EP Prunings

EastPack
WORLD CLASS ORCHARD TO MARKET

ISSUE 134 | SEPTEMBER 2013

EastPack Update

Table 1. Hayward Coolstore Summary as at 1 September 2013

Hayward	2013	2012	2011	2010	2009
Trays Coolstored	18.951m	12.840m	12.796m	10.592m	10.045m
Trays Shipped	14.934m	9.397m	7.725m	7.421m	7.898m
% Out	78.7%	73%	60.7%	70.0%	79%
EP Losses YTD	114,348	127,882	132,000	91,029	230,000
EP % Losses	0.6%	1.00%	1.03%	0.85%	2.3%
Industry Losses	0.37%	0.72%	1.17%	0.70%	1.98%

Please find above the latest coolstore report as at 1 September 2013.

As table 1 shows:

Green fruit loss continues to track lower compared with previous years. We expect offshore Green fruit loss to also follow a similar trend, due to lower inventory levels held in offshore coolstores and very strong consumer demand. This all bodes well for the Green OGR.

The quality trial last year (Supplier Accountability trial) into Europe was a "sea changing" initiative. It put more quality responsibility back to New Zealand post-harvest operators, and at the same time encouraged our Zespri European staff to interact and become more transparent with fruit quality, systems and process. The result was lower fruit loss in our European market and this resulted in a higher OGR for growers.

However, it is disappointing that at this point it looks like Zespri will withdraw this year from putting a similar commercial arrangement in place for the later shipments to Japan, as they did not think that their Japanese coolstores, systems and processes are of sufficient quality to meet the standards expected with increased commercial accountability.

Whilst our Hort16a and G14 (Sweet Green) results have been very pleasing, our G9 and G3 results have not.

With G9, there has been a huge variation in fruit loss between post-harvest operators. The same applies offshore, in many cases the opposite applies – i.e. those who have high losses onshore have lower losses offshore. One thing we do know though is that this variety is going to be a challenge to get right. It is a great product, with huge demand especially in Asia, but the losses from harvest to consumer are worrying. The challenges to rectify it are probably greater than the early days of Hort16a.

Our G3 losses are disappointingly above industry average. Internally we are finding out why, and making sure that we make the necessary changes for 2014. Our internal investigations will be completed by the end of this month.

Table 2

Coolstorage	Hayward Organic	G3	G9	HORT16A	G14
Cooled	362,422	712,266	218,819	1,396,149	113,559
Trays Out	316,838	556,409	218,819	1,395,917	113,559
EP % Out	87.4%	78.1%	100.0%	100.0%	100.0%
Industry % Out	80.6%	98.8%	99.9%	100.0%	99.9%
EP Losses YTD	3,273	13,865	45,324	7,536	458.9
EP % Loss	0.90%	1.95%	20.71%	0.54%	0.40%
Industry % Loss	0.53%	1.72%	14.04%	0.35%	2.27%

IN THIS ISSUE

Market Visit - August 2013

Ray Sharp, Adrian Gault, Richard Fraser Mackenzie, (GM Logistics) and myself, visited a number of European markets, met with Zespri operational and marketing staff, and Zespri distributors and retailers, as well as travelling to orchards in the South of France and Italy.

The overwhelming feedback from the market was that we have a fantastic product, and that it is increasing in demand due to its well-recognised health attributes, and general perception of high quality.

The marketing investment that growers have made over the years via Zespri is responsible for this success. Even so, there is potential upside if our Zespri European marketers were to more fully embrace the "Ready to Eat" programme that their Asian colleagues have.

In our minds, if as an industry we had produced another 15m trays this year, of both Green and Gold, the current in market prices would probably be the same- such is the demand for Zespri kiwifruit.

Continued over

Technically Speaking

Finetune the winter prune

Hayward

The key objective in Hayward winter pruning is to fill the bay with good quality fruiting wood, evenly spaced right through the bay.

At the end of winter pruning is a good opportunity to:

Clean up the leader

- Remove any old knobs using a saw, leaving no more than a 10mm stub.
- Remove all the old and spent spurs.
- Remove all the weak growth and bits and pieces.
- Try to have as much of the canopy flat near the wires as possible.
- Reposition shorter canes or long spurs to fill in any gaps near the leader.

Adjust the cane spacing

- The fruiting wood should be evenly spaced at 35-40cm and clipped to the wire.
- Extra canes should be cut out and the spacing of the rest of the canes in the bay adjusted.
- Readjust the cane spacing to fill up all of the available space in the bay.

Make notes for the summer work

- Look at the wood that has been cut out, if there is late-grown or hairy cane, make a note to try not to grow that next year.
- Is there any summer cut cane where it would have been nice to have fruit stalk wood to tie down?

Tidy up the job

- Support the overhanging ends of canes with a bungy.
- Cut out or tie down any unclipped canes or long spurs.

Aim to have the job finished in good time.

Managing canopy establishment in Gold 2013

Grow leaf, not too much, stop excessive extension growth, protect from Psa at all times.

Canopy establishment

The establishment of the leaf canopy in kiwifruit is probably the single most important factor determining the success of the subsequent harvest.

Effective early establishment

A good harvest is almost always preceded by a warm spring. The effect of a warm spring is to allow the effective, early establishment of the leaf canopy.

Managing some of the factors influencing canopy establishment can reproduce the effect of a good spring.

Key understandings are:

- The four phases of kiwifruit cropping
- Growing shoots are in a carbohydrate deficit for 25-35 days.
- Initial leaf development, shoot extension and flower development are all powered by stored reserves.

Continued next page

EastPack Update continued

In China we also visited retail, wholesale outlets, met Zespri's new distributor and visited a large (650ha) orchard that was growing a non-Zespri variety. Whilst China is undoubtedly a market with huge potential for most goods and services, it is a very challenging environment. It is very different from our traditional European-style markets, as well as most other Asian markets. The challenges are immense, and it is not surprising that most companies that do business with China sometimes make mistakes. What is important is that we all learn from our mistakes, even if they appear perceptions, and get to know our Chinese trading partners better.

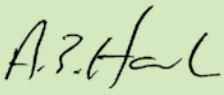
OGRs

It is great to see that the first 2013 per tray OGR projections from Zespri are significantly above the level as at the same time last year. The main reasons for the lift are a combination of lower post-harvest charges, lower costs for time and fruit loss, as well as increased returns from Zespri's markets.

Whilst EastPack has initially projected a similar Green return as last year, it is early days, and our experience does show that OGRs generally lift as the selling season progresses.

As we understand, EastPack was the first and only post-harvest operator to break the magical $5.00/tray barrier in the past 10 years. Our sights are now set on $5.50! If this can be achieved, our very important Green variety will have a secure future.

Our Gold varieties OGRs are nothing short of phenomenal. They won't be maintained at these levels in future years as volumes return, but as described above, the demand for good tasting Gold is very strong.



Tony Hawken
CHIEF EXECUTIVE

- Carbohydrates move both ways in the kiwifruit plant.
- Optimum canopy density is approximately 3-4 leaf layers.
- Canopy establishment is a function of leaf numbers and leaf size.
- Leaf size for the initial leaves is influenced by temperature.
- Canopy closure is the end of the canopy establishment phase.
- Different parts of the plant compete for carbohydrate reserves.
- Carbohydrates tend to be allocated to the actively growing parts of the plant.
- To improve dry matter, the dry weight must accumulate faster than the fresh weight.
- The fruit's ability to compete for carbohydrate reserves is proportional to the amount of seeds in each individual fruit.

Note: Carbohydrate is synonymous with dry matter.

The four phases of kiwifruit cropping are:

- Canopy establishment and flower development.
- Fruit development and growth, preceded by pollination and fruit set.
- Fruit maturation
- Winter dormancy.

The canopy establishment phase runs on stored reserves and sets up what in effect becomes our solar panel, harvesting light and producing carbohydrates which are then moved around the plant to be used in areas of cell division and cell expansion. Flower, feeder roots and root hair development are also occurring at this time and are also powered by stored reserves.

