Issue 120 | June 2012

pruning

WORLD CLASS
EastPack Ltd
ORCHARD to MARKET

EastPack **update**

2012 almost complete

- As of Queen's Birthday, 4 June:
  - virtually all Te Puke fruit has been harvested.
  - Approximately 35,000 trays of Whakatane fruit has yet to be harvested.
  - Opotiki fruit has had a late start to its season and at the same time had approximately 275,000 trays of Gold and 800,000 trays of Green to be harvested.

Additional picking resources from the Te Puke and Whakatane regions are assisting Opotiki Growers to harvest their fruit as efficiently as possible.

2012 Highlights

- Overall we expect to pack approximately 19m Class 1 trays this year, though down from last year's record 21m trays it is still a very credible statistic acknowledging EastPack's high proportion of Gold which has been exposed to Psa.
- 55 Growers totalling approximately 2.3m trays have joined EastPack from other packhouses this year. It is both highly encouraging and humbling that such a large number of Growers have chosen to pack their fruit with EastPack for the first time.
- Operationally EastPack continues to make improvements under its "Growing Excellence" programme. After achieving savings and loss reduction in excess of 21% in the past 3 years we have seen further enhancements again this year. All EastPack staff fully understand that the kiwifruit industry has been severely challenged by Psa and we are all doing our bit to improve the economics of kiwifruit packing and coolstoring.
- EastPack's packing price reduction of 20 cents per tray introduced in 2012 will be sustained for 2013, as long as our packaging prices and specifications are not increased.
- EastPack worked very closely with its Hort 16A Psa infected Growers to minimise their volume losses due to Psa ravaging their orchards.

Future

- EastPack is engaging and encouraging Zespri to look at its whole supply chain to find savings and enhancements to (especially) Green Growers per tray returns. In the current Psa environment, enhancing and improving Green Growers' OGR return is important in maintaining the viability and vitality of the whole kiwifruit industry.
- This winter will see a massive reworking of Hort 16A in the Te Puke/Tauranga, Whakatane and perhaps Opotiki regions.
- Whilst G3 and G14 are not silver bullets in the fight against Psa, a pathway forward is mapped out for kiwifruit Growers. It will take diligent and accurate management from all Growers for us to successfully cut over Hort 16A to G3/G14.

Acknowledgements

- I would like to thank all EastPack Growers for their support in what has been a challenging environment. It is now our best endeavours to look after your crop whilst in coolstorage.

Tony Hawken – CHIEF EXECUTIVE

Technically **Speaking**

On orchard hygiene for winter pruning

Orchard hygiene is still important for winter pruning. Use the following guidelines.

The pruners shall:

- Park on the hardstand areas of the orchard only (no vehicles under the canopy).
  - Load-out area or
  - The driveway or
  - Outside the orchard.
- Sanitise footwear using the disinfectant footbath provided when;
  - Entering the orchard
  - Leaving the orchard.
- Sanitise all pruning tools before starting work each day and again after finishing pruning each plant or each bay.
- Make all cuts 25mm or larger with a saw.
- Paint all saw cuts with the product provided as the cuts are made.
- Prune on dry canopies on dry days. (Tying down to be done on damp days?).

Also

- No children or pets allowed on the orchard at all times.
- Gloves and plant material must **not** be removed from the orchard.

The orchardist shall:

- Designate the parking area for pruners vehicles.
- Provide sanitising equipment in the form of a footbath or sprayers. These are to be replenished daily.
- Provide sanitising materials.
- Provide clear instructions as to his pruning requirements and timings of protection spray applications.
- Provide spray bottles and sanitiser spray to be used during the pruning process.
- Provide gloves if the pruning staff require them.
- Provide rubbish collection facilities so waste does not leave the orchard.

Winter pruning with Psa-V

Psa is an important consideration when undertaking winter pruning.

Regardless of where you are, Psa is a real threat and you will need to be able to mitigate the risk to your orchard in the coming season. The only effective tools that we have to mitigate the risk over winter are protective cover sprays.

