

Apply Durivo now and reap the rewards

Growers are using phrases like 'brilliant', 'terrific' and 'money well spent' to describe Syngenta's new vegetable brassica insecticide Durivo®.

Launched late in 2009 for the control of insect pests in vegetable brassicas as a pre-transplant seedling tray drench, Durivo is proving its worth for growers all over the country.

Syngenta's lower North Island territory manager Doug Speers says he's received comments like: 'we had a terrific season with Durivo'; 'the product is brilliant'; 'Durivo is very, very, very good'; and 'money worth spending, it saves me additional money'.

"Another grower told me 'Durivo gave my cabbages ten weeks control of caterpillars and season long control of aphids, which is pretty phenomenal," Doug says. "When you have numerous growers tell you they'll definitely be using the product again, it's really satisfying to know the product is delivering excellent results."

Doug adds another grower comment: "I got at least six weeks control from Durivo when I would normally spray at least four insecticides. I only had to spray the Durivo-treated Brussels sprouts with one insecticide all season."

Durivo's active ingredients – 200 g/litre thiamethoxam and 100 g/litre chlorantraniliprole – also appear to stimulate more vigorous growth. Doug highlights the differences seen in the photo where the Durivo-treated cabbages are on the left and, on the right, untreated.



*On the left, Durivo-treated cabbages;
on the right, untreated*



"Plants on the left look bigger and healthier, and this is an observation that many growers have also made, with one noting that he harvested the Durivo-treated cabbages seven days earlier than the untreated crop.

Another told me that because the Durivo-treated plants grew more quickly, it suppressed weed growth and helped improve soil moisture retention.

"Yet another positive comment made by several growers is that a crop will mature more evenly, allowing them to harvest with fewer cuts. All growers had season-long control of aphids with Durivo and at least six weeks control of caterpillars.

"The general impression is that results from Durivo have exceeded grower expectations and the product has delivered tangible benefits to growers beyond traditional insect control."

Fruitfed Supplies Ohakune area sales manager Kath Lee-Jones says she has received numerous positive comments about Durivo. "Growers are getting at least 60 days without the need to apply an insecticide and you can definitely see plants get off to a better start with no visible pest pressure. One commented that it's good not having to handle as many insecticides as he's not making two, maybe three applications that he normally would. I think it's fair to say we haven't seen a single product have this much impact for a number of years."

In Canterbury, Fruitfed Supplies representative Stuart Paull says growers in the region were very happy with Durivo's performance during commercial trials last season. "Everyone's fully confident with the product and indications are that virtually all will use it on their late production crops this season. South Pacific Seeds also continues to use Durivo extensively throughout their brassica seed crops."

Growers following the Insecticide Resistance Management Rotation Strategy for Vegetable Brassicas should use Durivo in the 'late window' from February to August. ⇨

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Heartland Chips a vertically-integrated success story

Raymond Bowan and his family at Fallgate Farms at Orari near Geraldine are creating a strong new brand with their Heartland-branded chips made from their own potatoes.

Long-time PGG Wrightson customer Raymond Bowan is fulfilling a core business objective by establishing a new value-added product using the quality Fallgate Farms potato crop. Heartland Chips is the trademarked brand name of the new potato chip line, which has been very well received, especially by South Island retailers, since its introduction in October 2010.

Raymond says the family-run operation was a main potato supplier to one of the major chip manufacturer's processing factories in Washdyke, near Timaru. When the manufacturer decided to close this factory, Raymond had to consider his options – one was to establish his own factory, the other was to buy the Washdyke factory. "With all relevant consents still in place to the new owner, this made things a little easier," says Raymond. "It's been a substantial investment, but the opportunity to have our own processing plant allows us to control the quality right from the farm to the packet. It also adds another income component to our operation."

Raymond says they were fortunate to have two very experienced people join the team. A salesperson with many years' experience has helped establish the Heartland Chip range in supermarkets and other South Island outlets.

"It was quite a process establishing the brand and trademark 'Heartland', but we are very happy with the name we chose for our product," says Raymond.

The other key person was the factory manager who ensures the very best quality of Heartland's chips. "We think freshness with potato chips is very important so we grow four different varieties to provide a year-round supply of potatoes to the factory.