The fruit development phase starts with pollination and fruit set and continues with a period of rapid cell division. This is then followed by a longer period of cell expansion and an accumulation of carbohydrates which are the substrate for the sugars that signal the ripening process.

The fruit maturation phase is characterised by the beginning of the ripening process and we note the beginning of the change of the stored carbohydrate from insoluble starches to soluble sugars which are measured as brix.

Good budburst and early canopy establishment in Gold

Winter dormancy starts when the kiwifruit plant loses its leaves and is the method by which the frost tender kiwifruit plant survives the winter.

Canopy establishment

The goals over the period of canopy establishment are to:

- Establish an effective solar panel.
- Grow strong healthy flowers.
- Grow next year's fruiting framework.

The solar panel

Strong healthy flowers

The solar panel is made up of the first leaves that develop from the winter framework. These are the most valuable leaves and management should be focused on making sure that they last right through the season until the crop has been harvested.

The solar panel should be about 3-4 leaf layers thick, have no significantly shaded leaves and provide the dappled light on the orchard floor that supports some grass growth.

There are three key factors that considerably affect the establishment of the solar panel:

- Budburst, the greater the percentage budburst the less extension growth is needed to achieve canopy closure.
- Leaf size, the larger the initial leaf size, the fewer leaves are needed to achieve canopy closure. Initial leaf size is strongly influenced by temperature.
- Extension, being able to stop the extension growth once canopy closure has been achieved is one of the key skills to achieving a good result in kiwifruit.

Managing these factors

Budburst

The amount (percentage) of budburst is influenced by:

- Winter chill
- Hydrogen cyanamide (Hi-Cane)
- Winter bud numbers
- Winter wood quality
- Nutrition
- Autumn girdling

There is not much that you can do about winter chilling but you can make sure that the dormancy breaker effect of the hydrogen cyanamide acts in conjunction with the natural bud break.

By definition, the better the winter wood quality, the better will be the budburst.

Try to use as great a proportion of moderate vigour sun-ripened self-terminated fruit stalk wood as you can.

Plant nutrition should have been adequate to have given good leaf size the previous season and to have given moderate cane growth without excessive vigour.

Correctly applied autumn trunk girdling the previous season will increase budburst. This should be an important consideration in Alternate Row Cropping (ARC) management systems.

Leaf size

Leaf size and numbers are influenced by:

- Temperature
- Nutrition
- Amount and rate of extension growth

Initial leaf size is important because the larger they are, the fewer of them that you need to achieve canopy closure. This uses up less stored reserves leaving more available for flower development, which will occur more quickly, and for root growth.

The key factor influencing the size of the first leaves is the temperature of the microclimate in the orchard. Quite simply the warmer it is the larger they will be.

Fertiliser levels need to be adequate but not excessive.

Consider methods of warming the orchard microclimate in the spring

Extension

The amount and rate of extension growth is influenced by:

- Budburst
- Temperature
- Flower/crop load
- Winter wood quality
- Nutrition

The rate of extension growth will increase with an increase in temperature.

Some extension growth is needed to hang fruit and leaves on and to be next year's fruiting wood, but that is all.

The rest of it is just a waste and the management focus must be on ways to minimise this.

One of the most difficult skills is to establish the solar panel over as short a period as possible, using the minimum of stored reserves, but then be able to stabilise it and stop the excess extension growth once there is enough wood to provide next year's fruiting framework.

A high crop load will help to hold back vegetative extension. Crop load must be appropriate to the vines ability to size the fruit.

Poor winter wood quality, the use of relatively vigorous wood tied down in the winter will ensure that the wood grown over the spring is vigorous and it will be more difficult to contain the excess extension growth.

Avoid excessive fertiliser applications.

Avoid excessive extension growth

The Tool Box

There are several tools commonly used to stabilise the canopy and stop excessive extension growth. They include:

- Crush tipping or squeeze tipping
- Zero leaf pruning
- Shoot removal
- Gel tipping

The aim of all of these methods is to remove the unwanted growing points from the canopy without stimulating the production of more vegetative growing tips.

All of these tools require the ability to anticipate where the shoot will stabilise after the method has been applied.

To achieve optimum results they are all best used earlier in the growth cycle rather than later.

Waiting until the canopy development has overshot canopy closure and then doing a rescue prune or a traditional summer prune is expensive in terms of both, the cost of carbohydrate produced by the plant and pruned out of the system and the cash cost of doing that pruning.

Remember that everything that ends up on the ground is a waste, a loss to the system, of carbon fixed, carbohydrate produced and dry matter lost.

These losses, including the cash cost, (cash and carbon cost) can be minimised by acting early.

Timing is critical and generally as soon as you can see on the shoot where the tool needs to be applied, is the time to do it even though the remaining leaves and internodes will continue to expand to their full size.

Crush tipping or squeeze tipping

This is a method of persuading the plant to terminate an actively growing shoot.

The growing tip of an actively growing shoot is gently squeezed between the thumb and forefinger until the cells in the growing tip collapse.

This is felt as a gentle popping.

The collapse of the tissue where the cells are actively subdividing releases a growth hormone that effectively turns the shoot into a self-terminator.

Crush tipping should be done when you can see that the number of leaves that you want on a shoot are present, and even though some of these will be very small they will continue to expand and reach their full size.

A shoot squeeze tipped when it is 25cm long will continue to extend until all of the leaves and internodes present at that point have grown to full size and the shoot will end up being 90-100cm long.

Crush tipping must be applied in anticipation of where that shoot will end up.

Shoots at the end of a cane are generally crush tipped sooner than canes near the leader as more extension growth is often required near the leader.

Shoots at the ends of canes are often slightly more advanced than other shoots.

Crush tipping is often done as two, three or four quick rounds through the orchard as not all shoot are ready to be done at the same time. Timing is critical.

Shoots at the end of a cane

Zero leaf pruning

This is a method of removing growing tips from shoots where there is sufficient leaf area present and where the shoot is not required to be part of next years fruiting canopy.

The shoot is cut with secateurs in the internodal space immediately past the last flower or fruit stalk. This removes the growing tip and the presence of fruit inhibits the formation of vegetative shoots in the subtending leaf axil.

Zero leaf pruning is best applied early. Use it as soon as you can see what needs to be done. Early application will ensure minimum wastage and will help maintain the remaining leaves in the best possible condition to last right through until after harvest.

If zero leaf pruning is done later it is more expensive in both cash and carbon and there is a real risk that the leaves remaining, having developed in the relative shade, will not be as robust and efficient as if they were allowed to develop in the sunlight.

The shoot is cut immediately past the last fruit

Shoot removal

This is simply the removal of any shoots not required as part of the solar panel or the fruiting framework.

The shoots are simply broken out by hand as soon as they can be identified and like crush tipping it is likely that several quick rounds of the orchard are required as there will be a continuation of shoot initiation through the early part of the summer.

Shoot removal on or close to the leader can be modified to preserve growing points. This is achieved by cutting the shoot close to the basal ring and promotes the development of moderate shoot or spur growth close in to the leader. It is best done early in the season, preferably before the beginning of November.

Gel tipping

Gel tipping is a method of treating a shoot after it has been cut with a growth inhibiting gel. It has fallen out of favour as it has been implicated in some low dry matter outcomes. It is likely that these negative outcomes are a direct result of the amount and proximity to the fruit, that the gel has been applied.

Gel tipping is a potentially useful tool where crush tipping has not worked and zero leaf pruning is not appropriate.

The shoot should be cut and the gel applied several leaves past the fruit. This will ensure that there is some distance between the gel application and the subtending fruit. The amount of gel absorbed by the plant will be proportional to the size of the stem where it is cut. The smaller the cut stem, the smaller the amount of gel will be absorbed.

Gel tipping should be used in strict moderation as the risks will be proportional to the number and size of gel treated cuts on each individual plant.

Flower growth

Flower development occurs over the same period of time as canopy establishment. Flower growth is also fuelled by reserves stored in the kiwifruit plant over winter.