These are the copper sprays;

- Nordox 75WG
- Kocide Opti
- Champ DP

These products are protective cover sprays. They have to be in place on the outside of the kiwifruit plant as there are no treatments that can successfully kill Psa once it becomes established inside the plant.

Good spray coverage is imperative.

You should have a complete protective cover in place prior to the start of winter pruning. This will include sprays to protect the picking scars on the end of the fruit stalks, and the leaf scars where the leaves have dropped off the canes.

The risks to your cover will be:

- **Breaks in the cover**
  This includes any cuts that you have to make, or any injury to the vine that may provide an entry point for Psa. You will need to re-establish the cover on those breaks as soon as is practical. This will include;
  - Spraying immediately after winter pruning.
- **Use of ineffective products**
  Do not get sucked in by the salesman's patter. You may feel the need to try some new things. This is great but make sure that you have an effective cover in place or if that is not practical, that you are only experimenting with something that you can afford to lose.

Winter pruning

All cuts will have to be treated to re-establish your protective cover.

- Paint all saw cuts with some sort of wound sealing dressing.
- Spray all of the winter pruning cuts with a standard copper solution. Do this as soon as practical after the cut is made.
- Pruning tools should be treated to disinfect them bay by bay or plant by plant.
- Encourage the larger lopper cuts to be made with a saw instead. This will make a cleaner cut which can then be painted giving a more reliable result.

Pruning should only be done when the canopy is dry.

Psa needs free water to move so pruning wet canopies or wet wood is a significantly high risk and should be avoided.

Tying down and clipping winter canopies can be done on the damp days.

The aim of winter pruning is t o set up the framework which will carry next year's crop.

In Hayward this framework should consist of good quality fruit stalk wood of moderate vigour with prominent buds that has been grown in sunlight for the whole of the season.

This wood should be evenly spaced with 35-40cm gaps between the fruiting wood in all directions.

Pruning Gold varieties

The principle for winter pruning Gold is just the same – moderate vigour, well lit (grown in sunlight) fruiting wood with prominent (fat) buds and short internodes, well spaced.

The real difference with Gold is that it is both much more vigorous and much more floral than Hayward.

The key to pruning Gold is to limit the number of buds to the sort of number that you need and to have these buds on the best possible quality winter wood.

Because of its relatively vigorous growth habit, it is important that Gold canopies are kept as flat as possible.

Prune out all the vertical growth, spurs, stubs and any hooped structures that may still be part of the permanent framework.

Step by Step Winter Prune

Establish the framework to carry next year's crop.

1. Remove the obsolete and unsuitable wood. This is a skilled job and involves significant decision making. It may be considered as being separate from the normal winter prune.
2. a. make any saw cuts that may be necessary.
   b. take out any wood that is not to be considered part of the pruning job.
   c. paint the saw cuts with a pruning paint.

3. Remove all the spent wood.
4. Remove all the weak wood (thinner than pencil thickness) and all the shaded or late grown hairy wood.
5. Select the best quality wood and tie down. Use a clip for each wire and secure the ends of canes with a bungy if they are overhanging.
6. Adjust the spacings, 35-40cm in each direction for Hayward and 30-40cm for Gold.
7. Maintain at least a 30cm space between the wood of opposing females.

8. Maintain at least the 30 cm spacing between female wood and male wood.
9. Adjust the bud numbers.
   a. Count the bud numbers in a number of bays each day as they are being pruned.
   b. Reduce the buds to your target range if they are too high by removing the weakest wood and adjusting the spacings.
10. Fine tune the winter prune. Ideally this can be done at a later time.
    a. Go through the pruning bay by bay and focus on removing weak and late grown wood.
    b. Remove any vertical stubs or spurs.
    c. Remove wood that is too thin.
    d. Adjust the spacings.
    e. Secure any unsupported canes or spurs with a bungy.
    f. Try to even up any bays that stand out as being too different.
    g. Check on the bud numbers in several bays in each maturity area and adjust if necessary.

A useful protective pruning paint recipe

Mix in a sealable bucket

- One part Bitumix (any water-based bitumous concrete block sealer paint will do)
- One part water
- Sporekill (or any other soluble disinfectant/sanitiser) at 5ml/litre

Mix well being careful to avoid splashing skin or clothes as it does not come off easily.