As in other parts of the country, the tomato-potato psyllid has quickly become a significant pest in South Canterbury. Raymond says the hot start this summer means TPP numbers have been higher and the pest appeared earlier this season, so monitoring and control options have been important.

Cereals, grass seed and maize are also grown at Fallgate, to ensure potatoes are not planted back into the same block for five to six years. Raymond continues to supply potatoes for the French fry market and a chip manufacturer.

The following paragraph from the Heartland Chips website summarises the new and already successful venture nicely: 'Our potato chips are made from potatoes grown by a New Zealand farmer, in a New Zealand paddock and processed in a New Zealand-owned factory. It's fair to say that a potato chip doesn't get more Kiwi-made than that.' ➡



Raymond Bowan, of Fallgate Farms, checks a potato crop



At the Heartland Chips factory in Washdyke, Raymond with factory manager Bill Cockburn and Andrea Harborne, Fruitfed Supplies

Vege Tech Bytes

A monthly technical update from Tim Herman, the Fruitfed Supplies regional technical advisor specialising in vegetable crops.

During March, many of this season's trials conclude as crops mature and harvest commences. One of these is the second TPP trial further evaluating several compounds from an earlier trial. Some are very interesting with one that clearly stood out in trials last year and earlier this season, so we've been keen to observe its performance again this round. We also included some 'soft chemistry' options for further evaluation, including a newly identified active.

An onion thrips insecticide trial was completed earlier, where again at least one new product looks very exciting for the future, having



Fusarium diseases of vegetables

Tim Herman, Fruitfed Supplies Technical vegetable specialist, explains that of the more than 100 fungi in the Fusarium genus present in New Zealand, Fusarium oxysporum is the one species most commonly associated with diseases of vegetables.

Fusarium oxysporum is the most widespread of the *Fusarium* species around the world. *F. oxysporum* is divided into 'forma speciales' based on the host plants they infect, e.g. *F. oxysporum* f.sp. *cepae* is responsible for *Fusarium* basal plate rot in onions, while *Fusarium* wilt in tomatoes is caused by *F. oxysporum* f.sp. *lycopersici*.

F. oxysporum is very common in agricultural soils and can behave as a pathogen and a saprophyte. Feeding on dead and decaying organic matter in the absence of suitable plant hosts is a key survival mechanism of this fungus. Another is the production of thick-walled chlamydospores that can survive in the soil for long periods, one of the three different spore types produced by *F. oxysporum*.

Fusarium is a warm weather disease and is rarely seen when soil temperatures are under 15°C. High soil moisture levels are also required. Host plants are infected through mycelium or germinating spores penetrating plant root tips or wounds. The fungus grows through the plant into the xylem, the plant's water transport system, where microconidia spores are produced. These enter the sap stream, germinate and infect other parts of the plant. Over time it clogs the plant's vascular system, hindering the movement of water and nutrients around the plant and causing the leaves to wilt, thus the common name of *Fusarium* wilt, and eventually causes death. From dead plant tissue, it can sporulate and continue infecting neighbouring plants if conditions are favourable.

Note that wilting can be the result of other pathogens or abiotic disorders and the symptoms between different wilts can be quite subtle. Care is needed when diagnosing these diseases.

Because *Fusarium* is widespread in agricultural soils, control is multi-faceted. Crop rotation to reduce inoculum levels in the soil is a key

control strategy, e.g. a three year break between successive onion crops or 5-7 years between tomato crops. The disposal of crop debris to reduce the level of *Fusarium* is another strategy. For some crops, e.g. onions, peas and tomatoes, resistant cultivars are available and should be considered if *Fusarium* is an issue. *Fusarium* has been reported as being transmitted via seed and transplants, so seed treatments and transplant dips can control infestations in onions and kumara respectively.

Preparing good seed beds in free-draining soil helps limit the occurrence of favourable infection conditions. Careful crop management minimises root injuries, e.g. when doing inter-row cultivation, and maintenance of a healthy crop with adequate fertiliser and appropriate irrigation also helps minimise incidence of *Fusarium* disease.

