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THIS MONTH IN FACTS

We talk with mid-Canterbury Arable Farmers and Contractors, about their expansion into potato cropping and the value of beneficial insects. The Fruitfed Supplies Technical team provide their seasonal updates for New Zealand's major horticultural crops and we congratulate the first group of regional winners in the 2022 Young Viticulturist of the Year competition.

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ON THE COVER:

Arable Farmer and Contractor turned Potato Grower Tim May (left) with Fruitfed Supplies Technical Horticultural Representative Craig Watson (right) on the May Brothers' mid-Canterbury farm.

NOTE ABOUT COVID-19

Some images featured in this issue were taken at Covid-19 Alert Level 1 or 2, or under the Covid-19 Protection Framework.

Please note Fruitfed Supplies is following government guidelines for operation during Covid-19. For more information on our current protocols, visit www.pggwrightson.co.nz/our-company/covid-19-support

*Collaborating,
innovating and
supporting growers
in New Zealand*

Fruitfed Supplies

REGIONAL WINNERS FOR 2022 YOUNG VITICULTURIST

The regional competitions of the 2022 Corteva Young Viticulturist of the Year are in progress around the country.

In each region, contestants are tested on a range of viticultural skills including pruning, budgeting, and biosecurity. They tackle a fun and challenging hortisports section and enjoy a BBQ lunch provided by the local Fruitfed Supplies team, before attending an awards dinner where each contestant gives a speech.

First up was the Auckland/Northern event on 9 June held at Goldie Estate on Waiheke Island with five contestants from West Auckland, Waiheke and Matakana. Tai Nelson, age 23 and Vineyard Manager at Soljan's Estate, won the regional title. Dominic Bolton, from Kumeu River Estate, came second and Nicole Reynolds, from Waiheke's Te Motu Estate, placed third.

Event organiser Nicky Grandorge, New Zealand Winegrowers' Leadership & Communities Manager, also paid credit to the other contestants, Leon Henson and Josh Kingston, saying everyone tackled the day's challenges with great positivity and enjoyed the opportunity to learn and connect with others. The contestants' speeches covered topics such as how climate change, tourism and soaring costs were affecting the Northern wine growing regions.

The Hawke's Bay event took place at Paritua vineyards in the Bridge Pa Triangle on 16 June. Laura Marston, from Craggy Range, took out the regional title, ahead of Douw Grobler, from Trinity Hill, in second place and Robbie Golding, from Crab Farm, who came third.

The other contestants were Daniel Brewster from AONZ, Jamie Scoon from Te Mata, Joseph Stenberg from Woodthorpe Terraces, and Jessica Sunderland-Wells and Sarah St George, both from Villa Maria. The judges commented on the professional and positive attitude of all contestants and that there are many passionate and talented young people in the Hawke's Bay wine industry.

The evening's dinner at Mission Estate included a celebration with the 2021 national finalists after their formal dinner was cancelled earlier in the year due to Covid restrictions.

The Wairarapa event was held at the end of June at Luna Estate in Martinborough with Escarpment Wines Viticulturist Katie Cameron taking the regional title ahead of Hannah Pause of Foley Family Wines. The other contestants, Rob Jasionowicz and Hilary Forster, both from Escarpment, also excelled during the competition winning some of the challenging sections.

Nicky says everyone enjoyed seeing how the four young viticulturists cheered each other on throughout the day while



Top three in Hawke's Bay (L-R) Robbie Golding, Laura Marston and Douw Grobler.



Wairarapa's four competitors (L-R) Hannah Pause, Hilary Forster, Rob Jasionowicz and Katie Cameron.

being strongly competitive. "They were smiling from start to finish, and this positive, professional attitude is one of the highlights of the Young Vit programme."

Tai, Laura and Katie represent their regions at this year's National Final being held in Marlborough on 30 August. Laura is the first woman to represent Hawke's Bay in the national final since Emma Taylor in 2007, who took out the national title that year. They will be joined by other contestants from Marlborough and Central Otago whose regional finals are being held over the coming weeks.

Fruitfed Supplies has been a sponsor of this important industry event since it started 17 years ago.

Duncan Fletcher, Fruitfed Supplies National Manager, says the value of the competition to the viticultural and wine sector continues to grow.