Stir well before use. Apply to freshly cut stumps or pruning cuts.

Seal tightly to store

The use of coppers for Psa protection

A thumbnail sketch

Why coppers?

- Coppers have been used for bacterial disease control in fruit crops around the world for more than 150 years.
- We are still using coppers today because we have not found anything that works better on bacterial diseases in fruit crops.

How do coppers work?

- Coppers are protectant bactericides, they have to be present on the plant before the pathogen arrives.
- Coppers sit on the outside surface of the plant.
- Coppers work by releasing cupric and cuprous ions on the plant surface when water is present.
- The copper ions cross the cell membrane of the bacterium and physically disrupt its metabolic function (kills it).
- Complete coverage of the plant surface with the copper product is required for complete protection.
- The smaller the particle size of the copper product, the longer the retention on the plant surface.
- The smaller the particle size of the copper product, the more cupric and cuprous ions are released. The more active the product.

Cautions around the use of coppers on kiwifruit.

- Soluble copper may cause phyto-toxicity on kiwifruit leaves.
- Copper inside plant tissues can be very destructive. Avoid using systemic coppers or chelated products.
- Coppers may cause minor russeting on kiwifruit.
- Copper protectant sprays must be applied in good drying conditions.
- The pH of the copper spray solution must be near neutral (pH 6.5 to.7.5).
- Copper sprays should **not** be applied to kiwifruit with a surfactant (wetting agent).
- Do not use copper products that contain surfactants or solvents (liquid coppers).
- The protection provided by a copper spray will be only as good as the spray coverage.
- Any gaps in the spray coverage will be gaps in the protection provided.
- Coppers may slow down the rate of extension growth in kiwifruit.
- More applications of copper at lower rates is more effective and less likely to cause phyto-toxicity than applying high rates in fewer applications.

Always apply coppers on their own.

Winter Psa spray programme 2012

WHEN	WHY	RATE PER 100 L	NOTES
Immediately after harvest	To protect picking wounds	Use Nordox at 55g (or Kocide Opti at 90g)	Target the picking scar at the end of the fruit stalk. Use lower pressure and no fan
After the start of leaf drop	To speed up leaf drop	Urea at 2kg Repeat as required	Use a wetting agent, spray under slow dying conditions, target the upper leaf surface
Approximately half way through leaf fall	To protect the leaf scars	Use Nordox at 55g (or Kocide Opti at 90g)	Time the application to provide cover before the next major rain event
At the end of leaf fall	To protect the leaf scars	Use Nordox at 55g (or Kocide Opti at 90g)	As close to the end of leaf fall as can be managed
Immediately after winter pruning	To protect pruning cuts and cracked canes	Use Nordox at 55g (or Kocide Opti at 90g)	No closer than 7 days before or 7 days after Hi-Cane spray
As close to bud burst as possible	To protect the bud scale split	Use Nordox at 55g (or Kocide Opti at 90g)	Target fruiting wood

Notes:

1. When spraying winter coppers make sure the spray is targeted to the wood, use an appropriate water rate (approx 600-700L/ha) and make sure the coverage is as close to perfect as possible.
2. Copper sulphate at 1.25kg/100L plus a wetting agent can be substituted for the urea leaf drop spray or both can be used together.
3. Always apply copper protectant sprays on their own.
4. The above recommendations are a guideline only.

Orchard Operations Reminder

June

- Take soil samples and arrange a fertiliser recommendation.
- Make a plan for the "Psa recovery pathway" for your orchard.
- Start preparing for grafting to New Variety.
  - Repair structures
  - Cut off canopy and remove old leader wire
  - Paint stumps
  - Mulch prunings
  - Spray weed strips
- Manage leaf drop process with copper sulphate and/or urea.

  Note: Do not start before leaf drop has started naturally.
- Apply copper spray to protect leaf scars from Psa.
- Start winter pruning
  - Only prune in dry weather
  - Sanitise all tools at least every plant
- Apply copper spray to protect winter pruning cuts.
- Collect New Variety graft wood and start grafting.

