

## ***"DuPont Altacor insecticide has given me confidence and peace of mind"***

*Last season Brendon Downey of Downey Estate, in Meeanee near Napier, trialled the new DuPont™ insecticide, Altacor®, in part of his apple orchard.*

Overall, he says he is very pleased with the results, which have given him sufficient confidence and peace of mind to use the product across all his blocks this coming season.

For Brendon the appeal of Altacor lay in its coverage of all stages of the codling moth life cycle.

"We needed more choice in our insecticide programme. If we don't get the foundation right at the start, we'll run into problems later and that would be unacceptable. Altacor gives me more export options."

For the Altacor trial, he selected some blocks that are under high codling moth pressure due to walnut trees on neighbouring properties. In these blocks, intensive sorting at picking has been the norm in the past.

"It was quite noticeable that we didn't have that problem last season where Altacor was used. Fruit finish and packouts were very good, too."

Brendon sees the fact that Altacor will also control leaf roller as an extra bonus. "Another appealing thing about Altacor is its safety to beneficial insects. We've had some problems in recent years with reduced numbers of predator insects in the orchard, so it was important to us that existing populations recover and increase. In the Altacor-treated blocks the beneficial insect populations were in good shape following the application."

The product was applied in late November-early December but its nil re-entry period proved another benefit, allowing the Downey team to continue hand-thinning without any unnecessary delays.

"The product packaging suited our operation, too. It mixed well and was compatible with the other products we add to the tank."

The DuPont New Zealand team was very happy with the positive feedback received from growers like Brendon, says Hayden Toy, DuPont territory manager.

"We were very mindful that last season growers would be cautious about any new insecticide, and we expected that a number of growers would trial Altacor first before using across their entire orchard. Altacor has now proven itself as a strong candidate for the codling moth and leaf roller spray programme."

"This season we'll be highlighting the value of Altacor in relationship to resistance management for growers' future spray programmes."

Altacor's active ingredient, Rynaxypyr™, belongs to a totally new family of insecticides called anthranilic diamides, adding an important new tool for codling moth and leaf roller control. The last time that New Zealand apple growers were introduced to a new insecticide with a totally new mode of action, was nearly ten years ago when DuPont introduced Avaunt® (Indoxacarb). ➔

Always read and follow label directions.  
Altacor and Avaunt are registered pursuant to the ACVM Act 1997, No. P7831 and P5355  
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*Brendon Downey (left) and Vaughan Redshaw, Fruitfed Hastings (right), discuss this season's plans to use Altacor against codling moth.*

*Codling moth damage and the larva that caused damage*



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## A new Frontier from BASF

*Vegetable growers will be pleased to hear that this month BASF has obtained registration for Frontier®-P, the new and improved formulation of its proven pre-emergent herbicide Frontier.*

Frontier-P is a more pure formulation of the older version with around 40% less product required for the same herbicidal performance, says BASF vegetable specialist John Haliday.

"The removal of the inactive isomer in the powerful active ingredient dimethenamid means less chemical being applied per hectare, along with less transport and storage requirements, and more efficient herbicidal activity," says John. "With Frontier-P, growers can continue to get impressive control of many annual grasses and broadleaf weeds in their vegetable crops before these become a problem."

In most crops, Frontier-P should be applied immediately after sowing to a freshly worked seedbed free of clods and in conditions that favour good germination and growth. Alternately Frontier-P may be incorporated into the soil pre-sowing if dry conditions prevail. In onion crops, Frontier-P will tend to be used post-crop emergence where growers may prefer to make repeat low dose applications of the product to extend the level of residual control, particularly where late germinating grass weeds are a problem. Regardless of crop type or application timing, growers should always use the higher recommended rate on soils with high organic matter.

"It is important to realise that the new Frontier-P comes with different application rates to Frontier so growers should always read the label



before use. Tank mixes with other products as specified on the label may continue to be used with the new formulation," reminds John.

For further information speak to your local Fruitfed Supplies representative or visit [www.agro.basf.co.nz](http://www.agro.basf.co.nz). Get weeds before they get you with Frontier-P!

### Frontier-P use rates

• Onions	0.65 to 1.0 L per hectare
• Dwarf green beans	0.5 to 0.65 L per hectare
• Squash	0.65 to 1.0 L per hectare
• Forage brassica	0.65 to 0.8 L per hectare
• Maize	1.1 to 1.3 L per hectare
• Sweetcorn (not all varieties)	1.1 L per hectare

Frontier-P is registered pursuant to the ACVM Act 1997, No. P7979. Frontier® is a registered trademark of BASF.

## Growers impressed with Movento

*Movento was used on small areas of kiwifruit last season, but clearly demonstrated its effectiveness against scale pests, says Fruitfed Supplies Bay of Plenty manager Paul Wiltshier.*

"A small number of growers tried Movento in 2008 and they're all set to expand their usage of Bayer CropScience's new 'two-way action' insecticide," says Paul.

Impressed with Movento's activity is the response from Te Puke grower Brendon Fox. "The level of scale on the picked crop from the blocks we tried Movento on was insignificant and we'll be using Movento at the appropriate time on all 40ha we have under canopy this season.

"I like the way you can target the canopy very effectively with Movento," adds Brendon. "With a lower water rate and the product's relative safety for bees and beneficials, it all adds up to a good package."

Movento is approved for use in the Kiwigreen programme and currently has a label claim for two pre-flowering applications in kiwifruit to control armoured scales (greedy, oleander and latania scales). ♦♦

Movento® is a registered trademark of Bayer. Movento is registered pursuant to the Pesticides Act 1997, No. P7858.

*Apply Movento to kiwifruit before flowering to help control scale – the product is safe to bees if they're around*



# What makes Revus stand out from the crowd?

*When Revus® was launched in New Zealand two years ago for late blight control in potatoes, the reaction from some growers was ... "not another late blight fungicide!"*

Since then comparative trials with Revus both here and overseas have shown that Revus is definitely more than just another late blight fungicide, says Syngenta Crop Protection's horticulture market manager Craig Thompson.

"Growers who have used Revus, particularly under high disease pressure situations, have been very impressed with its performance," says Craig.

"So, perhaps it's not surprising that the network of European scientists called 'EuroBlight' who regularly compare late blight fungicides to determine their relative effectiveness in the field, gave Revus the highest score for late blight control on leaves."

The table below shows the scientists' scores for the testing of those active ingredients which are currently available in New Zealand. Leaf blight was assessed on a scale of 2-5. Testing was conducted using the highest rate registered in Europe and scores were given after considering both field experiment performances and commercial use experience. For full details refer to the website: [www.euroblight.net](http://www.euroblight.net)

Active ingredient	New Zealand trade name	Leaf blight effectiveness on a scale of 2 to 5
Fluazinam	Shirlan®	2.6
Dimethomorph + mancozeb	Acrobat®	2.8
Fenamidone + mancozeb	Sereno®	2.6
Mandipropamid	Revus	3.8



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Registered pursuant to the ACVM Act 1997, No. P7598.

®Sereno is a trademark of Bayer CropScience.

®Acrobat is a trademark of BASF.

So what makes Revus stand out from the crowd? "There are two key features that account for its superior performance," says Craig.