"The Young Viticulturist helps us all stay focused on the fact that wine quality starts in the vineyard," Duncan says. "As we recognise and support the young people in this sector, we help strengthen the New Zealand wine industry as a whole."

"It's wonderful to follow previous Young Viticulturist competition entrants as their careers develop and progress, and I'd like to congratulate every entrant who has prepared and competed in this year's competition. On behalf of the Fruitfed Supplies team, all the best for your future endeavours in viticulture."



Mid-Canterbury Farmer and Contractor Tim May (left) talks with Fruitfed Supplies Technical Horticultural Representative Craig Watson (right) about the upcoming potato season.

OPPORTUNITIES WITH POTATOES

With a well-established arable cropping and contracting business in mid-Canterbury, brothers and business partners Tim and Phil May have now added potato growing to their enterprise.

Over the past 17 years, May Brothers Contracting has continued to expand, offering a range of services like cultivation, planting, harvesting, baling, transport and supplementary feed sales. May Brothers' staff and machinery head to customers' farms across mid-Canterbury, primarily around Ashburton, Rakaia and Methven.

Two years ago, when an opportunity came up to get into growing potatoes, Tim says "It was an opportunity to grow potatoes on a reasonably large scale which fit alongside our existing operations pretty well."

Tim says both he and Phil have always had a passion and interest in farming. When Tim left school at 15, he worked on a potato farm and has maintained an interest in the crop ever since.

"We have a substantial number of tractors and trucks for transport purposes already and now invested in the required machinery for potatoes. Overall, we felt potatoes were a good fit with our existing business from that perspective. In fact,

the potato work has enabled us to invest in more machinery for the existing arable farming and contracting businesses.

"The workload fits in well too. Basically, potatoes extend our season with planting in September and October and harvesting potatoes to go into storage taking place late autumn and early winter. This utilises staff earlier and later than the main summer jobs of grain and silage, especially harvesting during March, April and May which requires a lot of people. It's working well to help us retain more fulltime staff and it also means more machinery is being utilised for a greater part of the year."

While Tim and Phil haven't had the luxury of overseas staff arriving for seasonal work over the past couple of years, they generally aim to have overseas workers arrive in September if possible. "It's good to have the earlier workload available to utilise those staff doing cultivation and planting for the potatoes, then we know we've got the staff secured and ready to start silage a month or two down the track."

Their third season with potatoes gets underway this September with planting of their once-a-year, main crop potatoes and Tim's looking forward to getting another season's worth of experience.

"Every new crop comes with challenges, but it's a good challenge to have new things to learn. I personally really enjoy the agronomy side of things and have been taking a lot of it onboard. There are some similarities with other arable crops but different diseases and pests."

Tim is aware of how important quality is for the end user, which is factored into the equation of managing costs and achieving a good yield.

"You don't want to be applying crop protection products if they're not needed and that's where Craig comes in."

Tim's referring to Craig Watson, their Fruitfed Supplies Technical Horticultural Representative, who walks their potato crops weekly to provide regular feedback.

"There's a lot of forward planning from planting onwards," Tim explains. "It's all go every day if the weather's right and we don't want any holdups so Craig's got the products organised. He helps with crop nutrition and pre-planting planning too, looking at the varieties and the conditions they prefer versus the paddock histories.

"We've got a busy workload as it is and there are times when we can't get to a particular paddock to check so Craig will be in there looking for me. Soil moisture is



The addition of the potato cropping operation has helped May Brothers invest in more equipment.



a big one and he'll give me feedback so we can get the irrigation on when needed."

Craig monitors for pest and beneficial insects as part of an integrated pest management programme, looking at traps in the area through the growing season.

Tim says: "The beneficials do a massive job of helping control tomato-potato psyllid. It's important to use the right programme at the right time to target pests at whatever

growth stage they're in so as not to impact the beneficials."

While mid-Canterbury's cold winters knock psyllid numbers down, the pest returns to new crops as growing degree days rise each season. "We've got to be on the ball with our spraying programme and application methods to target psyllid effectively. It's an expensive pest which impacts processing so it's good to see plenty of research being done to help us tackle it."

Potatoes also fit in well for the May Brothers' in terms of crop rotation on their own farms among the ryegrass, maize, small seeds and cereal crops.