July

- Continue winter pruning
  - Only prune in dry weather
  - Sanitise all tools at least every plant
- Apply copper spray to protect winter pruning cuts.
- Collect New Variety graft wood and start grafting.
- Graft to New Variety
  - String for graft support
  - Apply slug and snail bait
- Apply base fertiliser.
- Organise teepee poles and strings.
- Apply hydrogen cyanamide (HiCane) to Gold crops.

Kiwifruit Rootstocks for the future

The kiwifruit industry is based on the use of *Actinidia deliciosa* seedlings as the most common rootstock. These are commonly known as Bruno or Bruno seedlings. There is a small amount of Kaimai a clonal rootstock used to improve floralness and taste but infamously difficult to graft.

In later times seedling or cuttings of *Actinidia chinensis* have been used primarily as a rootstock for Hort 16A.

With our new reality of Psa tolerance to this virulent disease is the new imperative. To date only Bruno seedlings and a new clonal selection Bounty 71, are showing a commercial level of Psa tolerance.

Bounty 71

Bounty71 is a rootstock that was identified in a 1997 rootstock trial. The vines were grown in a research setting without the use of exogenous growth regulators (hydrogen cyanamide, Benefit®, pruning gels) or intensive canopy management commonly used in commercial orchards. Hort16A was the only scion used in this initial trial.

Bounty 71 Traits in the 1997 Trial

Flower numbers and fruit size

When compared to the Bruno rootstock the Bounty71 rootstock promoted higher flower numbers and larger fruit size from the Hort16A scion, resulting in higher yields of export quality fruit.

Dry matter

Overall Hort16A fruit dry matter content was similar or higher with the Bounty71 rootstock, despite the increase in average fruit fresh weight. Hort16A fruit growing on the Bounty71 rootstock matured earlier and had a higher soluble solids, lower hue angle and lower firmness in storage when harvested on the same date as the fruit grown on the other rootstocks.

Canopy

The Bounty71 rootstock caused Hort16A to produce a slightly less vigorous and more open canopy than that produced by the Bruno and Kaimai rootstocks, primarily because of an increased frequency of self terminated shoots. Overall the data suggest that the mechanism for increased flowering, fruit size and dry matter with this rootstock could be a decrease in partitioning of carbohydrate resources to vegetative growth and an increase towards fruit development and storage reserves.

Budburst/flowering timing

The rootstocks in this trial had significant effects on the vigor of 'Hort16A' shoot growth, numbers of flowers per winter bud, and fruit development, but have only minor effects on the timing of budburst and timing of flowering once rootstock effects on wood type are accounted for.

Continued over

Grafting

The Bounty71 rootstock produces high root pressures and copious exudation relatively early in spring, and therefore may need to be started and completed earlier than traditional rootstocks.

Commercial value

Results obtained from 1999 to 2007 in this trial demonstrate that Bounty71 provides consistent increases in Hort16A fruit size and fruit number without compromising dry matter, when compared to other rootstock in a research setting. Fruit maturity is also consistently earlier and shoot vigor lower.

Subsequent trials and observations

Flower numbers and fruit size

Additional yield and fruit quality data were obtained from new trials established with replicated trials involving Bounty71 rootstock grafted with Hort16A or Hayward at the Te Puke Research Centre. Budbreak and flowering of both Hort16A and Hayward scions were improved by the use of Bounty71 rootstock.

Hayward yield still being understood

Use of Bounty71 rootstock appeared to reduce the yields of Hayward fruit even though it produced more flowers per winter bud. This was associated with reduced trunk diameter, which could have reduced vine vigor. A change in plant density and/or pruning system may be required to maintain high yields of Hayward vines grafted with Bounty71 rootstock.

Tolerance to 'wet feet'

Grower observations with Bounty71 have suggested that the rootstock is more tolerant to water logged soils than Bruno rootstock. This was not based on experimental observations therefore Zespri cannot as yet verify the trait. Trials are underway to better understand the commercial benefits of Bounty71 in water logged soils.