"Firstly, the active ingredient (mandipropamid) is highly active against late blight, which is why it does not need to be mixed with a contact fungicide such as mancozeb for late blight control."

"Secondly, once Revus is applied to the leaf it bonds to the waxy layer and cannot be washed off by rainfall (or irrigation) one hour after application. This means that Revus can be applied at longer spray intervals (up to 14 days depending on rate and growth stage) saving time and application costs."

Revus is now also approved for the control of downy mildew in onions.

## Best use advice for Revus on potatoes

Revus is best suited for mid-season use, when potato haulm growth begins to slow. It is an ideal choice when weather is unsettled or irrigation is planned, as once dry it will not be washed off.

Ask your local Fruitfed Supplies store for details on how best to use Revus in your onion and potato spray programme. ➡



## CMS finals in Sustainable Business awards

*Fruitfed Supplies' Crop Monitoring Services was selected as a finalist in the recent Sustainable Business Network awards after winning the Hawke's Bay regional competition.*

Linda Haughey, CMS manager, decided to enter the Tracit integrated electronic data collection, database and reporting system in the design and innovation section of the awards to help demonstrate that there are many practices within the wider PGG Wrightson group that can be defined as sustainable and to give these practices some publicity.

"It's been an interesting exercise, describing what we do in terms that are meaningful to a non-horticultural audience and demonstrating how our services aid more sustainable growing practices.

"We were delighted to reach the finals of the Sustainable Business

Network awards. This helps recognise the vision and hard work of many people in Fruitfed Supplies and PGG Wrightson to continue to develop the services offered by CMS in light of the ongoing industry emphasis on sustainability. And without the support and feedback from our growers and industry groups, we would not have the comprehensive range of services we do now, so thanks also to the many people who have supported CMS's development over the years.

"There's a lot more work we can do along these lines within CMS and as a whole company, so it's encouraging to see our current services being well regarded by experts in sustainable production practices." ➡



The Sustainable Design and Innovation category recognises sustainable design and innovation that is having proven economic, environmental and/or social benefits, contributing to sustainable development. The winner was LanzaTech for their proprietary system that captures waste green house gases from the manufacturing industry and biomass to create low-cost ethanol.

## Wellington hosts Pinot Noir 2010

*Wellington hosts Pinot Noir 2010 from 1 to 4 February and it's shaping up to be a once in a lifetime experience of New Zealand wine, according to organisers.*



Recent news about Pinot Noir 2010 includes the announcement that world-leading wine expert, writer, actor, TV and radio personality Oz Clarke is coming to the event.

"We're tremendously excited to have Oz confirm he'll come and participate in what is New Zealand's – if not the southern hemisphere's – most significant Pinot Noir event," said event chairman, Alastair Maling, MW. Clarke's writing accolades are lengthy but he is perhaps more widely known through his television series 'Oz and James' Big Wine Adventure'.

The event organisers also pose the question: 'sustainable wine production – organics – bio-dynamics – does it make a difference and do wine drinkers really want to know or even care?'

These complex concepts will be explored from a production and sales perspective as well as through the palate in a challenging formal tasting.

Fruitfed Supplies is supporting the event as a principal partner in recognition of the growing role Pinot Noir has in the New Zealand viticultural sector. Visit the website [www.pinotnoir2010.co.nz](http://www.pinotnoir2010.co.nz) for full details. ➡

## New Fruitfed presence in Whangarei

*The refurbishment of the PGG Wrightson branch in central Whangarei has resulted in a dedicated area for horticultural products.*

Branch manager Brett Hunter says the new Fruitfed Supplies product line-up has definitely provided customers with a much wider array of products. "The refit has been well received by customers and staff. Horticulture and agriculture come together well in this branch, which is centrally placed to service the two main horticultural areas on either side of Whangarei," says Brett. ➡

PGG Wrightson / Fruitfed Supplies  
Cnr Dent & Finlayson Streets, Whangarei  
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# Young Horticulturist finalists found

*Eight young people will go head to head at the grand final of this year's NZ Horticulture Industry Training Organisation Young Horticulturist of the Year competition.*

The finalists in this year's competition to inspire young people in the horticultural industry, which has the support of Fruitfed Supplies, are:

- Erin Farrow, of Auckland, the landscape industry finalist;
- Marc Higgie, of Wanganui, the arboriculture finalist;
- Sandra How, of Hamilton, the recreation/amenity sector finalist;
- Nigel McCartin, of Leeston, the vegetable sector finalist;
- Laura McGuire, of Christchurch, the floriculture finalist;
- Kevin McInnes, of Hastings, the fruit sector finalist;
- Phillippa McVicar, of New Plymouth, the nursery and garden industry finalist;
- Caine Thompson, of Taradale, the viticulture finalist.

During the year a series of regional and sector competitions have been held, covering all areas of the horticulture industry from floriculture to fruit growing. The aim was to find, from each of the eight sectors, the most talented horticulturist aged under 30 years to compete at the grand final in Auckland on November 5-6, says event organiser Elenka Nikoloff.

"This competition spans the whole horticultural industry. We hope it demonstrates to school leavers that a horticultural career is not only crop growing, but it also needs expertise in everything from turf management to sales and marketing."

Fruitfed Supplies general manager Stephen Guerin congratulates the eight finalists. "We look forward to seeing you all in the competition in November for what will be two very challenging and rewarding days. We also extend our congratulations to everyone who has participated in regional and sector competitions leading up to the selection of the eight finalists. Good on you for entering the competition and giving it your best; and we hope you gained a great deal from the experience."

The Young Horticulturist competition is in its fifth year. Previous winners have included two viticulturists, a fruit export manager and a tree nursery sales manager. This year's prize pool is valued at more than \$40,000 with the overall winner receives a selection of prizes including a travel and accommodation package to the value of \$8,000. ➡



Erin Farrow



Kevin McInnes



Laura McGuire



Marc Higgie



Nigel McCartin



Sandra How



Caine Thompson



Phillippa McVicar

# Results from 2009 Silver Secateurs

*The Fruitfed Supplies Silver Secateurs national grape pruning competition took place in August alongside this year's Romeo Bragato conference in Hawke's Bay.*

The Silver Secateurs recognises that accurate, professional grape pruning and tying plays an important role in today's highly-productive vineyards. The Fruitfed Supplies team around the country congratulates all who competed in this year's Silver Secateurs and special congratulations to Justin Renata of Gisborne who won the Bahco individual pruning trophy. ➡



Silver Secateurs winner Justin Renata (Photo courtesy Gisborne Herald)

Individual Tying		
Andrew Stove	Northern	1
Scott Holland	Waipara	2
Chris Robinson	Wellington	3

Bahco Individual Pruning		
Justin Renata	Gisborne	1
Andrew Stove	Northern	2
Chris Robinson	Wellington	3

Fruitfed Supplies Team Event		
AG Works	Hawke's Bay	1
Paul Brothers Team	Hawke's Bay	2
Grapeworx Marlborough	Marlborough	3

## Ballance award provides benchmark for Whangarei growers

*Avocado and kiwifruit growers Mike and Cathy Crum, from Maungatapere, won two categories in this year's Northland Ballance Farm Environment Awards.*

It was good to see horticulture represented in the Ballance awards, says Mike Crum, an enthusiastic, knowledgeable grower and contractor in Whangarei.