For some crops, like tomatoes and melons, raising the soil pH to 6.5-7.0 with lime reduces disease incidence. Soil fumigation is another option for small areas of specialty crops, but is currently uneconomic for large areas. Biological control can be effective in some cases, possibly providing economic options in the future.

Fusarium can also be a problem for crops that are stored, such as onions, potatoes and kumara, so careful handling at harvest is vital to minimise wounding and bruising as these provide pathogen entry points.

Fusarium can readily be carried to other fields in soil-contaminated equipment, i.e. tractors and implements, boots, boxes, etc. Careful disinfection and hygiene when moving out of fields with known *Fusarium* problems will minimise the spread of this pathogen. ⇨

consistently provided a high level of control. A squash powdery mildew trial is also coming to conclusion, having assessed new compounds alongside industry standards. The results to date are positive and we hope to share these outcomes in the near future.

Analysis of data from these trials is a big job, meaning it may be some months before we can publicly report our findings about the products which will be developed for market. This is an essential step to ensure the products we progress are proven to offer clients an advantage over current standards. During the two-to-three years it typically takes for field development, we are able to perfect the use of each compound, learn its strengths and weaknesses, and answer questions we have about crop



safety, tank-mix compatibility and residue decay curves to ensure we have the full picture on best use when they go on sale.

We are always very appreciative of grower support to host our trials in their crops – we are well aware of the inconvenience involved. One of the conditions the NZ Food Safety Authority set for allowing experimental compounds into the country for trials is that the treated area of crop cannot be harvested, nor can

the produce enter the food chain (including grazing). We ensure growers are compensated for this loss and we also share some of the trial results with them to assist the management of next season's crops. ⇨



More efficient avocado spraying with Du-Wett

Less time spent spraying, less tank fills and overall cost savings are just some of the advantages of adopting concentrate spraying technology.

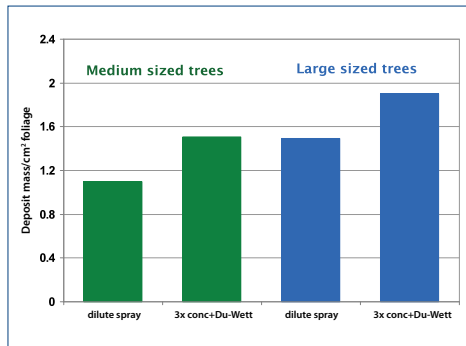
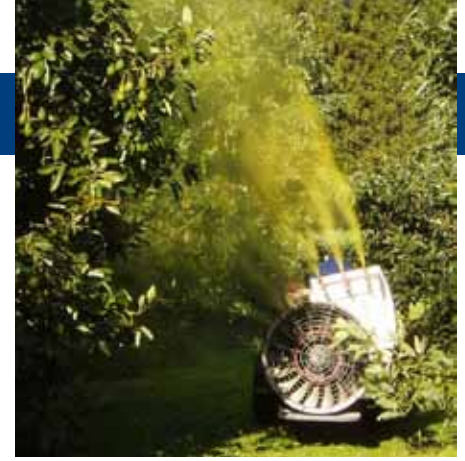


Fig. 1: Average leaf deposits

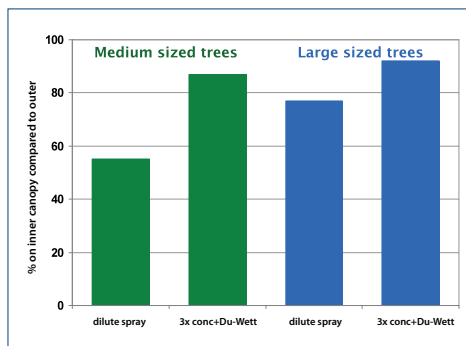


Fig. 2: Deposits on inner as a proportion of outer canopy

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"The benefits of using Du-Wett® super-spreader with concentrate spraying techniques make compelling reading for any avocado grower," says Darren Faire, northern regional manager for Etec Crop Solutions.

Research data on concentrate spray technology with Du-Wett was presented at recent Avocado Industry Council field-days with the AIC endorsing the concept of concentrate spraying.

