of potential photosynthesis in closed canopies in orchards of trellis type* was completed.

Visitors from every state in Australia and from all over the world came to the Tatura Research Institute to find out what this new research was all about.

**Introduction to the world—the 20th International Horticultural Congress**

In 1978, only five years after it had all started, a unique opportunity arose for the Tatura Trellis to be introduced to the horticultural world at the 20th International Horticultural Congress in Sydney.

Several Tatura researchers gave a cohesive account that centred on the concept and early results of the Tatura Trellis.
Succession planning deals with passing a business on to the next generation. Estate planning addresses the issues that relate to the death of family members.

Continued from last month

**Take time to collect information**
From an economic standpoint, succession and estate planning must be founded on good information; particularly—but not exclusively—economic data. Each family needs to understand:

- The value of net worth now—is there a sufficient asset base upon which to plan the long-term needs of two or more families?
- Average annual profitability—can it support personal and business needs?
- The expectations for the non-farming siblings. These need to be described and quantified. Can the business afford to pay these?

Determining responses to these questions does not take long, but if a process is put in place without any regard for the economic data there is increased potential for an unsatisfactory outcome.

**Leaving a viable orchard**
One option for parents is to sell the orchard when they are ready to retire. However, many families usually wish for the business to be continued by the next generation; hence the need to plan succession.

A critical element is that the orchard business taken up by the son must be a viable operation. That is, it must have the ability to pay up to two (the parents as well) sets of living expenses at about $50,000 each, service debt interest, repay capital loans and reinvest in the business for future sustainable production.
Succession & estate planning

Any distribution of assets to non-farming siblings that removes too much cash from the business has the potential to undermine business viability and this provides no future to the son who comes home.

It is usually not feasible for the son to buy the farm from his parents; this simply adds more external debt to the business. One option through estate planning is to ensure parents’ wills clearly state that the farm will pass to that son on their deaths.

Looking after parents

Given that a net worth of over $1 million is feasible for many Australian farms, this is a significant gift that will be passed on to that son.

No doubt he has put work into the business, and will do yet more before he retires in turn. However, planned succession offers him a relatively painless path to owning a horticultural business. He will not have to borrow substantial funds to buy-in to farming.

It is entirely reasonable therefore, for the parents to expect that the son should support them and it should be reasonable for the son to take on that responsibility. Some economic issues flow from this:

• The orchard must be big enough to support two families over the long-term—the parents and the son’s family. This needs to have been determined as part of the succession planning process

• Because of advances in community health, parents who retire at, say 70, might expect to have another 15 to 20 years of life. That is a long time, for which the business is responsible. In some cases the parents may have a superannuation balance and this, in addition to pension benefits, will enable them to cover their necessary living expenses (note my previous comments about early financial planning).

However, where there is no significant superannuation balance, the only way their living expenses can be met is for these to be paid by the orchard business.

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Taking care of non-farming children

Farming families generally expect that each child will receive something from the business as part of their inheritance from the wealth accumulated through the generations.

Some issues arise from this:

- In the case of a lump-sum payment it can be difficult to determine an equitable settlement for each non-farming child. The total of any such payments must be proportionate to the size of the business.
- Perhaps a separate asset class, such as the parents’ eventual home in town, or assets in the superannuation fund, could be willed to non-farming children.
- The timing of a payment may be as important as the size of a payment. For example, a daughter who needs $30,000 now to buy a larger house to suit a growing family might find that option more valuable than receiving $50,000 at some indeterminate time in the future.

- Commitments to non-farming children must not endanger the viability of the farm. This subject has the potential to cause sibling rivalries, depending on who is to get what. Open communication between family members can assist this process.

Transferring ownership

This can be a vexed question. Given that the son can’t afford to buy the farm from his parents, a reasonable outcome is that he is willed the farm. That means he has certainty about receiving farm ownership when his parents die. However, for a 32 year old son with 55 year old parents, twenty to thirty years may pass before he realizes legal ownership.

This is a long time to wait, and there are examples of families in which the contents of wills are not clearly known, and this can create uncertainty for a son and his family.

Options

Continued next issue
What options these days do growers have to control mites?

The short answer: same options as five years ago—it’s been that long since a new miticide entered the market.

There is now a serious need for some new chemistry to help with resistance management.