The Crums won both the Hill Laboratories Harvest Award and the Gallagher Innovation Award and Mike says he saw entering the competition as a way to highlight some of the organic principles they were using.

"The awards have a good system of judging, looking for practices which are sustainable and profitable; not just focusing on the money. We do a lot of our own benchmarking, but this added another dimension. We had a few laughs with the judges but they asked some challenging questions about what and why we were doing certain things. It's good for us to think about our operations from a different angle and we urge other growers to enter the awards for this aspect of the process alone."

The Crums have 9ha of avocados on two orchards – one organically certified and the other in conversion. They utilise the prolific kikuyu grass as a ground cover, leaving it uncut to retain moisture and build humus.

"If you have a look at the soil under our trees the microbial and earthworm activity is phenomenal and the kikuyu 'mulch' is alive with insects. It's a very low-input orchard. We monitor using Fruitfed Supplies Crop Monitoring Services team, but simply to monitor beneficial and pest insect levels, not so we can spray. We stopped spraying completely about 18 months ago and it's amazing to see the changes. The first year six spotted mites defoliated most of the trees, but now the population remains low. Thrips levels can get quite high, but don't cause any fruit damage if we harvest before Christmas. With leaf roller, again levels can get quite high, but the insects are small. The trees seem to have a defence mechanism – the fruit exudes a white substance which deters or kills the leaf roller when they bite."

Mike says they chose to go organic with the avocados for commercial reasons. "Although there's certainly an increased awareness of what we're eating and what goes on our food."

Mike says they pick about half the volume of their neighbour growing conventionally. "But the dry matter levels are very good and our inputs are much less, so economically, it's working well."

Mike also manages 60ha of kiwifruit around Whangarei either for the owners or via Apata Packhouse, for which he sources a range of products from Fruitfed Supplies such as conventional kiwifruit crop protection products and pruning equipment.

"This is a people-based business. Some of our people have worked with us for a couple of decades and have very high levels of pruning expertise and the willingness to teach others."

Leader pruning is a key management tool, says Mike. "We're getting 100% Y band grading at harvest, compared to an industry average of about 50%."

Mike also looks to organic principles when planning nutrient programmes for the orchards he manages. "We see some benefits in achieving high dry matter levels."

Looking to the future, Mike is excited about the possible trials of several new kiwifruit varieties in Northland. "Green kiwifruit isn't actually that well suited for Northland, so it's great to see that trials to assess the commercial potential of selected new varieties could take place soon and hopefully continue to boost prospects for further horticultural cropping in Northland."

With a thriving apiary business as well, there's plenty to keep Mike and Cathy busy! 🍷



Mike Crum (left) with former PGG Wrightson/Fruitfed Supplies horticulture representative Martin Mules on one of Mike's client's kiwifruit blocks

## Future looks bright for Whangarei's NTL

*With a new grading system operational in a relatively new packhouse just one of several initiatives on the go, the team at Natural Touch Ltd (NTL) in Whangarei has plenty to be positive about.*

Having developed their own top-producing persimmon and lemon orchard and packhouse, Lindsay and Terrie Wells now have son Duane and daughter Bronwyn involved in the family business, all working on a number of ventures.

"We had a packhouse on the persimmon orchard (the largest north of Auckland), but it was operational only about six weeks a year," says Lindsay. "We wanted something that would keep staff employed throughout the year, so we purchased an avocado packhouse in Maungatapere. By combining the persimmon and citrus processing with the avocados at NTL Fruitpackers, we'll be kept busy virtually year round."

Duane says they have installed avocado-specific technology and systems to effectively and efficiently handle avocados from tree to tray for export and domestic markets. "We have formed strong supply chain alliances with two top-performing fruit marketing companies; Freshmax for export and domestic markets and Freshco for a variety of other strong export markets."

NTL's persimmons go predominantly to Australia and South East Asia and one of Duane's goals in his role as managing director is to grow the Australian business, given the potential for market growth and lower freight costs.

Four years ago NTL became a hands-on shareholder of Ruraltec, a private primary industry training provider. Jodie Martin, a former employee of NTL who's now at PGG Wrightson Fruitfed Supplies Whangarei, had a major role alongside Lindsay in helping develop some of Ruraltec's horticultural programmes.

"Ruraltec is now Northland's biggest specialist agricultural and horticultural training provider," says Duane, who is part of Ruraltec's management team focussing on the horticultural division and marketing.

As, Lindsay adds, skilled people in an orchard are more cost effective.

"We can help people improve their skills and employability. It's challenging to get people enthused at times, but we strive to show them there are excellent opportunities in the horticultural sector," says Lindsay. "Last year, the Northland Horticulture Forum, in conjunction with Horticulture New Zealand, had 75 teenagers participate in the ICELine (Innovation, Celebration and Education) horticultural careers day and they seemed to like the fact that horticulture involves science, marketing and business – it's not just about working in the field or a packhouse and it takes all sorts of people to help in this business. We're all part of the food industry and there will always be a future in that."

Duane's degree in marketing and management communication has added new dimensions to the way the Wells family thinks about their business. "I do look at things from a business point of view," says Duane, "but in



*Avocados going through the new grading machine in NTL's packhouse*



*NTL is a family-owned business; from left, managing director Duane Wells with parents Lindsay and Terrie*

everything we do, we consider the environment. We have to. You can't be in the business without keeping a solid eye on the environmental impact your business is having."

NTL entered the Northland Ballance Farm Environment Awards for the first time in 2008, winning awards for nutrient management, innovation, community and life, and jointly winning the harvest award.

Emulating the enthusiasm of his father for sharing knowledge and innovation, Duane now chairs the Northland Horticulture Forum. "We've experienced an unreasonable number of weather bombs in our region, yet people remain optimistic about the future of horticulture. I think commercial horticulture may get more corporate – although there will always be room for the boutique grower – but with rising production and compliance costs, large operations will be able to call on economies of scale in the hard times. That's why NTL is exploring avenues to ensure the business continues to grow and develop." ⇄

## Quality and freshness the keys for Fresh-A-Peel

*It's almost the horticultural equivalent of dairy farming in terms of daily commitment, as Fresh-A-Peel – the South Island's largest producer of baby salad greens – harvests, processes and distributes their fresh bagged product six days a week.*



If the sheer logistics of co-ordinating the production of up to a dozen varieties of lettuce, rocket and mesclun seems overwhelming, add a wide range of prepared vegetable mixes for the commercial and retail markets, and you've got one very complex business.

Fresh-A-Peel's Andrew Harford smiles and agrees that their production schedule is a challenge with field-grown salad leaves. "We used to grow all our baby leaf salad lines in hothouses, but you're physically limited by the scale and cost of that kind of operation," says Andrew.

Fresh-A-Peel is based in Nelson with their salad lines grown on various leased blocks around the fertile Waimea plains. An amalgamation with Blenheim's Mainland Fresh means the companies work together to deliver a continuous supply of fresh salad greens and pre-prepared vegetables for supermarkets and stores, and bulk vegetable products and salads for the foodservice industry.

"We started out in Blenheim, but added the Nelson operation about five years ago as we ran out of suitable land around Blenheim that wasn't being used for grapes," explains Andrew. "The climate in Nelson and quantity of land we can access has allowed us to expand production."