The AIC research findings included:

1. Three-times concentrate with Du-Wett gave superior spray coverage and deposit results compared to conventional dilute spray applications.
2. Du-Wett in concentrate sprays increased average spray deposits (and hence disease and pest control) by approximately 25% on both medium and large size trees compared to dilute sprays containing a conventional adjuvant.
3. By using Du-Wett, inner canopy spray deposits are increased to almost equal the outer canopy deposits on dense, medium-sized trees. In comparison dilute spraying saw inner canopies typically receive only half of the deposits of the outer canopy.
4. Du-Wett markedly improved distribution and coverage on all difficult to wet surfaces including fruit and the underside of leaves compared to dilute spraying.
5. In 18 months of field trials, pest and disease control using Du-Wett and concentrate spraying was at least as good, and in some cases better than high volume dilute spraying.

"Successful adoption of concentrate spraying means growers must have sprayers expertly recalibrated and setup. However the benefit of being able to use only a third of the amount of water usually used delivers a real bottom line saving to all growers irrespective of orchard size," says Darren. "In addition, there's the peace of mind from knowing the spray deposition and coverage levels cannot be achieved with high water volume spraying using conventional adjuvants." ➡

Export avocado monitoring mandatory

This year sees the introduction of mandatory monitoring of avocados intended for export and Fruitfed Supplies Crop Monitoring Services plays a key role in helping growers meet these requirements.

With the introduction of mandatory crop monitoring, Fruitfed's CMS co-ordinator for Bay of Plenty, Alastair Reed says the AvoGreen® programme, which Fruitfed has been part of for the past 11 years, has some key changes. He outlines these below:

- Growers must be registered and be AvoGreen compliant to export fruit.
- Monitoring can be carried out two ways: by an accredited operator such as Fruitfed CMS which is the largest accredited monitoring provider nationwide; or the grower can train to be an accredited monitor and do their own.
- Apart from a few exceptions, growers must now have justification of pest thresholds being exceeded before they can apply insecticides. The exceptions to this guideline are:
 - I. After flowering and before the end of January, growers are allowed to apply one leafroller spray without monitoring;
 - II. Once reaching threshold on greenhouse thrips, growers are allowed to apply a suitable insecticide, with another follow-up spray 10-21 days later with this second spray being done without further monitoring.

Alastair notes that the number of growers registered with Fruitfed CMS for avocado crop monitoring has increased by 82% from last season to this.

"Growers are still registering and, as a result, we've been increasing staffing levels to ensure we can look after the additional demand for our services," says Alastair. "I think it will take a while to get used to the 'mandatory' aspect, but longer term the monitoring is a good thing for the avocado industry." ➡



High level of rot control with minimal copper loading

Avocado growers using DuPont™ Kocide® Opti™ apply less elemental copper with every spray, resulting in less copper build-up in their soils.

DuPont territory manager for Northland and Bay of Plenty, Steve Hersey states that trial

work has shown excellent disease protection using much lower levels of applied elemental copper when using Kocide Opti fungicide.

"The following table shows the amount of elemental copper applied in an avocado orchard where a grower is using the highest rate, and when applying 2000 l/ha of spray," says Steve. "Other copper fungicides will deposit between 1.7 and 3.7 times more copper per application than Kocide Opti. The table shows the amount of copper applied in one spray, while many growers typically make eight copper applications per season.

"Essentially, you're getting the same level of disease control with considerably less elemental copper – it's better for soils and has less impact on the environment."

Steve reckons, as a copper fungicide, Kocide Opti is the complete package for avocado growers. "In addition to reduced environmental loading,

Kocide Opti has built-in formulation attributes that ensure it reaches and adheres to the target plant to deliver disease protection.

"The patented DuPont manufacturing process produces a more even particle size, which is optimised to allow maximum adhesion and rainfastness. The process also allows the introduction of a patented co-formulant, which binds smaller particles together to form copper complexes. These amalgamated particles act like a second source of copper ions for disease control."