"We've built a client base in mid-Canterbury over the past 17 years growing other crops like maize, cereal silage and grass crops under contract. Potatoes are another good fit for some clients and we like having that option to offer them now as well."

REMINDERS FOR AUGUST



PIPFRUIT

- During winter pruning, observe **European red mite** (ERM) egg numbers over-wintering on your trees. If ERM monitoring results exceed threshold, add Apollo® Miticide with your D-C-Tron® Plus Organic oil application at late dormant to suppress populations of **critical pests**. Ensure thorough coverage and agitate drums before use.
- Targeted application of **dormancy breakers** can advance and/or compress bud-break and subsequently flowering. Several options are available so talk to your Fruited Supplies Representative for advice on product choice and timing.
- Make **base fertiliser applications** this month if not already done. If soil test results indicate pH was too low, apply lime.
- Start your new season crop protection programme with a copper spray at late dormant to help control **European canker, fireblight and black spot**. Do not apply copper after late dormancy to minimise the risk of russet, especially on russet-sensitive varieties.
- Next come **black spot control** applications timed with the first sign of green tip for each variety to protect susceptible new-emerging leaves. Then spray preventatively in anticipation of rain every five to seven days. Syllit® Plus is a good option for green tip due to its translaminar movement in the leaf and cool spring conditions do not impact efficacy.



Green tip in apples.



SUMMERFRUIT

- When using copper to control **bacteria canker**, use full product rates and apply from late dormant to early bud swell.
- Control **green peach aphid** with oil suitable for late bud movement, plus an insecticide timed for egg hatch.
- **Brown rot and Botrytis** protection begins at the onset of bud-break. Emerging flower parts are susceptible to infection. Consider rotation of fungicides and reserve the big hitters for mid-late flowering.
- **Peach leaf curl**, caused by the fungus *Taphrina deformans*, can seriously compromise tree health. Infection can occur very soon after bud-burst, so it's critical to focus on preventative strategies to achieve good control. Like many foliar pathogens, leaf curl is triggered by cool rain so ensure fungicide covers are applied in anticipation of such weather. The protectant fungicide Mizar Granuflo® has good activity against peach leaf curl and is a good choice for the bud swell timing (Note: Mizar Granuflo is not compatible with copper).



Leaf curl on a peach.



KIWIFRUIT

- For **bud-break** this season Zespri are encouraging growers to test alternatives to hydrogen cyanamide and compare the results to an untreated area. The long-term use of hydrogen cyanamide is under review by the Environmental Protection Agency. Alternatives include Erger® or Advance Gold®. Timing of application is important so calculate the accumulation of winter chill hours to determine best time to apply bud-break enhancers. Find these tools at https://kvh.metwatch.nz/index.php?pageID=wxn_calc_chill and <https://canopy.zespri.com/EN/industry/pubs/kiwitech/Documents/N81.pdf>.
- Winter is a good time to prune shelter belts when there's less risk of disturbing over-wintering populations of pests like **greenhouse thrips** and dispersing them into the orchard.
- Remain aware of **Psa risk** through winter, especially on blocks in colder climates. Monitor the orchard for visible symptoms like cankers and prune out infected material. Apply copper products, such as Kocide® Opti™, to protect

vines. Protect from frost if the block is frost prone with frost fans or irrigation.

- The use of mineral oil to **control scale over winter** is not recommended, as a one year, one block trial¹ has shown that use between July and September significantly reduces bud-break and flowering, and increases phytotoxicity on Hayward. Even though no negative effect was observed in Gold3, the trial results should still be treated with caution. There is no data on the impact on Red19.

¹ Feb 2022, Zespri report CP22060 by Lynda Hawes, Winter oil and hydrogen cyanamide phytotoxicity

AVOCADOS

- Monitor for **six-spotted mites** as populations can build over winter and cause defoliation. During August Mit é Mec® or Avid® with D-C-Tron® Plus Organic are good control options. Alternatively, use D-C-Tron Plus Organic alone with no pre-harvest interval.
- If **greenhouse thrips** remain a problem through winter, especially in warmer sites, control options are now limited to Sparta™, Uphold™, Sevin Flo® or D-C-Tron Plus Organic. Previous options, Calypso® and Fyfanon®, have been given a pre-harvest interval of 180 days by New Zealand Avocado, meaning they cannot be used until after harvest.
- If root growth is underway and new foliar growth has hardened off, **Phytophthora** control options Agri-Fos® 600 or Foschek® can be utilised.
- **Fruit rots** can be managed year-round with monthly applications of copper, such as Kocide® Opti™.
- Apply **foliar boron** in late August or early September to ensure trees have enough of this nutrient to support proper pollen tube elongation after pollination and the subsequent fruit-set. Bortrac™ is a good option.
- Undertake **leaf testing** and apply nutrients as required, such as nitrogen with foliar applications of Yara™ Safe-N.