Further commercial expansion via an amalgamation with Auckland-based New Zealand Fresh Cuts meant the Fresh-A-Peel operation in Nelson needed to expand rapidly. Farm manager, Richard Morris, is currently looking after 90ha of salad leaf varieties which requires a six-day-a-week harvesting schedule to produce the quality and quantity of end product required.

"Yes, it's definitely a challenge linking our production schedule to forecast product demand," says compliance and planning manager Chrissy Stokes.

"For a start, we can have temperatures from minus 3°C to 35°C across the plains in one year. In summer, the time from planting to harvesting can be only two to three weeks. In winter, it could take two months to grow a crop of a similar size."

"What's an average season?" comments Andrew. "This year we've had the coldest May and the warmest August in a number of years, yet we have to have enough product grown to the right size to harvest six days a week all year round."

The actual process of growing the salad greens is quite straightforward. Prepare the seedbed by ploughing in the previous cut crop, apply a long-acting herbicide, source your quality seed from Fruitfed Supplies and plant.

However keeping the right volumes of several varieties of lettuce, Asian greens like Mizuna and Tatsoi, green and red spinach, and rocket growing year round is quite a technical challenge, says Andrew.

"Mildew diseases need quick action with an appropriate crop protection product before it spreads. We make the most of up-to-date chemistry advice from Jonny Richards and the Fruitfed Supplies team in Richmond. There is a lot of local knowledge within the branch and it's well delivered."

Another interesting aspect of the Fresh-A-Peel operation is the specially-designed harvester which uses an ultra-sharp blade to cleanly cut the salad leaves and feeds the leaves via a rolling table into new plastic liners inside stackable bins. The bins are promptly collected into the truck chiller and transported to the factory where leaves are triple-washed, blended into the various lines, packed and distributed. Six days a week, year round. ➔



*The specially-designed, efficient, hygienic harvester*



*Jonny Richards from Fruitfed Supplies Richmond with Fresh-A-Peel's Andrew Harford and Chrissy Stokes*



## Protect potato crops right from the start with **Actara** and **Amistar** in-furrow

*Two years ago Syngenta launched their proven insecticide Actara® as an 'in-furrow' treatment to provide long term aphid control in potatoes at planting.*

Now Actara in-furrow is being tested to confirm the length of control it will provide against a more recently established pest of potatoes, says Craig Thompson, Syngenta's horticulture portfolio manager.

"A highly systemic insecticide, Actara moves into and throughout the plant, protecting emerging foliage from aphid attack for 8-10 weeks after application," says Craig. Actara must be applied 'in-furrow', i.e. applied at planting as a 15-30 cm wide spray band directed into the planting furrow just before the tuber is covered with soil [rate: 4g per 100m of row].

"Actara can also be safely applied with Amistar®, which is very effective in controlling *Rhizoctonia* (black scurf) and reducing silver scurf infection, to ensure top quality tubers."

"Unlike *imidacloprid* seed treatment, Actara, which contains *thiamethoxam*, does not delay crop emergence. There is growing evidence overseas that *thiamethoxam*, Actara's active ingredient, may trigger physiological reactions in the plant which can make it more tolerant to stress factors such as drought, low pH, or wounding from pest, wind or hail damage or virus attack. This phenomenon, known as the 'Thiamethoxam Vigor™' effect', can increase yields even in the absence of insect pests."

For many growers, it's the simplicity of the in-furrow application method that's a real advantage, adds Craig. "We get a lot of feedback from users who get excellent results from both products, but also really appreciate the convenience and ease of use with this system."

Syngenta is working to develop New Zealand label claims for other pests that can be controlled by Actara. ➔

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## Help plants make better use of water and nutrients with **SM6**

*SM6 is a highly concentrated seaweed extract which is commonly used as a foliar feed on a wide range of crops to stimulate healthy growth and boost marketable yield.*

SM6, from Chase Organics, is produced using unique water extraction methods to ensure the active compounds in the final product are not degraded. The seaweed is harvested by hand leaving enough of the seaweed plant to re-grow in a sustainable process. SM6 has Bio-Gro certification for use in New Zealand and provides complete batch analysis to ensure the consistency of the product.

SM6 contains more than 60 nutrients, trace elements, chelating agents, vitamins and natural plant growth stimulants to help plants make better use of available water and nutrients. Together these active components prove to have a beneficial influence on plant cell division, protein and carbohydrate synthesis, nutrient uptake from the soil, resistance to pests and diseases, use of available water and moisture, yields and crop quality/shelf life, and ultimately financial returns. SM6 will also act through the roots and can be used either as a plant dip or through fertigation systems. It is normally applied at 5.5 lt/ha, often split into two to four applications during the crop's growth.

SM6 can be used on turf, tree and vine crops as well as all field-grown crops. For application rates and more information about the benefits of applying SM6 seaweed extract, please speak to your Fruitfed Supplies representative. ➔

*Hand harvesting contributes to the sustainable use of the seaweed resource*



## Pollination vital for kiwifruit size and quality

*With increased costs and reduced returns from green kiwifruit, growers must produce higher yields and good quality fruit to remain economically viable.*

Good pollination is probably the most important determinate of success in kiwifruit orchards because of its impact on fruit size and quality.

"Artificial pollination has become increasingly important to many growers in the past few years as a pollination insurance policy," says Steve Saunders who heads Pollen Plus™, the business with an ever-growing reputation for its pollen research and development, and production of quality pollen.

Pollen Plus has over ten hectares of pure Chieftain male orchard in production and Steve's team runs several research programmes in-house and in conjunction with Plant & Food Research.

### New for 2009: the Pollen Plus™ Quad Duster

Pollen Plus, in conjunction with Fruitfed Supplies, will shortly release the Pollen Plus Quad Duster.

Steve says the innovative, new pollination system (patent pending) enables the delivery of a complete one-stop kiwifruit pollination service in the Bay of Plenty region for 2009.

The Quad Duster system incorporates advanced dry pollen application technology (developed from our highly successful Pollen Plus blower) to apply a constant and regulated flow of pollen-laden air to the flowering canopy and deliver an effective supplementary pollination solution.

"We have engaged AgFirst BOP as our exclusive licensed systems applicator. The team at AgFirst BOP has extensive knowledge of kiwifruit

and a modern fleet of quad bikes fitted with cruise control and GPS tracking to ensure that pollen is applied uniformly across the flowering canopy. A GPS-derived application map showing the route of the Quad Duster through the orchard and the specific time of application will be available to growers using this service. Pollen Plus dry pollination is designed to work directly on the stigma, and in conjunction with active bee populations. Bees can move surplus applied pollen within the flowering canopy, helping to maximise pollination potential."

The Quad Duster will be set up to handle rates of 250 grams, 350 grams and 500 grams per hectare on each pass. When ordering through your Fruitfed Supplies store, you will need to supply a current orchard map detailing the average row widths by block and any orchard hazards that need to be taken into account.