A fast and efficient canopy establishment will mean that there are more reserves available to be allocated to flower development and this will occur over a shorter time period.

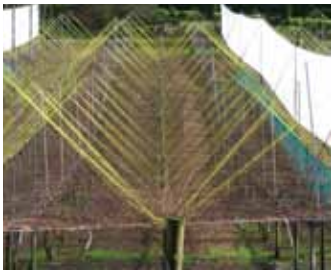
Flower growth is fulled by reserves

Flowers are also likely to be bigger with longer stalks if there has been plenty of reserves available over the period of their development.

Next year's fruiting framework

By the time that canopy closure has been achieved, most of the wood that you will want to tie down next winter should already be in place. Once this has been achieved, canopy management can be focused on removing any surplus growth as it is initiated.

This can be easily achieved by several quick rounds through the orchard breaking out late growing vegetative shoots as soon as they can be seen. The smaller these shoots are when they are removed, the smaller the cash and carbon cost.



Next year's fruiting framework

Summary

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- Budburst, the greater the percentage budburst the less extension growth is needed to achieve canopy closure.
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- Extension, being able to stop the extension growth once canopy closure has been achieved is one of the key skills to achieving a good result in kiwifruit.

The amount (percentage) of budburst is influenced by:

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- Autumn girdling

Leaf size and numbers are influenced by:

- Temperature
- Nutrition
- Amount and rate of extension growth

The amount and rate of extension growth is influenced by:

- Budburst
- Temperature
- Flower/crop load
- Winter wood quality
- Nutrition

There are several tools commonly used to stabilise the canopy and stop excessive extension growth. They include:

- Crush tipping or squeeze tipping
- Zero leaf pruning
- Shoot removal
- Gel tipping

Consider things that might be done to warm up the orchard microclimate in the spring.

Flower development can be significantly enhanced by a fast and efficient canopy establishment.

A fast and efficient canopy establishment will minimise the cash and carbon cost.

Dealing with Psa cankers and associated symptoms in the spring

What are Psa cankers?

Psa cankers occur where Psa has survived inside the kiwifruit plant and conditions have become favourable to support the rapid growth of the Psa bacterium.

Typically Psa is relatively dormant in the plant over winter and until sap movement starts, we see no symptoms. However as soon as there is some moisture, which happens to be loaded with carbohydrate, a rich food source, the Psa starts to grow very rapidly until it bursts out of the plant. These wet exudates are what we see as weeping cankers. The wet ooze is often coloured from being forced through woody tissue and can be coloured a cloudy white, through red to a very rusty orange colour.








Why are Psa Cankers important?

Psa cankers are important because this is how Psa survives the winter in your orchard.

In the spring these cankers are evidence of Psa growing in these plants and this has occurred without a new infection cycle occurring.

Our Psa prevention strategies rely on measures which break the infection cycle.

Currently we have no way of dealing with Psa once it becomes established inside the plant, except to physically remove it.

Cankers can provide a concentrated source of Psa inoculum in your orchard.

How serious are Psa cankers?

Psa behaves differently in different kiwifruit varieties depending on how each variety is able to deal with the infection. Some kiwifruit varieties seem to be very tolerant and others, particularly Hort 16A are very susceptible.

What are the differences?

- Hort16 A is very susceptible and the canker can spread freely through the plant with little resistance.
- G3 seems to be quite tolerant and appears to be able to cut off the infection and heal itself to a degree that we don't see in the other Gold varieties.
- G9 seems to be between Hort16A and G3 but probably closer to Hort16A.
- Gold males can be the first to show signs of cankers in the orchard. Probably worse than G3 but not as bad as Hort16A. M91 might be slightly worse than M33. Often the cankers are small and clearly defined.
- Hayward again at the tolerant end of the spectrum and it is relatively uncommon to see weeping cankers in Hayward.
- G14 similar to Hayward
- Chieftain, where the canopy is open and spray penetration good, cankers can be rare. Where they do occur the cankers

tend to be small, clearly defined and not spread far.

- Matua and M series males more susceptible than Chieftain.

What do I do if I find Cankers?

If you are in:

- **An exclusion zone or have no Psa in your orchard**

  Immediately remove all infected tissue being careful to disinfect, protect and seal any cut surfaces.

  Contain all infected material in a plastic bag, double bag, seal and remove from the orchard for destruction by burning or burial.

  Mark the plant with coloured paint or flag tape with the date written on it

  Contact your EastPack Grower Services Representative and KVH for further assistance.

- **A containment zone or a recovery zone**

  Remove infected tissue as described below being careful to disinfect, protect and seal any cut surfaces.

  Remove from the orchard for destruction by burning or burial.

Varietal differences when I find Cankers?

In G3 – In exclusion zone remove all infected tissue and contact KVH.

Other zones – G3 often has the ability to slow the Psa infection with healthy growth coming away and growing apparently normally, from very close to where the infection has been stopped. Where this is the case it would appear to be safe to leave the plant alone and allow it to deal with the infection in its own way.

The assumption is that you have an effective Psa protection program in place and the only risk is to the plant that has the infection. If you cut the plant out it is gone anyway, so there is nothing to lose by letting the plant have a chance.

If there is no evidence that the infection is slowing then the diseased tissue should be cut away and destroyed. Allow at least a 40cm margin of clear wood.

In Hort 16A or G9 – In an exclusion zone remove all infected tissue and contact KVH.

Other zones – Cut out the diseased tissue as soon as it is found, taking care with tool hygiene, containing all of the diseased tissue in a plastic bag and cutting back to clear unstained tissue and then at least another 40cm of healthy wood. Be very careful to make the last cut with a freshly disinfected tool, disinfect the cut surface and seal with a pruning paint.

In Hayward and Chieftain – In an exclusion zone remove all infected tissue and contact KVH.

Other zones – The cankers tend to be small and clearly defined. They seem to be sited in the bark tissue and are clearly defined by a dark stain. Cut away this stained tissue, making sure to get it all. Be careful to make the last cuts with a freshly disinfected tool, disinfect the cut surface and seal with a pruning paint.

What do I do if I find Cankers in the rootstock?

If they are just isolated cases, consider trying to cut out the canker especially if it appears to be small and clearly defined. If the diseased tissue is widespread within the trunk, prepare to remove the whole plant. Consult with your EastPack rep or technical advisor.

Where there are more than just a few diseased rootstocks in a block, consider replanting with a more tolerant rootstock.

Chinensis, and Kaimai are more susceptible to Psa than mature Bruno rootstocks. Seek advice from your EastPack grower services rep or technical advisor.

What do the cankers look like?

Cankers are different in some varieties

- **G3** – Often partitions off the Psa infection and the resulting canker has a clearly defined edge to it. If left untouched there is often a growth of healthy callous tissue around the margins and the plant may continue

to function normally unless the cane or leader has been completely ring-barked.

- **Hort16A** – The cankers spread along the vascular tissue just under the bark and are often not clearly defined. They can be very long indeed, and narrow so that when they are being removed, it is necessary to cut into clear tissue beyond the obvious limits of the canker. Cut all the way round the removed limb to ensure there is no evidence of canker anywhere. Hort16A can be tricky to remove; cut a significant margin (more than 40cm) of clear tissue if attempting to remove these cankers.
- **Hayward and Chieftain** – The cankers are at the other end of the spectrum. They tend to be small and well defined by staining in the tissue just under the bark. They seem to be self-contained and do not exhibit a tendency to spread far.

Prevention is by far the best strategy and the key messages are still pretty much the same

- Protect your orchard – use an effective spray programme
- Mark, monitor and deal with cankers and other secondary symptoms.
- Enforce strict hygiene protocols

Hygiene protocols for orchards.

Tools

Tools used to cut kiwifruit vines are potentially a high risk because they make direct contact with the vascular tissue of the vine.

The risk is of unclean tool contact vine to vine.