Bounty71 with Gold3 as the scion

Trials have been established with Gold3 as the scion on Bounty71. Little quantitative data has yet been obtained. Preliminary data from one orchard assessed to date indicate Bounty71 indicated a negative effect on Gold3 fruit dry matter. The dataset indicated no difference in rootstock effect on fruit soluble solids concentration (SSC), flesh colour or firmness. Data collection is ongoing and Zespris not yet in a position to recommend the use of Bounty71 with Gold3.

Which Rootstock should be used?

Bruno seedlings can be used with a certain amount of confidence in most situations with most varieties.

Bounty 71 is probably a good consideration where whole blocks or whole orchards are having to be re-established from the ground up due to losses from Psa. Bounty 71 will probably suit double planting, or planting where the plant footprint is around 20m^2 or less.

Bounty 71 is also probably a good choice for orchards having to re-established due to losses from flooding or 'wet feet'.

When will Bounty 71 be available?

Zespris providing budwood from 'Bounty71 to kiwifruit nurseries throughout the country. Propagation and growing on of Bounty71 plants will likely delay availability to Growers until the winter of 2013.

There will be some Bounty 71 available in November 2012, grown from cuttings suitable for growing on in a nursery situation to be field planted in the winter of 2013. However these will still need to be grafted at some stage and this is a far from simple operation at this stage.

Also available at around the same time, November/December 2012, will be a limited number of micro-grafted plants suitable for growing on in the nursery. These will have the scion of your choice subject to you having a suitable licence.

Grafted plants suitable for planting out in the orchard will be available in the winter of 2013.

Bounty 71 with G14 graft

Bruno seedlings for delivery in the winter 2012 are in very short supply and will probably have to be ordered soon for supply in winter 2013.

Ordering plants

EastPack is coordinating orders for rootstocks to be supplied from leading propagating nurseries situated outside of the current Psa priority zones. Contact your Grower Services Representative for more details or to place an order.

Financial Update

EET Indicative Average Class 1 Payments for 15 June 2012 are as follows:

	Loyalty	Estimated June Average
Green	$0.04	$0.04

A rebate of $0.20 per submitted tray (in cash) will be paid to transactor shareholders on 29 June for the 2012 crop.

Grower Profile

PAUL AND BREEZE COMBER

Paul and Breeze moved to Opotiki in the early 80s and fell in love with the place. They brought a business in town and worked with that for nine years then moved to Tauranga and brought another similar business. Three years ago they moved back to Opotiki to look after their orchard.

Paul and Breeze purchased their orchard in the early 90s, not for the kiwifruit, but for the view – it has a wonderful coastal outlook. A couple of years ago they called it Wekawai.

The 4.12ha orchard was not of much interest to them when they brought it but they do remember that it only packed 8,000 t/e the first year when they had it with Opotiki Fruit Packers. The orchard consists of 1.5 ha of pergola and the rest (2.62ha) is in T-Bar. After that they then lost several crops with frost. With the help of EastPack they were able to put in frost protection.

The first year after taking the orchard back over they did 22,000 t/e and then last year, with the help of EastPack they achieved 44,000 t/e (which is the orchard's best ever production). This year they have picked 622 bins which has gone into CA and awaiting a result.

Prior to getting involved with kiwifruit both Paul and Breeze had been in the hospitality industry for many years. The decision to get into kiwifruit came about as a new challenge in life at 50ish… and missing the lifestyle in Opotiki.

Paul and Breeze enjoy being involved in the kiwifruit industry as they love being outdoors. They also enjoy learning more about kiwifruit and say the assistance they have received from EastPack has been amazing. They are certainly enjoying the change with the flexibility and the lifestyle of managing their own orchard.

Aside from kiwifruit Paul and Breeze love travelling, in fact they are off to Germany to visit friends this month. They also enjoy fishing, music, gardening and are currently renovating their house.

In the future they plan to convert some more T-Bar to pergola and achieve 60,000 t/e.

Staff Profile

JAMIE WALKER – IT SUPPORT

Jamie has been at EastPack for just three months and is quickly right in amongst it all being the IT Support for all our users, computers and printers.

Prior to coming to EastPack Jamie was a self employed computer technician for two years, a student for a few years and a jack of all trades prior to that. He studied at Avonmore Tertiary Academy and gained a CompTIA A+, MCTS (Microsoft certified technology specialist), Diploma in Computing and a Diploma in Computer Network Engineering.