Looking forward, Steve says Pollen Plus is working to adapt kiwifruit and other new pollination technology to other crops such as avocados, apples and almonds. "Some of this work is already underway with Dr Mark Goodwin and his team from Plant & Food Research as all these crops face similar issues with pollination and the need for the best possible on-orchard performance," says Steve. "These crops will require the development of new manufacturing and application technology, but will allow growers to overcome the dependency on weather conditions and honey bees to ensure top fruit production and fruit quality." ⇄



We have delivered the PollenPlus™  QuadDuster™



Exclusive supplier to

**Fruitfed Supplies**

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**AGFIRST**

- Constant application of dry pollen across the canopy
- Digitally controlled volume application & speed control
- GPS tracked and recorded
- Limited availability in the Bay of Plenty for 2009

# Rollover leaf roller on avocados

*Last season Syngenta Crop Protection gained approval for Proclaim® to be used by avocado growers for leaf roller control.*

Proclaim will be familiar to many growers, being well established as a key leaf roller insecticide in kiwifruit, pipfruit and grapes, says David Dunlop, Syngenta territory sales manager.

"Proclaim is a good example of modern chemistry which is target specific and has strong activity against *Lepidoptera* species (e.g. leaf roller), while being harmless to most beneficial insects. Further, it has low toxicity to operators with no unpleasant smell, so fits the positive, clean image those users, consumers and the public now demand from crop protection products," says David.

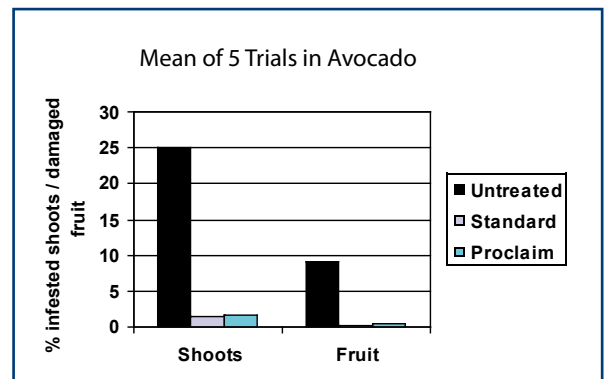
In avocados Proclaim is used at an unprecedented low rate of just 4 grams per 100 litres of water and it can be used in a leaf roller control programme up to 14 days prior to harvest, leaving no detectable residues on harvested fruit. (Always confirm export crop PHI's with your exporter.)

"Proclaim has a distinctive mode of action that provides fast acting and long lasting protection against leaf roller damage."

- The active ingredient is rapidly absorbed into foliage, providing a reservoir inside the leaf.
- It's not ovicidal, but kills larvae as they are hatching out of treated eggs.
- Leaf rollers are controlled mainly by ingesting the product.
- Translaminar movement assists protection of untreated leaf surfaces.
- It's not systemic, so good spray coverage is essential.

In orchard trials, Proclaim has provided outstanding control of leaf roller on both shoots and fruit (see graph), performing equal to, or better than existing standard insecticides. ➡

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# Regalis able to be tank mixed

*Since its launch a few years ago, Regalis® from BASF has been hugely successful in allowing apple orchardists to control the growth of their trees to efficiently produce top quality fruit, while saving thousands of dollars on pruning.*

Independent trials have proven that using Regalis will reduce pruning time by on average 45% compared to untreated trees, with some trials showing up to an 88% reduction in pruning time.

Until recently, Regalis has been unable to be tank mixed with any other crop protection products but the compatibility statement on the Regalis label has just been updated to include the statement: "able to be tank mixed with most commonly available fungicides and insecticides", says BASF's Tim Loughnane.

"This is seen as great news to the apple grower, allowing valuable time and money to be saved during the busy spraying season."

More great news, says Tim, is that included in the list of compatible products is Pristine®, the latest fungicide released from BASF.

"Combining Regalis with Pristine means that along with all of the advantages brought by using Regalis, trees will also be protected from black spot and powdery mildew at the same time with the efficacy of both products fully retained."

A complete guide to the features and benefits of Regalis has been produced and can be obtained by contacting your local Fruitfed representative. ➡

Regalis and Pristine are registered pursuant to the ACVM Act 1997, No's P7376 and P7595.  
© Regalis and Pristine are registered trademarks of BASF.





## Du-Wett halves kiwifruit water rates

*Du-Wett® super-spreader adjuvant technology has shown widespread benefits for low water volume pre-flower sprays of kiwifruit.*

"Scale control is a major industry challenge and it is critical that early season sprays are optimised," says Darren Faire, regional manager for Elliott Technologies.

An independent Sustainable Farming Fund project on kiwifruit carried out by Plant Protection Chemistry NZ has shown that the use of Du-Wett could significantly reduce spraying water rates while increasing spray deposits by more than 60% compared with standard volumes.

Control of scale on kiwifruit is difficult due to a number of reasons, not least of which are the sites that scale inhabit being difficult to penetrate with sprays. Up until recently conventional thinking has been that to improve coverage you need to increase water rates.

"This independent study showed that water rates could be dropped by half or quarter of the 2000 l/ha standard practice by using Du-Wett and that spray deposition was superior to current high water volume practices," says Darren.

The outcome of this independent work shows the following potential benefits of adopting Du-Wett technology in kiwifruit:

1. Increased spray deposits and coverage giving increased performance of sprays. This is of real benefit in scale applications.
2. Increased work rates with two to four times the hectares sprayed at 500L or 1000 L/ha from a single 2000L tank.

For further information on how Du-Wett can benefit your pre-flower spray applications contact your local Fruited Supplies representative. ⇨

©Du-Wett is a registered Trademark of Elliott Technologies Limited, New Zealand.

## Metarex slams slugs, soft on beneficials and earthworms

*Metarex® snail and slug bait allows beneficial insects to contribute to a sustainable pest control programme.*

Metarex is compatible with integrated pest management programmes, offering good safety to beneficials including Carabid beetles and earthworms, says Elliott Technologies' David Lingan.

"Carabid beetles are significant predators of slugs. Three species of slug-eating carabid beetles were commonly found during monitoring of Canterbury cropping farms. Unlike some slug baits, Metarex is gentle on these beneficial beetles and allows them to contribute to keeping slug numbers down."

Metarex's outstanding all-weather performance is demonstrated by the bait's integrity after 75mm of simulated rain over five days and it's expected to be rain-fast for up to 21 days. "Its low use rate is easy on equipment and, best of all, doesn't produce a cloud of chemical dust," adds David.

Paul Olsen, a potato grower from Opiki has this to say about Metarex: "I find the product Metarex very user-friendly. Its recommended rates are slightly less than other similar products but it does seem to do an outstanding job in the field. The product fits in our system of aerial application and is easily used and applied. I have found Metarex very price competitive against other similar products which does help the bottom line results."



Once evenly spread on the ground (or drilled with the seed in the case of Metarex MICRO) the Metarex 'attract and kill' action ensures pests ingest a lethal dose quickly, rather than feed on the crop. The active ingredient is metaldehyde at 50g/kg, plus the animal repellent Bitrex®.