- Only clean tools should be allowed to be used on the orchard.
  - Consider having a set of pruning tools exclusively for use on each orchard. This will eliminate the risk of disease being brought to the orchard from somewhere else.
  - Otherwise all pruning tools must be thoroughly cleaned by soaking in a suitable sanitiser and any plant residues being scrubbed off before pruning starts
  - Alternatively a hot flame from a blow torch or similar can be used to sanitise the cutting surfaces.
- Pruning tools should be sanitised between plants.
  - Spraying with a suitable sanitiser or soaking in a bucket of sanitiser solution.
- Cut surfaces should be treated with a Psa protectant product as soon as practical after cutting.
  - Cuts of more than 10-12mm should be treated with a suitable pruning paint.
  - Pruned blocks should be sprayed with a suitable Psa protectant product (copper) as soon as is practical after pruning or at least before the next high risk weather event.

Vehicles and people

- Vehicles should keep to the formed tracks and not be free to be driven to any area where there is a risk of direct contact with vines.
- People should come to the orchard in a clean set of clothes.
- If they are coming to work on your orchard directly from another orchard, it is a good idea for them to bring and change into a fresh set of clothes.
- No children or pets should be allowed on orchard.

Summary

- Exudates are evidence that Psa is growing inside the kiwifruit plant.
- Exudates are where the Psa has burst out through the plant tissue.

- Psa exudates can be any colour from milky white through bright red to rusty orange.
- Cankers are evidence of Psa surviving the winter inside the Kiwifruit plant.
- We have no way of killing Psa once it becomes established inside the plant.
- Different kiwifruit varieties have different levels of tolerance to Psa cankers.
- Hayward, G14 and G3 are most tolerant and Hort 16A and G9 most susceptible female varieties.
- If you are in an exclusion zone, evidence of cankers or any other Psa symptoms must be reported to KVH and should be removed immediately.
- Cankers in Hort 16A and G9 can spread rapidly and should be removed with a buffer zone of clean tissue.
- Cankers in G3 can sometimes be left to heal themselves.
- Cankers in Hayward and Chieftain are often small, discreet and can be successfully removed if all stained tissue is taken out.
- When removing cankers make the last cut with a freshly disinfected tool, disinfect the cut surface and seal with a pruning paint.
- Some rootstocks are very susceptible and total replacement with a more tolerant variety should be considered.

Prevention is by far the best strategy

- Protect your orchard. Use copper, KeyStrepto and Actigard sprays.
- Mark, monitor and deal with cankers and other secondary symptoms.
- Enforce strict hygiene protocols.

Supplementary pollination

Pollination – the process

Pollination and the setting of seed is a key process in the production of kiwifruit. It determines the potential size of individual fruit pieces, can influence the shape of the fruit and is implicated in the accumulation of dry matter in the fruit.

So what is Pollination?

What we think of as pollination is the process of combining pollen from male kiwifruit flowers with female kiwifruit flowers to form seeds and set fruit.

This is really two processes, pollination and then fertilisation.

Pollination is simply the transfer of pollen from the anther of a stamen in the male flower, to the stigma of the pistil in the female flower.

Fertilisation is the combining of male cells from the pollen with the female cells in the ovary of the female flower to produce seeds.

When the pollen grain is deposited on the stigma it starts to germinate and the pollen tube grows up through the pistil of the female flower until it reaches the ovary and fertilisation occurs. There is a delay between the pollen grain arriving on the stigma and the fertilisation process of 24-48 hours.

Recent research shows that these processes are influenced by temperature.

Table 1 plots the daily temperature in a kiwifruit orchard where there were no male plants present and pollination was achieved by manually applying pollen to the female flowers each day.

Table 2 shows the average weight of the fruit pollinated on each day. What is apparent from this data is that the fruit pollinated on the very cold day, 6 October is relatively large and fruit pollinated on the 8th, a warm day is smaller. This is not what we would have expected. However if we look at the temperatures 48 hours after pollination, about when the fertilisation process is occurring, we

Table 1

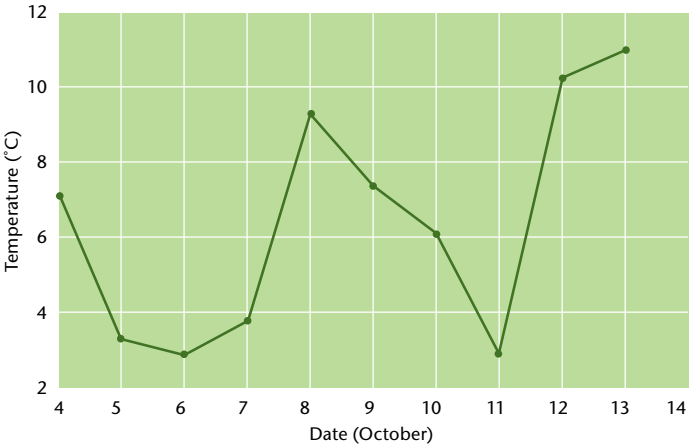
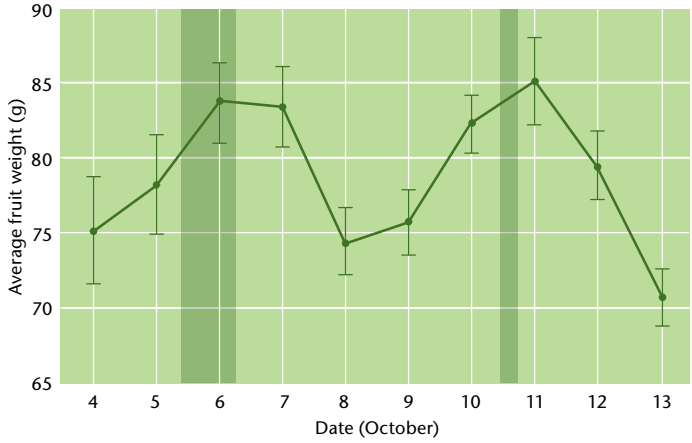


Table 2



see that the fruit pollinated on a cold day, the 6th, is achieving fertilisation in the warmth of the 8th. Similarly the fruit pollinated on the 8th, in the warm achieved fertilisation in the cool of the 10th and is subsequently smaller.

Temperature affects the rate of growth of the pollen tube; it is faster when it is warm and slower when the temperature is cooler.

Cooler temperatures appear to interfere with the process of fertilisation and the subsequent setting of seeds.

Other key findings showed:

- There is no negative influence on fruit size from over pollination.
- Hayward flowers are receptive to pollen for up to eight days.
- That kiwifruit flowers are receptive to pollen right through the length of the day.
- When dry pollen is applied in the orchard there can be significant transfer of pollen between flowers.
- When dry pollen is applied in the orchard there can be significant transfer of pollen within flowers.

Supplementary Pollination

Pollination success is a key element in the production of kiwifruit. We rely heavily on bees to perform the pollen transfer process in

Technically Speaking continued

the orchard, which is essentially a process that we have little direct control of. Supplementing the bee transfer manually has now become widely accepted.

Some key understandings are:

- Pollen landing directly on the stigma of a flower will result in pollination and subsequent fertilisation.
- Bees will transfer dry pollen within flowers.
- Bees will transfer dry pollen between flowers.
- The presence of pollen will excite bees and stimulate their activity.
- A bee needs to visit both male and then female flowers to successfully transfer pollen unless there is viable pollen available on the female flowers.

- Bee activity is reduced in cold weather.
- Bees will collect pollen from other sources outside the orchard.
- Bees could pollinate your whole orchard in one day under hypothetical perfect conditions.
- Hayward flowers are receptive to pollen for 6-8 days.
- Pollen transfer occurring at any time of the day (or night?) can lead to successful fertilisation.
- Dry pollen applied to flowers can stay viable for 24-36 hours.
- It takes only 75g of pollen to pollinate 10,000 trays of Hayward if this could be done without waste.

Supplementary pollination is a powerful tool to help us manage our bee activity and to provide for some direct pollen transfer independently of bee activity.