Kocide Opti is formulated for hassle-free spraying. It mixes well and suspends easily in the tank, dispersing rapidly and staying in suspension longer. It also mixes readily with insecticides, other fungicides and foliar fertilisers and will easily pass through 100 and 200 mesh filters. The dry-flowable granules flow like a liquid – there is no sticking or clumping as there sometimes is with wettable powders.

Talk to your local Fruitfed Supplies representative about how Kocide Opti can help reduce the copper loading on your orchard today. ⇨

	Product rate (g or ml / 100 l)		Elemental copper in product (%)	Elemental Cu / 100 l (g)		Based on spraying at a rate of 2000 l/ha	
	Low	High		Low	High	Amount of elemental copper applied per ha using the highest registered rate	Additional elemental copper applied per ha per application versus Kocide® Opti™
Blue Shield ¹	150	200	50.0%	75.00	100.00	2.00	1.5
Nordox 75 WG	130	130	75.0%	97.50	97.50	1.95	1.4
Champ ² DP	107	140	37.5%	40.13	52.50	1.05	0.5
Liquicop ³	500	500	9.3%	46.40	46.40	0.93	0.4
Kocide® Opti™	70	90	30.0%	21.00	27.00	0.54	0.0

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TECH-KNOW TIPS

AVOCADOS



Reminders for March:

- ✓ **Leafroller** numbers have increased through summer and larvae will now start to move between bunched fruit, causing considerable chewing damage. **Greenhouse thrips** also prefer to shelter in fruit bunches and populations will increase rapidly through late summer into autumn if not controlled. Monitor carefully and, if thresholds are exceeded, apply a suitable product to control. Several 'soft' options now exist for leafroller and greenhouse thrips control – Prodigy and Calypso, respectively, are good examples – giving good efficacy without unduly disturbing beneficial insects. Please contact your Fruitfed Supplies representative or local branch for details.
- ✓ Be wary of increasing **six-spotted mite** populations as the season turns to autumn. Several years of data from Fruitfed Supplies Crop

Monitoring Services clearly shows an increased risk of SSM infestations during autumn, particularly in Whangarei and Far North districts.

- ✓ For ongoing management of **Phytophthora** infection of roots, injections of phosphorous acid should begin when the summer flush has hardened off. For rates, method and timing please contact your Fruitfed Supplies representative or local branch.



Avocado tree infected with Phytophthora


- ✓ **Du-Wett** super-spreader and the companion product **Du-Wett Rainmaster** have been widely used in the kiwifruit, apple, grape and vegetable industries for several seasons. Recent work has shown the ability of these products to greatly assist spray coverage when combined with low water rate applications in avocados. For further information on how this technology can assist

your pest and disease control programme, please contact your Fruitfed Supplies store.

- ✓ Apply **Fruitfed Supplies Avocado Mix** to feed developing fruitlets and new vegetative flush. Regular applications should preferably be timed to coincide with rain or irrigation. Fertigation options are also available. Renewing mulch beneath the trees at this point will also help conserve moisture and promote healthy root growth.

CITRUS

Reminders for March:

- ✓ Keep a look-out for **citrus red mite**, which often makes an appearance during mid-summer particularly where hard compounds have been used to control Kelly's citrus thrips (KCT). Mit é mec is the product of choice for CRM control, as this novel miticide controls all life stages, including eggs, effectively combating the entire population.
- ✓ **Greenhouse thrips** are often also evident once fruit develop and form bunches in summer, rapidly causing typical silvery scarring damage. A new formulation of malathion is now available, offering effective thrips control prior to harvest – please contact your local branch for details. 
- ✓ **Scale crawler release** will continue this month. If careful monitoring is carried out, soft control options such as Applaud 40SC or D-C-Tron mineral oil may be applied most effectively as the crawlers or first settled instars are detected.
- ✓ After hand-thinning Satsuma mandarins, ensure a **fungicide cover**, like Dithane Rainshield or similar, is applied to protect the remaining peduncles from *Glomerella* infection. It is thought that once *Glomerella* colonises the old peduncles, infection then spreads to developing fruit (sometimes readily, depending on conditions), causing characteristic symptoms. Fungicide cover should also be maintained to protect against citrus scab, melanose and various sour rots which may occur, particularly if the heavy rainfall events we have seen this summer continue.
- ✓ For control options for any of the above pests or diseases, please contact your Fruitfed Supplies representative or local branch.
- ✓ **Leaf sampling** should be carried out during February or March to determine plant nutrient status. The information gathered should reflect the effectiveness of the nutrition programme adopted on each block and will also help plan the coming season's requirements. **Fruitfed Citrus mix** fertiliser is now available in a range of N:P:K ratios to suit various cultivars/regions. Yara Vita **Citrac**, formulated with those nutrients most often deficient in New Zealand citrus, i.e. magnesium, zinc and manganese, may also be useful as a foliar spray applied to autumn flush.
- ✓ Consider application of **Perk Supa** in autumn to strengthen the plant and improve disease resistance. For further information, please contact your Fruitfed Supplies representative.