### Control tips

1. Prepare a good seedbed by reducing weeds and crop litter that harbour and/or provide a food source for slugs.
2. Monitor slug numbers (place a sack or tile on the ground overnight).
3. Apply 4-8kg/ha Metarex. Use the high rate where slug numbers are high.
4. Bait again under moist conditions if pressure continues.
5. Do not apply to edible parts of crops. Please refer to label before use. ⇨

Metarex® is a registered trademark of DeSangosse, France. Registered pursuant to ACVM Act 1997, No 7708

Bitrex® is a registered trademark of Macfarlan Smith Ltd

## ASPARAGUS



### Reminders for October:

- ✓ **Inspect** asparagus beds regularly for pests and disease.
- ✓ Pests to look out for are garden weevil, black beetle (northern regions), slugs and snails.
- ✓ Diseases to watch for are *Stemphylium* leaf spot (slightly sunken oval lesions with purple margins), *Fusarium* spear spot (small, rusty-brown lesions on the tips of spear scales), and *Phytophthora* spear rot (soft, watery lesions near the soil level). *Stemphylium* is more prevalent during warm, humid periods while *Fusarium* and *Phytophthora* are found in wet field conditions.

## AVOCADOS



### Reminders for October:

- ✓ **Six spotted mite** in particular should be controlled pre-flower if present, reducing the risk of population explosions during flowering. Note that control of insect or mite pests during flowering is extremely difficult due to the presence of bees, so control should preferably take place before or after flowering. Apply Mit é mec and DC Tron Plus for highly effective control of adults, nymphs and eggs, as the active ingredient milbemectin gives good ovicidal activity, a point of differentiation from alternative products.
- ✓ **Leaf roller** often start to appear in spring, particularly between bunches of mature fruit prior to harvest (see photo). Proclaim is now registered for leaf roller control in avocados, offering a new option for control of this damaging pest. Alternatively, apply Success Naturalyte as required.
- ✓ To ensure you have the best information for crop management decisions, structured **crop monitoring** should be used. Please contact your local branch for information on Fruitfed Supplies Crop Monitoring Service.
- ✓ **Foliar boron and zinc** (Bortrac and Zinrac) should be applied pre-flower, for optimum efficacy. There is substantial data worldwide showing benefits of increased fruit set and fruit size following foliar applications of boron when leaf and flower boron levels were below the optimum of 30ppm. Timing is critical for best efficacy, so please check with your Fruitfed Supplies representative or branch for optimum application timing and rate for your block.
- ✓ Consider regular applications of formulated seaweed products such as **Calibra**, particularly on stressed trees. Common stress issues at this time of year include heavy flowering, lack of rainfall on non-irrigated blocks, six-spotted mite infestation and *Phytophthora* infection, while a number of blocks may also be suffering the aftermath of frost damage.
- ✓ Continue to maintain a **fungicide cover** on fruit with copper products such as Kocide 2000LF or the new Kocide Opti, which offers fungicidal protection for fruit while resulting in little visible residue, a consideration prior to harvest. This formulation also has a greatly reduced amount of elemental copper applied per application, reducing the impact of this fungicide on the soil environment.



Leaf roller damage on fruit at harvest

## BRASSICAS



### Reminders for October:

- ✓ Plant early crops in free-draining soils or raised beds to **avoid**

**damping-off pathogens** in seedlings. Healthy, vigorous plants are less susceptible to this disease complex.

- ✓ **Cultivate in residues** of winter crops when soil conditions allow to minimise carryover of pests and diseases.

## CITRUS



### Reminders for October:

- ✓ Beware of increasing **greenhouse thrips** populations, particularly on oranges and tangelos, as damage may occur rapidly if populations are present heading into spring. **Armoured scale** insects may also first appear at this time. Research presented by Dr. Lisa Jamieson at the citrus conference held in Gisborne last spring shows adult **citrus whitefly** start flying in October and begin laying eggs. Controlling adults will reduce egg numbers and reduce populations going in to summer. However, the most susceptible life-stages to control (crawlers and nymphs) don't make an appearance in numbers until November. For further information on control of these pests, please contact your local Fruitfed Supplies branch.
- ✓ **Monitoring** for these insect pests to determine control requirements allows justified use of agrichemicals, without the risk of unnecessary applications. For further details on crop monitoring, contact your nearest Fruitfed Supplies branch.
- ✓ The **fungicide** programme needs to be maintained up to and post-flowering to protect against scab (see photo) and melanose infection of young shoots and fruitlets.
- ✓ With cool spring weather limiting nutrient uptake, **foliar fertilisers** such as Citrac should be considered, to promote strong flowering and fruit set. Timing is critical, so please check with your Fruitfed Supplies representative for optimum application timing for your block.



Citrus scab infection on young shoots and fruits

## GRAPES



### Reminders for October:

- ✓ If the **mealy bug** threshold was triggered last season, best practice is to spray early applications of the insecticides Applaud™ or Ovation™. Remember that good timing and coverage is critical, as the pest is cryptic and Applaud or Ovation have good activity only on juvenile stages. Add DC Tron oil or a suitable surfactant to assist coverage and penetration beneath bark.
- ✓ If **erinoise mite** was a problem last season, Organic JMS Stylet™ Oil is a highly effective product that will work irrespective of temperature at time of application (follow label directions carefully).
- ✓ For growers who experienced **downy mildew** problems last season it is vital to protect the newly emerged growth this season. Regular applications of an appropriate fungicide, e.g. Dithane Rainshield, should be made in anticipation of wet weather. Phomopsis and black spot also require a preventative fungicide programme to stop their spread onto healthy foliage. Watch the weather forecasts and apply a cover before it rains. Ensure good coverage.

**Powdery mildew** inoculum, in the form of conidia, are released from flag shoots soon after bud burst. These characteristically stunted and deformed shoots (see photo) are a result of the pathogen overwintering inside dormant buds and then rapidly colonising the emerging shoot's

cuticular tissue as it emerges from buds. Unfortunately, even if flag shoots are not evident in your vineyard control strategies cannot be ignored. This is because conidia are ubiquitous in the environment and therefore disease is a constant threat when conditions are conducive for infection.

In order to achieve control of powdery mildew in the early part of the season, start your spray programme soon after bud break, then maintain a tight cover. Products like Quintec™ and Organic JMS Stylet™ oil are highly effective against powdery mildew in the early part of the season, and both control the disease irrespective of temperature (follow label directions carefully). Powdery mildew is also sensitive to sulphur, due mainly to the toxic vapours released from solution as it dries on foliage. However, temperature is highly influential to the amount of vapour released (more released at high temperatures) so for best results try to spray only on warm days or the warmest part of the day. Contact your local Fruited Supplies store for more detailed recommendations.



Healthy shoot on left; flag shoot on right

to reduce time involved in filling sprayers and spraying crop, while improving coverage on the plant and is particularly effective at ensuring applied spray penetrates beneath kiwifruit bark to where scale are sheltering.

Last season also saw the launch of **Movento** with significant areas of commercial crops treated following several years research work in New Zealand. Movento is the second compound registered in New Zealand from the ketoenol chemical group, but unlike its predecessor and indeed most other insecticides, Movento has both phloem and xylem mobility within the plant. This two-way systemicity within the plant, coupled with excellent efficacy on piercing and sucking insects such as scale, has given outstanding results in both field trials and commercial blocks to date. Timing and application aspects are critical to getting the most from Movento. For further information on best scale control practices in your situation, please contact your local Fruited Supplies branch or representative. Zespri Gold growers, in particular, should be aware they have limited options for scale control after flowering, making a robust pre-flower programme essential in this cultivar.