Anyway, hopefully we will see some new products enter the market in the next few years. Until then, orchardists will need to give careful consideration to their mite management programs.

IPM

Orchardists who practice integrated pest management (IPM) have fewer mite issues. IPM involves using miticides judiciously and looking after the natural enemies of mites such as predatory mites, stethorous and lacewings.

Resistance

Mites can be very damaging and difficult to control.

One of the main reasons they have been difficult for orchardists to control, is the mites’ ability to rapidly develop resistance to miticides.

We have three main mite species that can cause significant economic loss in orchards: Two Spotted Mite (TSM), European Red Mite (ERM) and Bryobia mite.

All thrive during hot dry conditions and can have up to eight generations per season. Each female TSM can lay 70 to 100 eggs which can hatch within 2 to 12 days depending on temperature.

Hot spots

It’s not always easy to explain why a patch within a block sometimes becomes heavily infested with mites.

Some factors that increase the risk include big old trees; a poor ratio of beneficial mites to TSM, ERM or Bryobia mites; spraying of chemicals that are toxic to natural predators; dust and/or hot dry weather.

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<thead>
<tr>
<th>Product</th>
<th>Active Ingredient</th>
<th>Chemical Group</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Acramite</td>
<td>Bifenazate</td>
<td>2D</td>
<td>Apply as soon as mites appear. Good residual control.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Expensive.</td>
</tr>
<tr>
<td>Vertimec</td>
<td>Abamectin</td>
<td>6A</td>
<td>Apply 2 to 6 weeks after petal fall if mites are a problem</td>
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<td></td>
<td></td>
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<td>early season.</td>
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<td>Cheap</td>
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<td>Apollo</td>
<td>Clofentezine</td>
<td>10A</td>
<td>Ovicultural, primarily controls eggs and newly hatched</td>
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<td>nymphs. Resistance has made this ineffective in some orchards.</td>
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<tr>
<td>Paramite</td>
<td>Etoxazole</td>
<td>10B</td>
<td>Effective control of eggs and nymphs</td>
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<tr>
<td>Torque</td>
<td>Fenbutatin oxide</td>
<td>12A</td>
<td>Effective control of motiles</td>
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<td>Omite or</td>
<td>Propargite</td>
<td>12C</td>
<td>Effective control of nymphs &amp; adults.</td>
</tr>
<tr>
<td>Betamite</td>
<td></td>
<td></td>
<td>Good option for resistance management</td>
</tr>
<tr>
<td>Pyranica</td>
<td>Tebufenpyrad</td>
<td>21A</td>
<td>Apply before mite infestation reaches 70% of leaves</td>
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<td></td>
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<td>infested. Resistance to TSM has made this ineffective in</td>
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<td>some orchards.</td>
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Some registered miticides for apples.

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Mite control

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Mite control

Importance of predatory mites
If predatory mites, *T. pyri*, *T. occidentalis* and *P. persimilis* are present in an orchard, then it is important to understand which agrichemicals are toxic to them and minimise or eliminate their use in the spray program.

In addition to using miticides, growers can consider purchasing predatory mites and distributing them throughout the orchard.

Predatory mites are available in commercial quantities and can be an alternative to using a miticide if the predatory mites are introduced before two spotted mite numbers exceed economic thresholds (usually November–December) and weather conditions are favourable (predatory mite mortality increases during high temperatures and low humidity).

Monitoring
Monitoring mite numbers or presence is crucial for identifying if/when critical thresholds have been reached and to ensure the correct timing of miticide application.

If potentially damaging hot spots or blocks are identified early, then low rates of a suitable miticide can be used to assist IPM.

Suitable miticides
Not all miticides work the same way, for example some kill eggs only, some kill adults and nymphs, some have residual control, some have fumigating action in hot weather, and some are more effective on TSM than ERM or vice versa.

Rotate chemical groups
To help keep miticides for as long as possible, remember to rotate chemical groups and never apply consecutive miticides from the same group.
Some supermarkets did not have cherries on display during the early weeks of the season; and during the middle of the season, some outlets had one or two cartons ticketed at a price higher than normal for that time of year.

Demand for export cherries has been strong—probably influenced by a smaller than normal crop in South America.