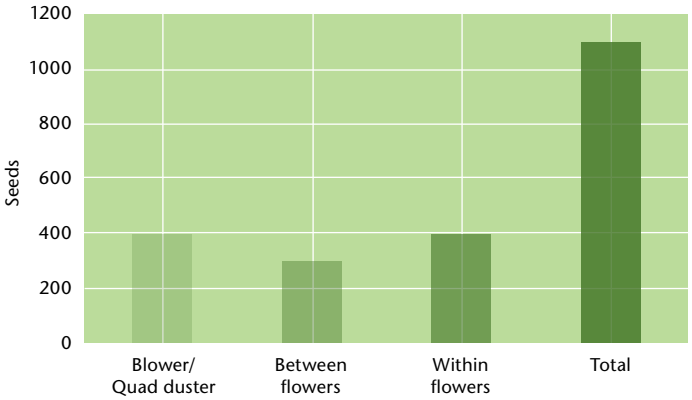
Wet pollen application is particularly useful if there are no bees active in the orchard. It provides direct transfer of pollen to the stigma. The pollen grains have already started the germination process and so are not available for successful transfer by bees.

Application of wet pollen is best targeted directly at the female flower.

Wet pollen is a good fit where there are no male flowers or bees in the orchard. It can be very useful if there are prolonged periods of wet and cold weather severely limiting bee activity.

Dry pollen application is a useful tool to help manage the bees in your orchard. It can provide some transfer of pollen directly to the stigma.

Dry pollen applied in the orchard is available for bees to redistribute within and between female flowers and doesn't require the bee to have visited a male flower before visiting female flowers.



The general presence of pollen will excite the bees and stimulate their level of activity. They will stay where they are finding the pollen and will be less likely to rove widely looking for sources of pollen outside your orchard. Applying dry pollen will encourage bees into your orchard from outside sources as well.

Results of research recently published in the Kiwifruit Journal shows that the number of seeds in fruit from orchards dusted with dry pollen is greater than the sum of the combined effects of either bees or applied pollen alone so there is some real synergy able to be gained.

Timing of application of dry pollen

Hayward kiwifruit flowers are receptive throughout the day but in order to maximise the positive effects of bees redistributing the pollen, and the stimulus effect on bees themselves the best time of the day to apply dry pollen is before midday.

Dry pollen should be applied as two applications of 250-350 g/ha at 80-85% and again at 90-100% flowers open. Alternatively if flowering is very compact, one application of 400-500 g/ha at 90-100% of flowers open.

Gold kiwifruit flowers are only receptive for 2 to 3 days so several pollen applications should be timed at 2 or 3 days apart and at a rate of 100 g/ha.

Temperature

Dry pollen is best applied in warm dry conditions. Cool temperatures affect bee activity, pollen tube growth rates and the actual fertilisation process. Timing of pollen applications to coincide with warm temperatures, especially lasting at least 24 hours will help to maximise the benefits.

Dry pollen can be applied with a hand held modified leaf blower or a specialist quad bike-mounted applicator. Both of these services are available commercially.

Summary

- Pollination and fertilisation are two separate processes. Both are necessary to form seed.
- Fertilisation can be stopped by cold weather.
- Pollen tube growth is faster when it is warm.
- Bees will transfer dry pollen within flowers.
- Bees will transfer dry pollen between flowers.

- Bee activity is reduced in cold weather.
- Bees will collect pollen from other sources outside the orchard.
- Bees could pollinate your whole orchard in one day under hypothetical perfect conditions.
- Gold flowers are receptive to pollen for 2-3 days.
- Hayward flowers are receptive to pollen for 6-8 days.
- It takes only 75g of pollen to pollinate 10,000 trays of Hayward
- Dry pollen applied to flowers can stay viable for 24-36 hours.

Supplementary pollination can be used to help manage your bees, dry pollen will:

- Excite and stimulate your bees
- Encourage them to work in your orchard.
- Provide male pollen without them having to visit male flowers.

Applying pollen to flowers in your orchard will encourage bee activity, pollinate flowers directly and provide more pollen for bees to spread around your female flowers. Supplementary pollination can be a powerful tool to ensure the best possible pollination result.

Orchard Operations Reminder – September 2013

September

- Continue erecting teepee poles and strings.
- Apply nitrogen fertiliser to newly grafted plants.
- Finish any pruning still required.
- Late tip Hayward shoots (if required).
- Continue bird scare programme (Gold).
- Apply first pre-blossom scale spray (Gold).
- Apply bud burst fertiliser. (Green).
- Start canopy control of Gold (squeeze tipping) as required.

October

- Continue canopy control of Gold, paying attention to trying to reduce vigour and make early decisions about what growths to keep for winter.
- Remember little and often. Get through the orchard every week doing all the obvious stuff.
- Revisit your winter pruning in Hayward and open up any tight spacings as required.
- Remove any spurs less than pencil thickness.
- Pollination in Gold. Remember, the more seeds in the fruit, the more successful that fruit will be competing for dry matter.

MORE POLLINATION = MORE DRY MATTER

- Flower counts.
- Start canopy control of Hayward (squeeze tipping) as required.
- Apply the second pre-blossom scale spray (Gold).
- Apply the first pre-blossom scale spray (Hayward).

November

- Flower thinning in Hayward, remove misshapen flowers.
- More canopy work in Gold, going through the canopy lots of times and just taking out the obvious stuff each time.
- Continue the canopy work in Hayward, work at stabilising the canopy and minimise the amount of vegetative growth in the canopy
- Little and often with the canopy work. Remember try to do it without needing to use secaturs.
- Pollination in Hayward.

MORE POLLINATION = MORE DRY MATTER

- Fill in and return your pest monitoring contract.
- Post-blossom leafroller spray in Gold.
- Finish male pruning in Gold.

Financial Update

EET Forecast Average Class 1 payments for September 2013 are as follows:

	Zespri Progress	Taste	Base Charges and Port & Transport	Estimated September Average Payment
Green	$0.17	$0.40	-$0.17	$0.40
Gold	$0.93	$0.70	-$0.15	$1.48
Organic	$0.43	$0.60	-$0.28	$0.75
GA	$1.00	$1.24	-$0.16	$2.08
GL	$0.94	$0.87	-$0.01	$1.80
HE	$0.84	$0.70	-$0.20	$1.34

The average fruit value rates per Class 1 tray are shown in the table below.
These payments will be direct credited into your account on 13 September 2013

PLEASE NOTE that Zespri are clawing back $0.15/green 42 count size tray this payment

Payments by size are shown below.

	Zespri Fruit Payment To 15/08/2013	Zespri Progress 13/09/2013	Total Zespri Receipts	EP Base Coolstorage YTD	EP Port & Transport YTD	EET Advance (Base CS and P&T)	EET Total Paid YTD
Green							
18/22	3.75	0.45	4.20	-0.49	-0.15	0.12	3.68
25/27	3.75	0.30	4.05	-0.49	-0.15	0.12	3.53
30/33	3.75	0.10	3.85	-0.49	-0.15	0.12	3.33
36/39	3.75	0.25	4.00	-0.49	-0.15	0.12	3.48
42	3.75	-0.15	3.60	-0.49	-0.15	0.12	3.08
Gold							
16/18/22	3.90	0.70	4.60	-0.74	-0.15	-	3.70
25/27	4.30	0.90	5.20	-0.74	-0.15	-	4.30
30/33	5.00	1.00	6.00	-0.74	-0.15	-	5.10
36/39	4.50	0.90	5.40	-0.74	-0.15	-	4.50
Organic							
18/22	2.58	0.00	2.58	-0.64	-0.13	0.04	1.85
25/27	2.51	0.70	3.21	-0.64	-0.13	0.04	2.48
30/33	2.89	0.40	3.29	-0.64	-0.13	0.04	2.56
36/39	2.94	0.50	3.44	-0.64	-0.13	0.04	2.71
42	2.25	0.00	2.25	-0.64	-0.13	0.04	1.52
GA							
16/18/22	3.55	0.80	4.35	-0.72	-0.15	-	3.48
25/27	3.80	0.95	4.75	-0.72	-0.15	-	3.88
30/33	4.20	1.10	5.30	-0.72	-0.15	-	4.43
36/39	3.60	1.00	4.60	-0.72	-0.15	-	3.73
GL							
16/18/22	3.60	0.00	3.60	-0.60	-0.12	-	2.88
25/27	3.20	0.80	4.00	-0.60	-0.12	-	3.28
30/33	4.00	0.90	4.90	-0.60	-0.12	-	4.18
36/39	3.30	1.10	4.40	-0.60	-0.12	-	3.68
HE							
18/22	2.80	0.00	2.80	-0.74	-0.15	-	1.90
25/27	2.80	0.00	2.80	-0.74	-0.15	-	1.90
30/33	3.85	0.70	4.55	-0.74	-0.15	-	3.65
36/39	5.75	1.00	6.75	-0.74	-0.15	-	5.85
42	4.60	0.60	5.20	-0.74	-0.15	-	4.30