Pre-flower, the critical timing for optimum scale control

## KIWIFRUIT



### Reminders for October:

- ✓ Foliar fertilisers such as **Tracel Plus** are often used before flowering, as cold spring soil temperatures suppress nutrient uptake by the roots. Specially-formulated seaweed fertilisers such as **SM6** or **Calibra** should also be considered where growth is slow, or new leaf is damaged by cold temperatures, wind or frost. Application at this time promotes healthy leaf growth and early leaf size, ensuring optimum photosynthesis after flowering.
- ✓ **Supplementary pollination** should be considered over flowering, to improve fruit size and shape and reduce variability within a crop. Please contact your Fruited Supplies representative to discuss how this technology may best be used in your situation.
- ✓ Beware of **potential frost events** following bud break. A cold snap in early September has seen a number of blocks damaged throughout the Bay of Plenty. Ideally, overhead water or Orchard-Rite wind machines should be utilised for frost control. If these are not available, consider applications of low-biuret urea (<0.4% biuret) immediately prior to risk periods to assist frost control. For further details on frost protection to best suit your situation, please contact your Fruited Supplies representative.

Following bud break, growers again need to focus on **pre-flower control of scale**. Effort should be made to identify any sources of scale outside the vines (shelterbelts, for instance) and these should be sprayed before bud break, with oil (DC Tron Plus) or a super-spreader such as DuWett with an insecticide. Take care not to spray flowering willows as bees may be affected. Coverage of shelterbelts is easiest to achieve prior to canopy development, as the new leaves will inhibit spray penetration.

An application of insecticide should then be applied to vines, with preference being given to the chloronicotinyl chemistry (Actara or Calypso) as these products have the best efficacy, persistence on bark and systemic activity within the plant, while having greater safety to workers and the environment than most alternatives. The leader zone should be targeted and the addition of a mineral oil such as DC Tron Plus will help penetration around bark and improve efficacy. Waiting until some canopy is present (new shoots are >100mm in length) will help ensure the full benefit of systemic uptake can be realised with this group of chemistry. As an alternative, consider Talstar as a contact-active option for scale control, controlling adult scale that have overwintered on the vines.

The last two seasons have also seen significant kiwifruit area treated with **Du-Wett**, a specialist adjuvant for greatly increasing spread of applied spray solution on the plant, even at low water rates. Du-Wett has the potential

## LETTUCE



### Reminders for October:

- ✓ New season plantings are likely to have **lettuce aphids** flying into them. The SFF IPM project identified that natural enemies are effective at controlling lettuce aphid in spring crops. Additionally, Confidor may be applied as a pre-plant seedling drench for control.
- ✓ Cool, humid weather is conducive to **downy mildew** epidemics and all lettuce growth stages are susceptible. Maintain protective cover with Dithane™ Rainshield™, Acrobat® MZ 690 or copper fungicides.

## ONIONS



### Reminders for October:

- ✓ **Remove any remaining volunteer onions** in and around your crops NOW!
- ✓ Monitor young seedlings for maggots of the **onion fly**.
- ✓ Maintain a tight **weed control** programme to avoid repeat applications later in the season. Choice of herbicide depends on weed species present.

Effective **white rot** control in onions requires a programme of two or three applications of Cereous at three to four week intervals, starting at four weeks after germination. Another option is to time the first application using Plant and Food Research's White Rot Degree Day Model (contact your Fruited Supplies representative or local branch for help with this).

**Botrytis** can infect cotyledons early in the season, substantially decreasing plant numbers and therefore final yield. Applications of *Botrytis* fungicides at flag and first true leaf stages are warranted. Prolific®, Amistar® WG or Switch® are options for use at this time.

## PIPFruit



### Reminders for October:

- ✓ Remember that new growth at this time is expanding rapidly, and it is extremely susceptible to **black spot**. Spray intervals should be adjusted to weather conditions and aim not to exceed seven days.
- ✓ The use of a DMI fungicide such as Systhane 40WP is recommended during the high-risk period for **powdery mildew** (open cluster to pink) particularly if your block has a history of disease outbreaks.

- ✓ Apples and pears are at greatest risk of **fire blight** infection during the bloom period as the causal agent, *Erwinia amylovora*, readily infects flowers. Control relies on good timing of appropriate sprays prior to infection periods.
- ✓ The correct timing for *Regalis*, the plant growth regulator, for **inhibition of shoot growth** is vital in obtaining best results with it. Discuss rates and optimal timing with your Fruited representative or branch.
- ✓ Check the Pipfruit New Zealand website for codling moth Biofix + Growing Degree Day timing details for your district. The application of Prodigy at Biofix + 80 to 110 GDD is recommended as best practice ensuring ovicidal and larvicidal activity on both leaf roller and codling moth. Alternatively, apply Altacor for effective control of these lepidopteron pests.
- ✓ On russet-prone varieties, Novagib will assist to reduce russet levels. Research shows levels of non-exportable russeted fruit are often halved by using Novagib in a programme, substantially increasing returns to growers. Unlike other GA4+7 compounds, Novagib contains the purest form of GA4, the more active compound of the two for decreasing russet. Discuss best practice with your Fruited representative or branch.

During the primary phase of the **black spot** disease cycle, it's vital to ensure your protectant programme is based on a seven day interval to protect highly-susceptible new growth. Peak black spot ascospore production occurs between mid/late September and late October/early November. However ascospores are released between bud break and mid-December. Most ascospores are released by day with less than 1% discharged at night, depending on light, temperature and, in particular, rain – as little as 0.2mm of rain is sufficient to stimulate their release.

Strobilurin fungicide applications, i.e. Flint Star™ or Pristine™, have become standard practice over the critical flowering period. The excellent protectant activity on black spot (Flint Star also has curative activity on black spot) and powdery mildew make these compounds a very useful tool when disease pressure is high. Fruited Supplies' field research in New Zealand and overseas studies have demonstrated the high level of rainfastness of the strobilurin-based products, an important attribute during wet spring conditions when peak ascospore production can produce severe infection periods. Remember to follow the resistance management guidelines carefully for the strobilurin group (Flint Star, Pristine, Strobly and Flint). Strobilurins should be used in either single or block applications (no more than two in sequence). Alternate with fungicides from a different chemistry group, e.g. Polyram + Systhane, with a maximum total of four strobilurin applications per season. Note: Flint Star and Pristine have a 90% petal fall PHI.



Black spot on apples leaves

## POTATOES



### Reminders for October:

- ✓ **Monitor** early crops for pests and diseases, e.g. cutworm, vegetable weevil, black beetle, aphids, damping off.
- ✓ Monitor for the tomato/potato psyllid.

Historically **aphids** start flying this month, including those that colonise potatoes. Monitor crops for both aphids and their natural enemies. If aphid numbers in a crop don't change between monitoring samples, it is likely the natural enemies are controlling the population.

Monitor crops for **late blight**. Mild, moist conditions (10–15°C nights, 15–21°C days and wet foliage or high humidity) are conducive to late blight epidemics. Dispose of cull piles and tubers graded out at harvest as these

can be a source of inoculum for new crops. Maintain a regular protectant fungicide programme based on Dithane® Rainshield NT. Systemic fungicides, e.g. Acrobat® MZ 960, Nautile®, Ridomil Gold MZ or Melody Duo®, should be used during high risk periods.