GRAPES

Reminders for March:

- ✓ As sugar levels rise in berries bunches become increasingly susceptible to **Botrytis** bunch rot. Maintain a tight fungicide cover through till harvest, applying appropriate products in anticipation of wet weather events.

- ✓ Regular **magnesium** sprays leading into veraison will aid the maintenance of good leaf condition as well as enhancing the ripening of berries. It's also an important consideration in optimising the carbohydrate loading of your vines in the post-harvest/pre-leaf fall period.
- ✓ If **bird damage** is a perennial problem on your block, netting is likely to be your best form of defence. When properly hung, nets work by acting as a physical barrier, excluding the birds' access to grapes. Care must be taken to seal nets at the bottom and ends as starlings, in particular, will readily exploit any gaps.

With the move towards a nil residue approach to **Botrytis** control in New Zealand viticulture, biofungicides have found a natural fit in conventional production systems at the end of the season. Unlike a lot of their synthetic counterparts they have a relatively short persistence on vines post-application. Because of this they should be applied close to an infection event while still allowing time for the spray to properly dry. If the product is sprayed too early before rain starts, the active ingredient may be weathered by environmental conditions to an extent where efficacy is compromised. Conversely, applying biofungicides too close to the rain starting may mean the spray has not properly set on the plant and active ingredient is lost to wash off before it can do its job. When in doubt, check the weather forecasts carefully and the product label for the recommended drying time.




Botrytis bunch rot

Du-Wett Rainmaster is a useful mixing partner for many biofungicides. This super-spreader/sticker from Etec Crop Solutions combines an organosilicone spreader with a latex compound. These are important attributes as the organosilicone aids in the spreading of biofungicides on hard-to-wet berry surfaces, increasing deposition, while the latex helps make the active ingredient rainfast on berries throughout the wet weather. These combine to help improve efficacy of many biofungicides, but care should be taken to ensure that the biofungicide of choice is compatible with this type of surfactant. Talk to your local Fruitfed supplies staff about best practice for late season *Botrytis* control.

KIWIFRUIT

Reminders for March:

- ✓ **Sooty mould** caused by passionfruit vine hopper (PVH) and/or cicadas continues to be a major issue in many blocks. For those blocks that have PVH infestations, pyrethrum is currently the best control option. For best efficacy, use high water rates and apply in the evening where possible. Note that pyrethrum is very short-lived on the plant, so re-application may be necessary. An attempt should be made to either spray (or preferably remove) host plants on orchard boundaries as these will be a continuous source of pest pressure. Removal of the sooty mould itself is extremely difficult, particularly as this staining is often on the stem end of the fruit and therefore not easily accessed by spray applications. 
- ✓ Late season control of **scale** in Hayward is now limited to mineral oil (D-C-Tron Plus). Scale sprays at this stage of the season must be in response to monitoring, and label directions on application must be followed particularly closely. Please contact your Fruitfed Supplies representative or local branch for further details on control of scale through the summer period.