It will be interesting when our final production figures are available for the season to demonstrate to us the seriousness of the problem with declining yields. In either issue of this column I referred to conditions that were likely to influence a reduced crop in some regions—ineffective chill hours, warmer windy weather during blossom and fruit damage—all of which adversely affect viable fruit set.

As each cherry growing state conducts a review of their season, it will be important (in my opinion) to focus on the key factors that may have reduced or contributed to the smaller than normal crop, as discussed in earlier issues of this column. Much could be learned from changes in climate if production data became freely available.

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It will be important for you and your state association to get involved with the end of season review and have your say. It is important to your business and your industry that you do.

Each region may have experienced a micro-climate that produced varying results and responses across a range of varieties. Much could be learned from changes in climate if production data became freely available.
In the very early hours of the morning, in a Harvard robotics laboratory, an insect called a RoboBee took flight achieving vertical take-off, hovering and steering.

Continued from last month
Half the size of a paperclip, weighing less than a tenth of a gram, it leapt a few centimetres, hovered for a moment on fragile, flapping wings and then sped along a pre-set route through the air.

Applications of the project
Applications of the RoboBee project could include distributed environmental monitoring, search-and-rescue operations, or assistance with crop pollination.

However, the materials, fabrication techniques and components that emerge along the way might prove to be even more significant.

For example, the pop-up manufacturing process could enable a new class of complex medical devices.

Harvard’s Office of Technology Development, in collaboration with Harvard SEAS and the Wyss Institute, is already in the process of commercialising some of the underlying technologies.

And the project continues
“Now that we’ve got this unique platform, there are dozens of tests that we’re starting to do, including more aggressive control manoeuvres and landing,” says Wood.

After that, the next steps will involve integrating the parallel work of many different research
teams who are working on the brain, the colony coordination behaviour, the power source and so on, until the robotic insects are fully autonomous and wireless.

**Still tethered**
The prototypes are still tethered by a very thin power cable because there are no off-the-shelf solutions for energy storage that are small enough to be mounted on the robot’s body.

High energy-density fuel cells must be developed before the RoboBees will be able to fly with much independence.

Control, too, is still wired in from a separate computer, though a team led by SEAS faculty Gu-Yeon Wei and David Brooks is working on a computationally efficient brain that can be mounted on the robot’s frame.

“Flies perform some of the most amazing aero-batics in nature using only tiny brains,” notes co-author Sawyer B Fuller, a postdoctoral researcher on Wood’s team who essentially studies how fruit flies cope with windy days.

“Their capabilities exceed what we can do with our robot, so we would like to understand their biology better and apply it to our own work.”

**The power of ambitious dreams**
The milestone of this first controlled flight represents a validation of the power of ambitious dreams—especially for Wood, who was in graduate school when he set this goal.

“This project provides a common motivation for scientists and engineers across the university to build smaller batteries, to design more efficient control systems and to create stronger, more lightweight materials,” says Wood.

“You might not expect all of these people to work together: vision experts, biologists, materials scientists, electrical engineers. What do they have in common? Well, they all enjoy solving really hard problems.”

“I want to create something the world has never seen before,” adds Ma. “It’s about the excitement of pushing the limits of what we think we can do, the limits of human ingenuity.”

A video of RoboBee’s flight is available on YouTube.
Stress events like excessive heat, flooding, hail, pests and diseases; or exposure to spray drift can have devastating effects on crop growth and yields.

Stoller Australia has developed a stress recovery program to minimise the impact of stress on plants and maintain optimum growth and yield.

The simple two-step strategy can be used successfully with a wide range of tree crops.

When a stress event occurs the plant shuts down. It goes into a type of suspended animation or coma. Eventually it either starts a recovery process or dies.

When the plant first shuts down there is an opportunity to help it recover from the stress and to minimise the lost time incurred.

Two-step strategy
Firstly, we don’t want the tree to be lacking any essential elements, so it is important to supply a broth of primary, secondary and micronutrients.

Secondly, the roots are the brains of the plant. Plants die from the roots up and regenerate from the roots up, so we need to supply ‘food’ and activation to the roots.

The roots get their food from the leaves so, providing there is some green leaf tissue, a foliar application can help.

Zinc
Provision of zinc is also important, as zinc is a precursor for an important growth hormone called auxin.

Be aware that some varieties of stone fruit are sensitive to leaf applied zinc, and in these cases soil application is preferred.