Yellow sticky traps can be used to catch **tomato potato psyllid (TPP)** adults flying into crops. Graph numbers to identify trends. Regularly and thoroughly monitor crops for psyllid life stages from emergence onwards. Where seed treatments or in-furrow insecticides have been used, psyllids may be first found on the lower leaves where residues are lowest. Ensure your insecticide programme includes a rotation strategy, alternating insecticides from different mode of action groups. Consider comparing programmes with neighbouring growers to strengthen resistance management (use same insecticide groups at the same time). Contact your Fruited Supplies representative or local branch for further information.

## SUMMERFRUIT



### Reminders for October:

- ✓ Maintain a protectant fungicide programme over the flowering/shuck-fall period for effective **brown rot** control.
- ✓ If **leaf curl** has not been controlled by early-season fungicides and symptoms are present on foliage, then it will be necessary to apply suitable protectant fungicide prior to wet events.
- ✓ Continue to monitor for **aphid** infestations and, if justified, spray an appropriate insecticide as early season control of aphids is essential to prevent large population build-ups.

Leaf rollers cause much damage in commercial summerfruit orchards in New Zealand. Their high pest status is due to the yield losses they can inflict if left uncontrolled. They are also a market-access pest of concern in some export markets. They have a grazing feeding habit so their presence on fruit generally leaves an unsightly wound. Also, their feeding activity can leave potential infection sites on which opportunistic diseases (e.g. brown rot or *Botrytis*) may establish, further exacerbating crop losses.

The leaf roller moth complex is polyphagous, meaning that the larvae are able to sustain themselves on a high number of different plant species (in excess of 250 known hosts for light brown apple moth). They are also a relatively mobile moth (up to 600m in mark-and-recapture studies) and the number of adults that immigrate into an orchard from surrounding host plants will usually exceed the resident orchard population. Because of these factors, orchards that have tracts of vegetation nearby (e.g. scrub patches, riverbeds or shelter belts) and/or an overgrown and diverse inter-row/headland sward tend to experience relatively high leaf roller pressure. Removal of host plant patches within the property and its immediate surrounds can contribute significantly to reducing leaf roller populations. Similarly, frequent mowing of the orchard floor during the growing season and stock grazing in winter will also help.

Insecticides are currently still the mainstay for leaf roller control in New Zealand summerfruit orchards. Fortunately, there are very selective and environmentally-benign insecticides registered for leafroller control in summerfruit. Mimic 700WP™, an insect growth regulator from the MAC (moult accelerating compound) group, is a synthesized copy of the lepidopteron moulting hormone and acts by inducing a premature, incomplete and fatal moult. Because hormones are specific to insect orders, Mimic does not affect non-target species. Success Naturalyte is another option, with the active spinosad derived from a soil bacterium. Like Mimic, Success Naturalyte has good selectivity towards caterpillars and a favourable safety profile.

The judicious use of either or both of these products will achieve good control of leaf rollers. It's important to start a programme soon after petal fall and, if monitoring indicates high block pressure, maintain a tight cover through until harvest. Check the Summerfruit New Zealand grower manual carefully for market acceptance of each crop type with these products, as well as their pre-harvest intervals. Consult your local Fruited Supplies representative or branch for more information on leaf rollers and their control.

## Plant quality and variety assured at Appletons

*Passion, dedication and hard work have made Appletons Nursery in Nelson a success since 1968.*

A family-owned business started by Eric Appleton, Appletons Nursery is now headed by son Robert. But Eric's still actively involved in the thriving business and the knowledgeable, passionate pair has made a success of the challenges of propagating both pine and ornamental trees for the wholesale and bulk public markets.

Appletons' Wakefield ornamental nursery is home to more than 500 deciduous, native and evergreen species; about 350 species are listed in the current, highly-readable catalogue. Up the road, millions of *Pinus radiata* are grown alongside other species – cedar, cypress and redwood – suitable for forestry use. "It's unusual to do the forestry seedlings alongside ornamentals," says Robert. "But it works for us – there are a lot of similarities in terms of the actual propagating and seedling management. The two sites also offer a balance of work for staff and income streams."

Nelson's temperate climate allows a big variety of trees to be grown in the region, but it's interesting to note that Robert is particularly careful to source quality seed from regions right across the country. He can then track the provenance of specific lines or cross lines for F1 seeds to ensure he has progeny to suit specific situations around New Zealand. When you consider the long-term planning and foresight required to have an eye on popular trends, while balancing a desire to keep the gene pool and varietal availability as broad as possible, you appreciate the sheer depth of knowledge about ornamental and native trees at Appletons. Their own arboretum was established 17 years ago as a future seed source and trialling area for new species. To date, 6,500 trees from over 1,000 species have been planted.

Robert's – and Eric's – willingness to try new ideas is seen in virtually every aspect at Appletons. They recognised that the alluvial silt seedbeds would benefit from the addition of organic matter so bring in vast quantities of waste pine bark which is turned, nitrogen added and matured to create compost to enhance the beds each year. "The fibrous roots on the young trees are twice the volume they once were," says Robert. "And lifting is quicker and easier with the more friable soil."



*Appletons' custom-made mechanical lifter ensures easy, damage-free lifting of the young trees*



*Robert Appleton explains the phenomenal growth rates of redwood and its potential as a carbon sink option to Fruitfed Supplies' Jonny Richards*

The custom-made lifter is another Appletons innovation. Originally a narrow-track bulldozer, the lifting machine now is high enough to clear the young trees while, below the root zone, a cutter vibrates and lifts the trees essentially bare rooted, ready to replant and grow on or sell.

Robert has numerous projects on the go, including a fascinating trial using redwoods as carbon sinks. "Did you know that if you cut a mature redwood to the ground – harvesting its many cubic metres of fine timber – a whole fairy ring of new redwoods will grow from that root mass? They grow at three times the rate of Western Red Cedar which is used for a lot of door and window surrounds – the old growth forests are nearly depleted, so we need alternatives."

Robert says he remembers going to the Fruitgrowers Federation store in Nelson as a small boy with Eric and today that connection between Appletons and Fruitfed Supplies remains strong. "Basically we find nothing is a problem. Jonny Richards will find me the most obscure, difficult things and information or put me on to the right person who can help. That sort of service saves us time and the pricing is still sharp."

The seedbeds are enhanced by a compost tea made from natural fungi from nearby forests so Robert says they need almost no fungicides. But grass grub among the ornamentals and onion thrips in the forestry beds are the main issues he and Jonny continue to work on.

Other items sourced from Fruitfed are the Netafim irrigation controllers currently being installed. "Our revamped irrigation system can also be used for water-based frost fighting and the new controllers mean there's less work managing the seedbed irrigation."

With around four million pine seedlings and one million ornamentals being shipped from Appletons in the past year, this dedicated team continues to look forward with new ideas and new varieties for New Zealand commercial growers and home gardeners. ♦♦

**Fruitfed Supplies**

Facts is a monthly publication of Fruitfed Supplies. Feedback to the editor is welcome. Please contact Kate Gordon, Relish Communications, c/o PO Box 2116, Auckland, email: [kate@relishcomm.co.nz](mailto:kate@relishcomm.co.nz) or mobile 021 587 227. Subscription details and address updates, please phone Fruitfed Supplies national office on 09 448 0510.

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