Live scale on kiwifruit leaf

- ✓ Monitor for **leafroller** and, if thresholds are exceeded, apply an insecticide such as Proclaim (42 day PHI) or Delfin WG (3 day PHI). Either of these leafroller sprays may only be applied more than five weeks (Hayward) or seven weeks (Gold) after fruit-set if monitoring shows leafroller thresholds are exceeded.
- ✓ If **leaf samples** have not been taken during February they should be carried out in March to determine current plant nutrient status. The information gathered reflects the effectiveness of the nutrition programme adopted on each block and also helps plan the coming season's requirements.
- ✓ If harvesting in late March or early April, assess crops to determine whether **stain removal** is required. Very little staining needs to be present to economically justify the use of stain-removal products such as Kiwilustre. Additionally, the technology of Du-Wett Stainless offers increased product deposition at lower water rates. For further information on **fruit staining** causes and remedies, contact your local Fruitfed Supplies field representative.

This season's outbreak of *Pseudomonas syringae* pv. *actinidiae* (Psa) continues to cause significant concern in the kiwifruit industry. So far the Fruitfed Supplies Technical team have conducted four replicated field trials looking at control options, with a number of trials still to commence. Much of the information gained from the completed trials has already been disseminated to growers, such as the safest way to use copper products and biofungicides. With the recent appointment of Tayah Johnston as Technical research assistant in Bay of Plenty, the team is ideally placed to focus on Psa control options. While gaps in the global knowledge of how to manage this pathogen still exist, we are actively working on gathering the necessary information to close these gaps.

PIPFRUIT



Reminders for March:

- ✓ If warm temperatures and wet weather are anticipated, it is important to ensure that a protectant fungicide application for the **summer rot** complex is made prior to an infection period.
- ✓ Continue with regular **calcium** applications. Avoid spraying under hot, dry conditions or under slow drying conditions as fruit and foliar injury can occur. Add a wetting agent if applied alone. The formulation of a compound, concentration, pH, and drying time are some of the important factors in calcium spray uptake. In this pre-harvest phase when numerous calcium applications have already been made, select a safe, buffered calcium formulation, such as Stopit.
- ✓ Continue to monitor traps for **leafroller** and, if thresholds are exceeded, apply an appropriate targeted insecticide, such as Proclaim. Choice of product depends on apple variety, pre-harvest interval and market destination. NB: An appropriate surfactant is essential for achieving best efficacy with Proclaim.

Pepper spot is a late-season (or post-harvest) expression of the black spot symptom on fruit (see photo) that results from a conidial infection occurring late in the growing season. As fruit are ripening they become increasingly susceptible to black spot. This may express on the tree before harvest, or more commonly on fruit in storage



Late season pepper spot infection on apples

after harvest. If rain is forecast, ensure a fungicide cover is applied to protect fruit for the period leading into and through harvest.

Research conducted by the Technical team has demonstrated the efficacy of Captan as an option for black spot control close to the harvest window. In late season black spot trials Captan is consistently the best performer. Fruitfed research has also demonstrated useful activity from wettable sulphur formulations which are routinely used on organic production blocks. However Captan offers better summer rot control efficacy, so in conventional blocks it should be used in preference to sulphur, especially when high rainfall conditions are forecast. Talk to the staff at your local Fruitfed Supplies branch about best practice guidelines for late season black spot control.

SUMMERFRUIT



Reminders for March:

- ✓ Most of the summerfruit harvest is now complete, but significant amounts of later varieties, like Golden Queen peaches, are still on trees. For these varieties, **brown rot** infection still presents a significant risk. Infections occur in ripening fruit when weather is wet in the 3-4 weeks prior to harvest. If wet weather occurs during this period, spores are produced abundantly on twig cankers and may infect ripening fruit. Apply a suitable fungicide, such as Folicur or Rovral, prior to any anticipated wet weather.
- ✓ If a **leaf sample** has not been taken during February it should be carried out in March in order to determine the nutrient status of trees in your block(s). This information will aid in making prudent fertiliser decisions over the coming months.
- ✓ Monitor blocks for trees expressing **silver leaf** symptoms and mark affected trees for treatment. The first two important steps in the management of this disease are (1) to prune out and burn infected wood and (2) to protect pruning cuts with a suitable wound dressing.

Bacterial blast is caused by the bacterial pathogen *Pseudomonas syringae* and affects all stonefruit varieties, particularly apricots and cherries. Blast causes limb and sometimes tree death via cankers and girdling of the tree's framework. Production losses may also be incurred from extensive spotting on fruit.