Grower Profile

MARK AND LEAH ERICKSEN – WAIMA FRUIT COMPANY LTD, HAWKES BAY

Mark and Leah Ericksen are the most recent custodians of Waima, farming in partnership with parents Peter and Lesley (now semi-retired). In 1922 Mark's grandfather and great grandfather came to the land to dairy farm (one of the oldest milking sheds in New Zealand is still on the property today). The transition into orcharding began in 1979 with the planting of the first Hayward kiwifruit vines by brothers Peter (Mark's Dad) and Eric. More kiwifruit followed in 1986 together with the first of the apples. Under their stewardship the orchard continued to develop with conversion of the original 3.8 hectares into Hort16A beginning in 1997. Since 2010 the remaining 3.6 hectares of Hayward have been converted into Gold 3. The apples now total 35 hectares.

Mark was brought up working on the property before heading to Otago in 1993 studying commerce and marketing. Next his OE, during which he met Leah (a Waikato girl) in France and the rest as they say, is history.

Mark is very passionate about growing the best fruit he possibly can and stresses that it is very much a family business which owes its success to the hard work and inputs of the whole family, the kiwifruit team at Waima, Alan, Moinesh and Tony, also Rudra Naiker and his contracting team. The results for both kiwifruit and apples have been excellent, attracting some outstanding awards along the way (including being first primary producer in New Zealand to be accredited EurepGAP (now known as GlobalGAP), Hawkes Bay rural environmental award, Tesco Gold standard and in 2006 awarded the World Fruit Grower of the Year title).

They have packed with EastPack since it was formed, trucking kiwifruit to Te Puke from the time the last "Real Bay" packing operation finished. Mark enjoys the dynamic nature of the industry, he says, "Things are always changing creating new challenges. We are about embracing changes to develop different, new and better practices to achieve sustainability. Growing fruit on Hawkes Bay's heavy soils is never easy, coupled with cool springs (frosts) there have been many tough times through the years, but through attention to detail and developing good systems, the business is growing and in good heart."

Psa is one of those challenges, that reluctantly, he sees will eventually see them moving away from Hort16A. Mark is very positive about the future of G3 (achieving 16,000/Ha te first year off the graft with good size and dry matter followed by 18,500 /Ha te the second year), but cautions "Growing Gold requires a shift in mindset from Green, you need to put in the inputs to be successful. You can't cut corners".

Mark and Leah look forward to being able to spend more time "working on the business rather than in it" and enjoying family activities. For them providing guidance for their children and supporting them in their passion in life, whether that is fruit growing or not, is their priority.

Since 1922 Waima has been about family and partnerships with a strong ethos handed down on being custodians of the land for future generations. Mark and Leah are very much of this view and their three boys Jack 10, James 8 and Archer 5 are the 5th generation to call Waima home.

Below: Waima Fruit Company's G3 grafts post-winter tie down.

New Varieties Update

New Varieties after-graft care

Graft failure can put your development programme behind schedule and re-grafting is an unnecessary expense.

Once your grafter has finished the actual grafting the rest is up to you. The new grafts will need some special care and attention. There are several areas that will need to be managed closely to ensure, not only survival of the grafts but that they grow vigorously and establish quickly.

- Protect from Psa
- Sap pressure
- Support the grafts
- Slugs (and snails?)
- Protect from frost
- Fertiliser
- Weed control

Protect from Psa

Gold-fleshed varieties and young growth are both risk factors making plants vulnerable to Psa. New grafts and the young rapidly growing tissue from grafts must be protected from Psa infections at all times.

Consult with the latest version of the Zespri Psa Crop Protection Programme for the best products.

Be aware of the correct concentration rates when mixing up small quantities of spray mix. Copper product rates will be approx 5g to 15g in 20L of water (this is approx 0.5 to 1.5 teaspoons of product !!!)

Sap Pressure

Excessive sap pressure is the most common cause of graft failure. This can be quite easily reduced by providing for the excessive sap to drain away before reaching the graft.

However any new wound provides a potential entry point for Psa. There is a fine a balance then, between saving the grafts from excessive sap pressure and the need to minimise the Psa risk. Any open wound should be protected from Psa as much as practical. It is difficult to protect a weeping wound because if the sap can get out then Psa can get in.

The most common methods used to relieve sap pressure are to use either holes drilled into the trunk below the graft, or in the case of stump grafting, one or two small cuts with a chainsaw.

It is important to keep these holes open so that the sap is continuing to drain until the grafts are well established or the sap pressure eases off, usually in early November for Bruno rootstocks.

These holes will heal quite rapidly and they will be substantially healed by the middle of next season.

Where the risk from Psa is high, it maybe wiser to accept some graft losses and not make any cuts or holes that cannot be protected from Psa.

Support the Graft

The successful graft will grow and elongate quite quickly. This growth is very tender and the callus tissue growing around the graft itself is soft so the new shoot will need to be supported as soon as it starts to grow.

A string can be tied to the stump below the graft and secured to the leader wire or a bamboo used instead. The growing shoot can then be wrapped loosely around or taped loosely to it.

Slugs (and snails)

Slugs just love new grafts and will completely devour the emerging new shoots given half a chance. Clean away all the trash around the base of the trunk for at least half a meter in each direction. Depressions where trunk sluicing for *armilleria* control has been done should be cleared of any old leaves or rubbish. Allow the ground around the base of the trunk to dry out whenever possible.

Apply a generous amount of slug and snail bait to the ground around the base of the trunk.

Frost

The new graft will need to be protected from frost. If you are using an automated frost protection system it will pay to make sure the temperature sensor is lowered to the level of the grafts as it will be colder down there than at the level of the canopy.

Fertiliser

Feed the young growing grafts with a nitrogen fertiliser at least every four weeks. This will only need to be a small quantity but needs to be applied at relatively close intervals, not more than four weeks apart. It can be applied by hand or banded on with a spreader.

Weeds

Keep the area around the new grafts clean and free of weeds. This will minimise any competition for nutrients and water and it will also help with the control of slugs and snails.

Summary, after grafting

- Protect all cuts, holes and young growth from the threat of Psa
- Drill holes or chainsaw cuts below the graft to relieve sap pressure.
- Keep these holes open and draining.
- Support the grafts from the rootstock to the leader wire.
- Use a generous amount of slug bait and keep the ground around the trunk clear.
- Protect the young graft from frost.
- Keep free from weeds, keep watered and use nitrogen fertiliser little and often.

Health & Safety

IDENTIFYING AND CONTROLLING HAZARDS ON ORCHARDS

The general duties of employers under the Health and Safety in Employment Act 1992 are to take all practicable steps to:

- Provide and maintain a safe working environment.
- Include employees in the development of health and safety procedures.
- Identify hazards and apply practical controls to significant hazards.
- Provide and maintain facilities for the safety and health of employees.
- Ensure that any processes that employees are involved in will not adversely affect their health or safety.
- Provide employees with information on workplace hazards, and ensure that employees are trained and supervised.
- Record and investigate workplace accidents and illnesses, and report any that constitute serious harm.
- Develop procedures to deal with emergencies which may arise at work.