Anti-stress
Finally an anti-stress nutrient compound can assist, again by initiating new growth and lessening the down-time from stress.

Figure 1 shows how stress events limit the expression of the crop over time, and once a limiting factor is introduced, that lost expression cannot be regained.

Our aim is to reduce the number of stress events and lessen the impact of each stress event.
Stoller’s stress recovery program

Step 1
As soon as possible after the stress event, apply Stoller’s Bio-Forge at 1.2L/ha and Stoller’s Zinc Chelate (on non-sensitive varieties) at 2L/ha to restore healthy growth.

Bio-Forge will give the plants a nutrient boost and trigger new shoot growth, while Stoller’s Zinc Chelate is an essential component of many proteins and vital to many plant functions.

Step 2
Four to five days after the initial treatment, apply Stoller’s Foli-Zyme at 5L/ha to feed the new growth and promote healthy growth.

Foli-Zyme is a full nutrient spray to promote healthy tissue development.

Applying Stoller’s Bio-Forge in combination with Foli-Zyme will give plants the nutrient boost they need, trigger new shoot growth and help fruitfulness and root growth.

Stoller’s stress recovery program is suitable for a broad range of crops including vegetables, tree crops and vines.

To find out more, contact your Stoller representative on 1800 FERTILISER or info@stoller.com.au

Figure 1. Stress events limit the expression of the crop over time, and once a limiting factor is introduced, that lost expression cannot be regained.
Tissue testing is one of the most valuable tools for proactive crop management and yet many growers ignore or under utilise this technology.

A simple leaf test before flowering can make a huge difference to profitability.

Here are 10 reasons why every grower should leaf test on a regular basis.

1 To identify soil-based lock-ups

Even if you have provided all of the relevant minerals and boosted the biology that delivers these minerals, it is still likely that excesses will influence mineral delivery to the plant.

Many minerals are antagonistic to others if they are over supplied. Calcium for example, directly limits the delivery of seven minerals if it is under supplied, as it stimulates the uptake of these minerals.

However, if it is over supplied via too much lime in a soil lacking the storage capacity for that amount of added calcium, then those same seven minerals are also shut down. This phenomenon is often called “The Goldilocks Effect” because it’s all about supplying just the right amount of this important nutrient.

Leaf tests provide an insight into these mineral dynamics and offer the opportunity to develop a strategy to counter these effects, usually through direct supply of relevant minerals into the plant using foliar fertilising.

2 To ensure everything is right at the business end of the season

Things change when the plant enters the reproductive mode.

There is a dramatic increase in the need for sugar production (and delivery) to fuel the formation of seed or fruit and this requires chlorophyll management.

It is the chlorophyll-based sugar factories that determine the production of this extra glucose and the efficiency of these sugar factories is determined by the minerals that govern chlorophyll density.

We need to test for the presence of the minerals that can create the undesirable stripes, blotches and pale colours at this critical time so we can deliver the missing minerals and reclaim chlorophyll density.

This is the part of the season where profitability is determined and it is a brave or foolhardy soul who enters the business end of the season driving blind.

It amazes me that any business person could rely on guess work at this crucial time. However, I acknowledge that there are the more enlightened amongst us who understand the requirements of their plants at any given time through a combination of observation, experience and intuition. The rest of us need leaf tests before flowering, for every crop, so we are not driving blind!
Ten reasons to tissue test

3 To determine the need for liming in your soil
The Albrecht-based, cation balancing philosophy has been oversold in relation to its relevance in every soil type.

It is claimed that all soils require a base saturation of 68% calcium and in some cases this is simply not true. Some soils give up their calcium more easily than others and if your soil is one of these, then you may be wasting large sums of money on liming.

Leaf tests tell you how much calcium your plant is accessing. If the leaf test shortages mirror the soil test shortages then it is time to lime.

There is another strategy which can help you decide about the merits of any dry mineral application. Micronised Mineral Suspensions (MMS products) can be used to evaluate the field response of any dry mineral fertiliser.

We often hear the comment “I didn’t get as much benefit as I hoped from that liming”. While it is much more common to hear positive responses to liming, it is becoming increasingly unacceptable that some growers are investing in calcium and not seeing the anticipated returns on their investment. Don’t gamble

Here’s what you can do to take the gamble out of this type of fertilising.