During leaf fall, rain may wash inoculum from cankers, fruit and leaf spots into leaf scars where they multiply quickly. Bacteria then spread through the phloem and cambium killing internal plant tissues.

If bacterial blast has been evident in your blocks, it's important to treat trees with copper over the leaf fall period to protect leaf scars from developing new infections and thereby facilitating the spread of the disease. Copper should be sprayed before rain events with a high volume water rate to ensure good coverage is achieved. If rain is heavy enough to strip the copper off the trees, re-treat before further rain and ensure a cover is maintained through the leaf fall window. During the winter months, prune out and destroy all blast-infected wood.

Talk to the staff at your local Fruitfed Supplies store regarding the best means of controlling bacterial blast in your orchard.



Bacterial blast canker on apricot tree

Organic options available at all Fruitfed stores

Increasing numbers of commercial growers are exploring the potential benefits of converting to organic crop production. Fruitfed Supplies staff around the country can help with products, services and advice.

An existing or potential organic grower may not first think of Fruitfed Supplies as a source of certified organic crop protection and nutrition products. However there are numerous organic products in-store, backed up by expert advice from Fruitfed's field representatives, says Peter Mortimer, the company's southern region manager.

"Several members of staff have extensive knowledge of the organic sector, particularly in pipfruit and grapes," says Peter. "We also have staff working with organic cherry growers in Central Otago where more than one other stonefruit grower is in the process of going organic."

In Blenheim, field representative Antony Bell says there are a number of factors behind the growth in organic grape growing. "While the actual volume of organic grapes being grown isn't large in relation to the whole sector, there is increasing interest. People like the idea of spraying with softer chemistry and being organic could offer some advantages for contract growers looking to stand out from the crowd."

Antony adds: "Conventional growers are looking at new, softer chemistry which often means organically-certified products like Kumulus sulphur, which has a very good reputation for quality. Another organic product, Serenade Max, is backed by extensive trial work and used by conventional and organic growers alike."

"To grow organic grapes successfully, there must be a greater awareness of vineyard and canopy management, with tasks like leaf plucking to ensure good air movement known to be very important. My observations are that organic growing is more labour intensive, but the benefits are definitely there for some growers."

In Hawke's Bay, field representative Andrew McNeill services a mix of grape growers from totally organic to those converting to organics, and those who grow totally conventionally.

"The interest in organics is very apparent with major labels like Villa Maria having already established certified organic blocks with more in conversion,



as have Pernod Ricard, Mission Estate and Elephant Hill. Another client, Two Gates is completely organic. There are some concerns with the cost benefits, but mechanical weeding has helped reduce some of these costs," says Andrew. "Mechanical weeding also has the benefit of disrupting ant and mealybug activity which may reduce spreading of virus complexes. Along with leaf removal as Antony mentioned, these two practices are particularly important for organic growers."

The biggest aspect of Andrew's service is the advice he can

provide organic growers, which complements the range of organic products available from Fruitfed Supplies Hastings, which is a Bio-Gro approved supplier.

"We have numerous products available such as biofungicide and beneficial organism products which can help keep crops healthy and reduce disease pressure. JMS Stylet Oil is organically-registered and very good at controlling early season powdery mildew, blister mite, mealybug and Botrytis. It is also kinder to the leaves than sulphur and easier to work with having no dust or smell."

Andrew also notes that, at present, only some overseas markets are prepared to pay more for wines made from organic grapes. "If wine companies can grow or hold their profit margin with organic wine sales, we'll see more making the change. It's definitely something many companies are looking at."

Also in Hawke's Bay, Fruitfed Supplies representatives Hamish Stevenson and Vic Barlow work with numerous organic pipfruit growers and Hawke's Bay sales manager Phil Carter notes that at least one major vegetable grower in the district is looking at converting to organic growing methods in the next few years.

Phil says: "At present, there are a limited number of effective organically-registered products, also limited trial work. Within Fruitfed, our Technical team has included a growing number of organic crop protection products in our independent trials so we look forward to further trial results becoming available in coming seasons." ➡

Fruitfed Supplies

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