It is important when identifying and determining controls for hazards, all areas of the workplace are considered. For example while we may think of an orchard as the area where vines are planted, the "workplace" also covers buildings or equipment that may be present either on the orchard grounds or on other properties where activities associated with work are undertaken e.g. workshops, sheds, pits, tanks etc. This extends to not only the working environment but also the introduction, dismantling or maintenance of such structures or equipment.

To help identify hazards on and around your orchard, you may find the "Guidelines for the Provision of Safety, Health and Accommodation in Agriculture" publication useful. It is available for free on the Ministry of Business, Innovation and Employment website at the following link:

http://www.business.govt.nz/healthandsafetygroup/information-guidance/all-guidance-items/agriculture-guidelines-for-the-provision-of-safety-health-and-accommodation-in/agricu-g.pdf

EastPack Grower Survey

Thank you to all those who completed their grower surveys.

We look forward to sharing the results of the survey during the next round of EastPack grower meetings.

The winners of the Air New Zealand Mystery Weekend draw are Graeme and Lis McCarroll from Te Puke. Congratulations!

Cuttings

EastPack Website

Apologies for the delay in receiving your usernames and passwords for the new and improved EastPack website. With transferring all the historical documents over from the Satara website, there have been some hurdles along the way but these have now been sorted and we trust that you will enjoy the site, where we have tried to use the best from both the old EastPack and Satara websites.

As a result you will now have access to your orchard/KPIN payment reports, OGR forecasting, orchard budgeting and cash flow tools through a secure grower login. This will enable you to view your OGR forecast, input your orchard costs and review your cash flow on a monthly basis. The first OGR forecast for the year will be available towards the end of September. Growers who already had a login will now have access to Timely Reminders and a glossary. Growers will also have access to grower packout and reject analysis reports shortly.

If you haven't received an email or letter with your login details please contact Kyra Ormsby on kyra@eastpack.co.nz or 07-573 0942. If you need need further information or are having any difficulties with accessing the website please contact Kyra or your Grower Service Representative.

World Class Performances

Congratulations to our New Zealand rowers at the recent World Rowing Champs in Korea, winning five medals.

One of those medals was won by Te Puke Grower Service Representative, Herb Stevenson's daughter, Zoe, who won a silver medal in the women's double scull. With her scull's partner, Fiona Bourke, they were only four one-hundreths of a second away from gold!

Growsafe Renewal Course and Introductory Growsafe Course

Introduction Course

Monday 23 Sept, 8.30am to 4.00pm
Training Room, EastPack Washer Road, Te Puke

This is for people who don't have a certificate or those who have let theirs lapse and expired prior to 31/12/12

Recertification

Tuesday 24 Sept, 8.30am to 12.00pm
Training Room, EastPack Washer Road, Te Puke

They must bring copies of:

- Existing GrowSafe Introductory and Approved Handler Certificate
- Spray Diary

EastPack requires expression of interest in the above courses. We require a minimum of 10 persons per course.

Eddie Biesiek, Certified Ltd is the trainer from BOP Polytech.
Renewal **$240** | Introductory **$390**

Contact your packhouse or Ivon Pilcher on:
Mobile 027-430 4074
DDI 07-573 0971 or ivon.pilcher@eastpack.co.nz.

LEAN Course for Growers

EastPack would like to extend the opportunity to growers and orchard managers to attend a two day course in Te Puke about Lean Manufacturing principals.

EastPack used Lean principals for the last five seasons resulting in a 27% reduction in labour cost, reduced repacking, reduced fruitloss and better fruit quality into market.

While the course is based on a manufacturing simulation the programme will be customised as much as possible to reflect an orchard situation and aims to increase orchard productivity and profitability.

This is a great opportunity to challenge how your orchard is currently managed. We are providing this course at the discounted price of $200 per participant and numbers are limited to 24 people per course.

If you are interested please contact Toby Potter on:
07-573 0967 or toby.potter@eastpack.co.nz.

Upcoming Events

DATE	REGION	EVENT	LOCATION	TIME
Wed 18 Sept	Te Puke	OPC KiwiTech Pollination Seminar	The Orchard, 20 MacLoughlin Drive Te Puke	2.00pm-4.00pm
Thur 19 Sept	Katikati	OPC KiwiTech Pollination Seminar	EastPack, Marshall Road Packhouse, Katikati	9.00am-11.00am
Mon 23 Sept	Hawkes Bay	OPC KiwiTech Pollination Seminar	Plant & Food Research Cnr Crosses and St George Road Havelock North	9.30am-11.30am
Mon 23 Sept	Waikato	OPC KiwiTech Pollination Seminar	Prince Albert, 75 Victoria Street, Cambridge	2.00pm-4.00pm
Tue 24 Sept	Gisborne	OPC KiwiTech Pollination Seminar	Bushmere Arms Main Road, Waerenga-a-Hika	9.00am-11.00am
Tue 24 Sept	Opotiki	OPC KiwiTech Pollination Seminar	Opotiki Golf Club, Fromow Road, Opotiki	3.00pm-5.00pm
Wed 25 Sept	Edgecumbe	OPC KiwiTech Pollination Seminar	Awakeri Events Centre Lounge State Highway 30	10.00am-12.00pm
Thur 26 Sept	Kerikeri	OPC KiwiTech Pollination Seminar	Turner Centre, 43 Cobham Road, Kerikeri	9.00am-11.00am
Thur 26 Sept	Whangarei	OPC KiwiTech Pollination Seminar	Barge Showgrounds – Members Room Maunu Road	3.00pm-5.00pm
Fri 27 Sept	Auckland	OPC KiwiTech Pollination Seminar	Counties Race Course 225-250 Manukau Road, Pukekohe, Gate 3	10.00am-12.00pm
Mon 30 Sept	Te Puke	Zespri Crop Protection Forum	Te Puke Hotel, 110 Jellicoe Street	9.00am-10.30am
Mon 30 Sept	Tauranga	Zespri Crop Protection Forum	Classic Flyers, 9 Jean Batten Drive Mt Maunganui (Boeing Room)	1.30pm-3.00pm
Tue 1 Oct	Edgecumbe	Zespri Crop Protection Forum	Awakeri Events Centre, State Highway 30	9.00am-10.30am
Tue 1 Oct	Opotiki	Zespri Crop Protection Forum	Opotiki Golf Club, Fromow Road	1.00pm-2.30pm
Wed 2 Oct	Katikati	Zespri Crop Protection Forum	Katikati RSA, Cnr Henry Road & Main Road	9.00am-10.30am
Thur 3 Oct	Hawkes Bay	Zespri Crop Protection Forum	Plant & Food Research Cnr Crosses and St Georges Road Havelock North	9.00am-10.30am
Thur 3 Oct	Gisborne	Zespri Crop Protection Forum	Bushmere Arms Main Road, Waerenga-a-Hika	3.00pm-4.30pm
Fri 4 Oct	Te Puke	Zespri Crop Protection Forum	Te Puke Hotel, 110 Jellicoe Street	1.00pm-2.30pm
Mon 7 Oct	Kerikeri	Zespri Crop Protection Forum	Kerikeri Plant & Food, 121 Keri Downs Road	9.00am-10.30am
Mon 7 Oct	Whangarei	Zespri Crop Protection Forum	Barge Showgrounds (Presidents Room)	1.30pm-3.00pm
Tue 8 Oct	Auckland	Zespri Crop Protection Forum	Counties Function Centre, Pukekohe Park 222-240 Manukau Road (Oaks Lounge)	9.00am-10.30am
Tue 8 Oct	Hamilton	Zespri Crop Protection Forum	Hamilton Airport Hotel Airport Road, RD2, Hamilton	1.30pm-3.00pm
Thur 10 Oct	Te Puke	Zespri Crop Protection Forum	Te Puke Hotel, 110 Jellicoe Street	9.00am-10.30am
Thur 10 Oct	Tauranga	Zespri Crop Protection Forum	Classic Flyers, 9 Jean Batten Drive Mt Maunganui (Boeing Room)	1.30pm-3.00pm

Classified

Situations Vacant

Experienced Tractor/Machinery/ Sprayer Operator

EastPack spray division has a full time position available for the Te Puke region.