Jamie is engaged to his partner of eight years and they have two children, a son aged six and a daughter aged four.

In his spare time, which is few and far between at this time of year, Jamie enjoys fishing (but unfortunately not catching!), computers, gaming, technology and spending time with his kids.

New Varieties Update

New Varieties: First commercial packing season summary

On writing this article, our first picking and packing season for half a million trays of Zespri's three newly commercialized varieties comes to a close.

This first season with the two new Golds and one new Green variety was met with both challenges and great learning opportunities.

Those with a long enough history with kiwifruit, comment that the early seasons of packing and storing Hort16A were far more challenging, but still the fruit developed into a hugely successful category. The major problems of those days such as pitting, small fruit, ripe rots and chilling injury have obvious solutions in hindsight. No doubt we will be surprised at the speed in which innovations develop around handling this new wave of cultivars.

Below is a summary of statistics from EastPacks first fully commercial harvest and packing season:

	Number of maturity areas	Trays Packed	Ave TZG	Ave Count Size	% Export Packout	Trays/ha
Gold 3 Total	**39**	**221,473**	**0.67**	**30.4**	**82%**	**8,408**
Whakatane	14	87,421	0.65	32.7	72%	8,006
Hawkes Bay	7	37,020	0.52	29.8	93%	9,029
Opotiki	3	9,346	0.72	31.7	81%	4,818
Te Puke	15	87,686	0.75	28.3	90%	9,348
Gold 9 Total	**64**	**255,834**	**0.69**	**33.7**	**74%**	**7,243**
Whakatane	28	131,882	0.63	33.8	75%	9,360
Hawkes Bay	1	2,351	0.72	34.9	76%	4,611
Opotiki	14	49,292	0.78	34.1	65%	5,172
Te Puke	21	72,309	0.74	33.3	81%	6,462
Green 14 Total	**21**	**78,502**	**0.55**	**35.1**	**87%**	**4,151**
Whakatane	10	41,190	0.41	36.6	86%	3,961
Hawkes Bay	1	2,176	0.50	33.1	91%	9,890
Opotiki	3	2,683	0.72	33.7	95%	1,443
Te Puke	7	32,453	0.72	33.5	88%	5,047

New Variety cut over

With the harvest of Gold over, for most of us living with Psa, the next priorities are ones around the cut out of 16A and the change to a more Psa-tolerant variety.

The main issues to address at present are:

- When to start cutting out Psa vines
- When to start dropping off the leaves of the rest of the 16A
- How to dispose of the cut out material
- Preparing for grafting

When to start cutting out Psa vines

This is a bit of a compromise, on one hand, the longer that you can keep some leaf on the plant the better the plant will handle the grafting shock and the more successful the grafting will be. On the other hand the longer you leave Psa-infected vines before cut off, the more risk there is that the rootstock may become infected.

So in practical terms, now is probably late enough that the difference between cutting now or later when leaf drop has started naturally, is not terribly significant.

Best Guess

- Start cutting out the worst affected vines now and deal with unaffected vines or parts of the orchard later once leaf drop has started.
- Use a wound paint to seal the cut stump.

When to start dropping the leaves off the rest of the 16A

Ideally this should be once the leaf drop process has started naturally. Use a leaf drop spray such as copper sulphate or urea or a combination of both. If the plants are not going to be cut off immediately, apply a protectant (copper) spray to protect the leaf drop scar.

How to dispose of the cut out material

The Gold standard is to buck rake the material out to a suitable place to be

buried, at least half a meter deep. This is a big job and may be too expensive to be practical in all situations.

The next best would be to move the cut off material out to a hole to be burnt in a hot fire.

Probably the cheapest method will be to mulch the pruned out canopy and allow it to decompose on the orchard floor. Spraying the canopy with a sanitiser to minimise the innoculum prior to cut off and repeating this to the mulched canopy on the orchard floor is probably a good idea.

The finer the mulching the faster the material will break down. It will also be necessary to add some nitrogen and possibly a digester product to speed up this process some more and ensure that lack of nitrogen does not become a limiting factor to graft growth in the Spring. One to two hundred kg of urea per hectare over this time would be our best guess at this time.