If you are contemplating liming for example, then apply 20 litres of Lime-Life™ to a single hectare along with a kilo of Solubor to ensure that there is enough boron for a good calcium response.

The 20 litres of Lime-Life will give a rapid response if you need calcium and then you will know that it is worth liming the rest of the farm.

Always remember that “Calcium is the trucker of all minerals and boron is the steering wheel”.

During my recent seminar tour of New Zealand it was common to see incredibly boron deficient farms where dairy farmers complained about their lack of response from liming. There is no point in addressing your calcium shortage in soils that contain just 0.2 ppm of boron unless you are also going to address the boron deficiency.

4 To avoid over supply of nitrogen
When a fertiliser gives a big response it is human nature to apply a little more to test the boundaries of the benefit.

This is often unkindly called the moron approach but it is a major problem in horticulture, particularly in relation to nitrogen.

It is more common to see nitrogen ‘over done’ than any other mineral because it is a mineral required in large amounts for healthy plant growth and consequently it can give a big response if it is lacking.

The secret is to know when enough is enough and this is when leaf analysis is essential.

This might involve conventional leaf testing or D.I.Y. sap analysis using a Horiba Nitrate Meter. Either way, the guiding maxim should always be “How low can I go?”.

There are two key benefits in adopting this minimalist strategy. The cost of nitrogen is destined to rise and rise, in line with oil, so only applying what is needed, and no more, has obvious economic appeal.

Secondly, high nitrate levels in the plant reflect more than wasted nitrogen. They point to a plant that has become a calling card for insect attack due to the nutrient dilution factor associated with nitrate nitrogen.

A chief role of insects in the great scheme of things is garbage disposal. They are able to tune in to infra-red radiation from plants. A healthy, mineral balanced plant emits a steady flow of infra-red while a nitrate-packed plant sends out a staccato stream of infra-red radiation. The insect responds, as it is programmed to do, and attacks the ‘sick’ plant.

When nitrates enter the plant they are always carried in by water. If nitrates are over supplied then we have a watery plant where other nutrients have been diluted. Modern agriculture need not be at constant war with nature. It’s just that we keep on firing the first shot!

Regular leaf tests ensure that we don’t shoot ourselves in the foot through over doing nitrogen.

5 To monitor levels of ‘the big four’

Continued next month
New insecticide for aphid control in stonefruit

This summer, Crop Care has a new insecticide—Endgame 500WG—registered for aphid control in stonefruit, potatoes and brassicas.

As a different chemical group (Group 9B) Endgame provides a valuable alternative insecticide for resistance management.

Announcing the product’s recent registration, Crop Care’s regulatory affairs manager Bronwyn Vorpagel said the active ingredient pymetrozine was a specific aphicide that disrupted the insects’ feeding.

“Rather than having a neurotoxic effect, it has a very specific anti-feeding mode of action.

“Aphids treated with Endgame simply cease feeding, usually within a short time of treatment, and ultimately starve to death.

“It inhibits feeding without any neurotoxic signs, so aphids may remain but are unable to feed.”

Ms Vorpagel said that Endgame was a valuable, novel insecticide for controlling these serious sucking-insect pests.

She said Crop Care had commissioned trials in 2012 in southeast Queensland and central NSW to demonstrate the activity of Endgame on a number of aphid species across a range of crop types.

“[In the trials conducted against black peach aphid in peaches, Endgame provided very good control, similar to or better than other standard aphicides.”

Endgame has been registered to control both green peach and black peach aphid in stone fruit.

To aid in aphid resistance management, Ms Vorpagel said that no more than two applications of Endgame (or other Group 9B insecticides) should be applied per crop, and as non-consecutive sprays.

Contact Bronwyn Vorpagel phone 07 3909 2017 e-mail bronwyn.vorpagel@cropcare.com.au

Creating microclimates with polyethylene fabrics

Windbreak

Windbreak fabrics are purpose-designed to provide optimum long-term protection from wind to enhance crop protection by reducing wind chill in colder periods and transpiration evaporation from summer winds.

Permanent windbreak structures can be erected quickly, eliminating the lengthy establishment periods of trees and providing instant protection for seedlings.

The key feature of a good windbreak fabric is maintaining the right balance between wind protection and airflow. If the windbreak is not porous enough like a solid fence, it causes the wind to displace upwards and over creating unwanted turbulent zones.