Growsafe and HT licence preferred. Remuneration by negotiation.

Phone David Stephenson on 027-258 9820

Wanted to Buy

0.1 ha G3 licence

Phone Graham 021-935 879

300 Steel string poles – 5m

Phone Kevin on 027-480 0506

Hort 16A or G3 licence – good price

Phone 07-573 9385 or 027-490 3446

Used AgBeam

Standard and heavy.

Phone John 027-216 9345

Hort 16A Gold licence

Phone Andrew 027-222 1903

Hort 16A Gold licence

Phone Grant 027-493 1810

Courses

First Aid Courses

OSH, GAP, NZQA. Held monthly in Te Puke.

Phone Doug 021-108 1515
Email: dougallan@slingshot.co.nz

For Hire

Machinery for Hire

- D31 bulldozer 6 way blade/winch
- 10 tonne digger
- 8 wheeler flat deck with hydraulic ramp and 9.5m deck
- 5 tonne 4x4 tip truck

Ph Barry Moys 07-929 7272

For Lease

Beehives for Lease | $150 each

Ph David Stone 021-023 36435

For Sale

Stringing Poles

3.4m and 3.6m

50c per metre

Ph Graeme on 07-573 8611

Top Quality Wormacompost™ Envirofert Ltd – Tuakau

- The best compost for kiwifruit at the best price.
- Made from greenwaste to give highly available nutrients and high levels of organic, microbial activity.
- Cleared by KVH for unrestricted delivery for kiwifruit.

Also avocados, feijoas, maize etc. Large quantity prices negotiated.

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john@envirofert.co.nz
www.envirofert.co.nz

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Nail in one end.

Large quantity available. Offers

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Toro rotary minisprinkler, Toro stake, connector tube to lateral. New price is $7.15 plus GST for the whole unit.

These units are in excellent condition and are two years old, recently removed from a kiwifruit orchard, available for $2.50 each.

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Winstone Typhoon 2000 litre, complete with Spray Mate rate controller, new tyres, ready for next season. $4000.00 + GST

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Brand New. still in the box.
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For stringing. Use multiple times. 3m and 5.4m lengths ex Tauranga $1.10/m + GST

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Four blades, fully automated. 160 hours. Price Negotiable.

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2000 x 500mm Spray Guards

Suitable for stumps up to 12 years old.

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- Cutters to make 4.5, 6 and 8.5mm slots.
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- Can be fitted to bench grinder to make own bud wood scions. $67.00 each.

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Grundfos Pump: Model 100 x 65 - 200.

Impellar diameter 198. Motor is a 2009 model 22Kw TECO high efficiency (93.5) 3 phase induction. Pump is attached to the motor.

Please ring Mike on 07-312 3198 evenings.

Mulcher

Trimax Mulchmasta, 2.2m width. Excellent condition. $2500

Phone Pete on 07-315 6849

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Irrigation Laterals

Complete with Tornado Ray Jets, 2 x 55 litres/hr. Per 5m bay 19mm, 16mm 13mm

Call Geoff Harcourt on 027-498 0672

Kiwi Grafting Ltd

Fast and proven methods

- Suppliers of quality scion wood plug (or kerf)
- Suppliers of grafting tape
- Grooving equipment available from $1,495.00 + GST

Orders taken now, phone 0800 2 GRAFT

For more information visit: www.kiwigrafting.co.nz

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- Fabrication and engineering repairs
- Aluminium and stainless steel welding
- Repairs and hardfacing of flails
- Mowing and mulching

Special rates for EastPack growers.

For enquiries phone Dave on 021-980 664

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Orchard Contracting Services

- Crop spraying
- Weed control
- Mowing and mulching requirements

Phone Matt 021-202 8520

Rydgeview Contracting Ltd

Mulching, mowing and weed spraying

Phone Bruce 027-544 7181 or 07-573 7995

Email: bkdixon@farmside.co.nz

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- Taca Tungsten grit hardfacing
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- We can supply all types of mulcher flails, complete with Taca.

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- Hi-Cane application (2 machines)
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- Weed strip spraying
- Fertiliser applications

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Murray Holmes

07-573 7695 or 027-573 7695

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Spray Specialists

Experienced spray contractors for all your kiwifruit spraying requirements. Very high orchard hygiene standards for Psa control.

Phone Richard Alloway on 027-499 9459

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We work to isolate and control the spread of Armillaria within orchards, by water blasting soil away from infected root systems.

By doing this we are able to expose the Armillaria fungus to sunlight and air causing fungus to dissipate and vines to recover.

Free quotes and consultations available throughout the bay.

Call Karen Massey on 0800 877 566

BOP Trenching Services

- Irrigation systems for orchard or farm
- Frost and irrigation, bores, rivers or dam supply
- Diesel or power pumps
- Design, supply and install
- Free quotes.
- New systems or reinstate old systems

Phone Roger Johnson on 07-533 1517 or 027-452 5330

Trade Services

Superior Kiwifruit Vines

Needing to graft kiwifruit vines this winter? Let us do the hard graft for you!

Over 25 years grafting experience and a success rate of over 99%.

Call Stuart on 022-080 5669

Email: Superiorkiwifruitvines@gmail.com

Trade Services Wanted

Kiwifruit posts and wire to be removed

4.5 canopy hectare lot to be removed

Contact Tere 07-573 5356

For Rent

Farm Cottage for Rent

$260 per week, 12 minutes from Te Puke

Contact Braden 021-280 6600

For Tender

3 ha G3 licence

Or parts of. Highest or any tenders not necessarily accepted.

Please forward your tender to, oceanviewimports@gmail.com

EastPack Investor Shares For Sale

Any growers interested in purchasing EastPack Investor Shares please go to the website www.unlisted.co.nz

Change of Location

Te Puke Grower Services Team

For growers wishing to come into the office to visit their Grower Service Representative, we are now based at 1 Washer Road, Te Puke.

Apologies for the inconvenience for any growers that have gone into Quarry Road to find we are no longer based there.

EP Prunings Deadline – For articles and advertising 1st of each month.
Please also advise when your adverts are to be removed.
Contact Kyra Ormsby: | DDI 07-573 0942 | kyra.ormsby@eastpack.co.nz

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027-275 3293

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Site Manager
027-229 3795

Te Puke – Washer Road

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Manager – EKO
027-258 9820

Toby Potter
Business Development Manager
027-703 3812

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Manager – Orchard Productivity
021-280 6600

Bruce Lyford
Senior Relationships Manager
027-612 7450

Tim Torr
Technical Transfer Manager
027-205 7520

Anthony Pangborn
Technical Manager – Fruit Quality
027-245 7295

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Manager – Grower Services (Te Puke)
027-742 6778

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Grower Services (Te Puke)
027-430 4074

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Grower Services (Te Puke)
027-274 9790

Bryan Leach
Grower Services (Te Puke)
027-573 8346

Andrew Stephenson
EKO Orchard Manager (Te Puke)
027-289 9308

Andrew Stevenson (Herb)
Technical Transfer
027-212 5586

Geoff Signal
Manager – Grower Services/EKO (Waikato/Auckland/Northland)
027-212 5600

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Grower Services (BOP)
027-212 5599

Todd Hardie
Grower Services (BOP)
027-742 8624

Craig Wotten
Grower Services (Te Puke/Edgecumbe)
027-212 5596

Quentin Francis
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027-212 5615

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Phone 07-549 0008
Fax 07-549 1299

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Site Manager
027-212 5619

Roger Hoebers
Manager – Grower Services/EKO (Katikati/Coromandel)
027-702 6221

Bruce Shepherd
Technical Transfer
027-212 5630

Joe Brophy
Grower Services (Katikati & Coromandel)
029-549 1422

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Grower Services/EKO (Coromandel)
027-212 5593

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027-224 0742

Greg Wild
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