Leaders and leader wires will have to be buried or burnt and buried.

Preparing to graft

Preparation is important. Good preparation will ensure that your grafter is comfortable and happy in your orchard. This will increase the success rate. Accurate marking of the new grafts will minimise mistakes and the amount of re-grafting required. Completing the leader removal, the mulching and the re-establishment of the new leader wire will minimise the risk of grafts being knocked out.

A few key steps

These should be in place before grafting commences

1. All rows should be weed sprayed with a clear strip established by the time grafting is started.
2. Cut the kiwifruit trunks as high as possible below the leader.
   - These are called the 'tall men'.
   - Where there is more than one trunk, single down to the straightest trunk. If it is not obvious leave it alone.
   - Paint the cut top with a suitable protective paint.
3. Remove the canopy, the leader and leader wire.
4. The orchard should be mown and mulched. The grass should be less than 100mm long.

5. Get the new leader wire established in place.
6. There should be an accurate count of all grafts by variety.
7. All the grafts should be marked correctly.
   - The male grafting positions should all be colour coded with a different colour for each different male variety.
8. Good strong straight rootstock suckers originating from low down on the stump can provide a really good alternative to stump grafting.

The Grafter will:

- Cut the stump to the correct height at the correct place.
- Graft, tape and wax.
- Give some indication of the basics of after graft care.
- Want to be paid a deposit on confirmation of the job.
- Want to be paid the balance owing soon after the completion of the job.

The Grower will:

- Need to arrange the pick up and storage of the budwood.
- Need to arrange storage of some spare budwood for use to re-graft in case of graft failures in November.
- Cut the chainsaw slots in the stump below the graft immediately after grafting or the next day.
  - The upper chainsaw slot cut at right angles to the leader wire.
  - The lower chainsaw slot parallel to the leader wire.
  - Both slots cut with a slight downward angle.

The budwood:

- Will come in bundles approximately 600mm long, bound with colour coded tape and have a label attached describing the variety and source of the budwood.
- Should be more than 10mm in diameter and be early grown wood with only a small central hollow core.
- Should be in a sealed plastic bag.
- Should be stored at a cool temperature and kept moist.

Like most things, careful attention to detailed planning and preparation will help to ensure a successful outcome, so avoid the temptation to cut corners and look after the needs of your grafter.

New Varieties Update *continued*

The 'Groover' – new grafting technology or 'Kerf' grafting revisited

Nearly 100 Growers attended recent grafting field days organised by EastPack in Te Puke and Opotiki.

The main message was a presentation of some new technology which will make 'Kerf' grafting a feasible option for grafting kiwifruit stumps.

The technique involves cutting a slot or kerf in from the edge of the stump and then placing the scion in the slot with the cambium layers matching and then taping and waxing as per normal.

The slot is usually cut with a chainsaw but the new technology

demonstrated by Cedric French, the inventor, cuts the slot with a specially adapted saw blade which produces a very clean precise cut and has the safety advantage over a chainsaw, where the operator is working with the kickback zone at the tip of the chainsaw bar.

The main advantages are that the stump has not been split and that the scion is held firmly in place.

This transect of a G9, stump grafted in 2010, shows how the cambium layers unite and the new graft becomes part of the new growth of the rootstock. The remains of the original graft wood can be seen with the pith that was the centre of the scion clearly evident.

Also evident here is the extent of the split in the stump and the associated decay in the middle of the trunk.

The Kerf graft slot will produce the same sort of growth joining the stump and the new graft without the damage to the trunk associated with the splitting of the stump.

This should result in good strong graft unions and a clean healthy trunk.

Classified

For Sale

Orchard Gear

- International 484 Tractor
- Berti mulcher
- Quin pallet forks
- Vicon Fert. spreader
- Posts 2.4 round secondhand
- Teepee poles – dressed Douglas new and secondhand teepee poles, steel black and galvanised

Other bits and pieces

Phone Don 027-446 5688

Feijoa Trees

$10.00 per tree

Ph 0276-672 2044

Heat Dragon

Manufactured by Splash Equipment, Te Puke.