A good windbreak fabric with a porosity factor of 50% creates a much more habitable protection zone, generally 6–8 times longer than what the windbreak is high.

Shade

In addition to providing hail protection and bird protection, canopy quad nets are increasingly being used to create micro-climates for promoting plant growth and reducing transpiration.

Studies have found that water savings of up to 40% can be achieved with the use of canopy quad nets.

The reinforced edges and centres of the fabric also make them easier to handle and their stretch characteristics mean that a single bale can cover between 4000 to 6000 square meters, depending on the chosen width and length of the material.

Multiple aperture sizes available in quad nets allow for flexibility when selecting an appropriate cover requirement.

Contact Bronwyn Vorpagel phone 07 3909 2017 e-mail bronwyn.vorpagel@cropcare.com.au

Invest in quality, & cover with confidence

The cost of netting in a structure is a fraction of the cost of the hardware and installation, however, selection of poor quality product to save a little at installation could cost thousands if it fails prematurely.

Always invest in the best quality netting in the first place to ensure longevity of your installation.

A good quality net will come with a 10 year warranty against UV degradation.

Select a product with a strong history in Australian conditions from a manufacturer that makes the yarn and knits the fabric themselves, that way you can be assured of the quality.

For more information on materials, suppliers and fabricators of Synthesis product, contact Gale Pacific phone 1800 331 521 www.syntheticfabrics.com

Synthesis fabrics are produced by Gale Pacific an Australian owned manufacturer of quality industrial fabrics and netting products.

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According to Polygro business development manager, James Downey, by mentioning this editorial, or the Polygro ClickSales advert, you can get 10% discount on all Bird Stop™, Orchard and Hail Stop™ hail netting products for the months of December 2013 and January 2014.

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Packaging delivers fresher produce

Peakfresh Products, a proudly Australian company, has continued to grow in 2013 despite a year that has provided many challenges for the horticulture and manufacturing industries in Australia.

Peakfresh Australia director, Scott Morton said there has been exceptional growth in overseas markets as retailers demand improved quality and a reduction in product waste.

“PeaKfresh has provided many challenges for our industry, and has provided our growers and retailers with the opportunity to showcase their products to new markets. The growth in our overseas markets has been instrumental in keeping our growers busy and ensuring a steady supply of high quality produce,” Mr. Morton said.

Efficient packing system

Skybury is a family owned company producing tropical fruits from their 300 acre plantation in Mareeba, Qld.

Skybury are renown for being the best, and when it comes to their papaya packing, owner Ian MacLaughlin will not settle for any less.

Ian chose to work with Dyno NZ to develop an efficient papaya packing system and he has not been disappointed.

The main reason for Ian’s decision was that Dyno NZ were committed to fully understanding his requirements while maintaining the quality product that Skybury demand.

Water in-feed has been used to give gentle accumulation of the easily damaged papayas, continuous feed and manual grading were chosen to ensure quality of product.

Dyno NZ’s attention to detail is paramount, extending as far as the option of colour coding the conveyor at Ian’s request. A range of box sizes and types are used by Skybury and a constant supply required within easy reach provided a design challenge.

Ian’s ideas and concepts combined with Dyno NZ’s unique products and experience, have produced an efficient, workable end result ensuring the company received what was required.

Punnet weighing & filling

Used by some of the biggest produce growers in the USA and South America, A&B Packing’s weighing and filling machine is able to save you thousands of dollars a day by minimizing overweight product while still maintaining a high output volume.

The ‘Evolution’ is A&B Packing’s flagship machine, utilising 10 vibratory feeding lanes to fill punnets and bags at 1800kg per hour.

Some features of the ‘Evolution’ include:
• Stainless steel and food grade contact parts
• Large 12’ colour touch screen for ease of use
• Specially designed dropping mechanism, minimizing drop heights and reducing bruising to the produce
• USB port for easy software upgrade
• Wash-down capability with sealed load cells and electronic boards
• Production and volume reports for tracking
• Punnet denester and closer

With the system filling 300 gram containers, within three hours it will:
• pack about 540kg of cherries
• save a minimum of 10 grams per drop
• save 180kg in overweight product.

Contact Marty Rodgers, Impact Automation Solutions
phone 0448 881 223
email marty@impactautomation.com.au
web www.impactautomation.com.au

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