Excellent condition. $9,500 + gst ono

Phone Chris Friis on 06-844 2905 evenings or 027-444 3091

Electric Motor with Grundfos pump attached

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

Casuarinas

1000 Casuarinas in PB5 1 metre $3.50 ea (+GST)

1000 Cryptomerias in PB5 $3.50 ea (+GST)

Phone Hugh Stuckey on 027-223 5007

Two pneumatic pruning hand pieces

$250.00

Phone Alan on 027-485 9910

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

Wanted to Buy

Bruno Rootstock

Ph Jenny 07-573 4828

Swing Arm Mower

Ph Pat 027-473 5099

All Terrain Mast Forklift

AUSA CH150X4 preferred, but all forklifts considered.

Phone Mark on 021-460 292

Courses

First Aid Courses

OSH, GAP, NZQA.

Held monthly in Te Puke

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

Trade Services

Fertiliser Spreading

For all your fertiliser spreading requirements

- Main dressing
- Side dressing
- Compost and lime

Please phone Paul Rouse 027-454 7839

SONICSPRAY Horticulture 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

Active 4 Solutions

Taca Tungsten Grit Hardfacing

Proven solution for worn mulcher flails

Applying Taca will increase flail life by up to 4 or 5 times depending on conditions.

We can supply all types of mulcher flails, complete with Taca.

For enquiries please phone Terry on 021-274 2814

Bay Farm & Industrial Pumps

Pumps and water meters

Frost protection and irrigation systems

Design, supply and install. Free Quotes

Phone Daryl Richardson
027-277 5295 or 07-578 4405
56 Fifteenth Ave, Tauranga
Email: daryl@bayfarmpumps.co.nz

Trade Services

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Bay Sluicing

For all your sluicing needs.

Call Kevin Massey on 0800 877 566

Fox Contractors (Edgecumbe)

Quality pruning and harvest contractors.

Our focus is to supply the highest quality harvesting standards available.

Edgecumbe based.

Ph Steve 07-304 6000 or 027-304 6001

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

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

EP Prunings Deadline

For articles and advertising 1st of each month. Please also advise when your adverts are to be removed. **Contact Kyra Ormsby:**
Phone 07-573 9309 Fax 07-573 9310
kyra.ormsby@eastpack.co.nz

Barry & Jeananne Ward's son, Matthew, running away with the ball at the EastPack Rippa Rugby Tournament.

Contacts

Edgecumbe Site

Phone 0800-722 554
Fax 07-304 8262

Tony Hawken
Chief Executive
027-497 1796

Tony Hooper
Manager – Grower Services/EKO (Edgecumbe)
027-292 4639

Jacki McCormack
Grower Services (Edgecumbe/Te Puke)
027-346 8942

Grant Allen
Grower Services (Edgecumbe/Te Puke)
027-203 4456

Paul Manson
EKO Orchard Manager (Edgecumbe)
027-677 4502

Te Puke Site

Phone 07-573 9309
Fax 07-573 9310

Matt Hill
General Manager – Grower Services/EKO
027-489 5088

David Stephenson
Manager – Grower Services/EKO (Te Puke)
027-258 9820

Braden Hungerford
Manager – Grower Services/EKO (Western Bay/Waikato)
021-280 6600

Tim Torr
Technical Transfer Manager
027-205 7520

Anthony Pangborn
Technical Manager – Pre-harvest and Grower Information
027-245 7295

Peter Savory
Grower Services (Te Puke)
027-742 6778

Ivon Pilcher
Grower Services (Te Puke)
027-430 4074

Glenn Carter
Grower Services (Te Puke)
027-274 9790

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

Alan Kale
Grower Services (Hawkes Bay)
027-286 4797

Opotiki Site

Phone 07-315 5226
Fax 07-315 5224

Ross Steele
Manager – Grower Services/EKO (Opotiki)
027-479 4224

Daile McDonald
Grower Services/EKO Orchard Manager (Opotiki)
027-453 2752

Nicky Edwards
Grower Services/EKO Orchard Manager (Opotiki)
027-234 2513