Greenhouse thrips on avocados.

CITRUS

- **Biennial bearing** can be a problem with some varieties such as Valencia and Navel oranges. This phenomenon is due, in part, to nutrients accumulated during the vegetative phase of trees in an 'off' year supporting reproductive growth during the following 'on' year. Reduce this pattern by applying nitrogen fertilisers, such as low biuret urea, to 'on' year trees to provide optimum nitrogen levels to encourage flower production.
- Monitor for **mites** during harvest and, if threshold is reached, control with D-C-Tron Plus Organic.
- Continue control of **fruit rots**, such as brown rot, during winter with products like Tri-Base Blue® or Dithane® Rainshield™ Neo Tec if pre-harvest, or Captan® 600 Flo if post-harvest, bearing in mind appropriate pre-harvest intervals if close to harvest.
- **Scab and melanose** can be controlled with Tri-Base Blue or Pristine®.
- August is a good time to foliar apply key nutrients to support upcoming spring flush. Nitrogen, magnesium, manganese and zinc are some important nutrients with foliar options including UAN400, Magflo300, Mantrac Pro, Zintrac, and Gramitrel.



Brown rot on a lemon.

WINE GRAPES

- Now is a good time to start planning your **early season fungicide spray programme**. If powdery mildew was a problem last season, then plan to start the season with two to three applications of organic JMS Stylet-Oil®. The first application should start from bud-burst onwards to target over-wintering powdery mildew spores, which are seen later as 'flag shoots', to prevent severe infections later in the season.
- Many parts of the country experienced a wet spring in 2021, which gave rise to diseases such as downy mildew and **Phomopsis**. Inoculum levels are expected to be much higher than in previous seasons. Start protection early with products registered for downy mildew, Phomopsis and black spot (Anthracnose). See your Fruited Supplies Technical Horticultural Representative for exact product details and consult your winery spray diary for any product restrictions.
- **Mulching of prunings** in vineyard inter-rows helps reduce inoculum levels of all fungal species. If possible, include a sweep and mulch, and mulch twice in opposite directions.
- **Service and re-calibrate your canopy and weed sprayers** for the season ahead. Poor spray coverage later in the season

can often be attributed to poor sprayer maintenance and lack of calibration.



Downy mildew secondary infection.

ACVM Registration Numbers: Agri-Fos® #P007811, Avid® #P004648, Calypso® #P005664, Captan® 600 Flo #P007654, D-C-Tron® Plus Organic #P008124, Dithane® Rainshield™ Neo Tec Fungicide #P004053, Foschek® #P004555 Fyfanon® #P008240, Kocide® Opti™ #P007726, Mit é Mec® #P005994, Organic JMS Stylet-Oil #P007067, Pristine® #P007595, Sevin® Flo #P004042, Sparta® #P008266, Tri-base Blue® #P008732, Uphold® #P009233. Read the registered label before use.

Tech-Know Tips
are supplied by:



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Stemphylium leaf blight on an onion.

EARLY SEASON DISEASES

In August some early disease pressure may occur if weather conditions are conducive so check crops on a regular basis to catch any issues before they get established.

In early onion crops it is not uncommon to see the first signs of downy mildew (*Peronospora destructor*) and Stemphylium leaf blight (*Stemphylium vesicarium*). Downy mildew causes pale yellow or light green oval-shaped lesions on leaves. Under humid conditions they appear as masses of grey fungal spores. Lesions quickly turn brown and leaves collapse. Periods of dew with temperatures between 7 to 16°C promote germination of spores, increasing infection. Stemphylium requires an entry point to infect onions, and downy mildew infection can provide this entry point. Other causes of infection entry points include herbicide or hail damage.

Ringspot (*Mycosphaerella brassicicola*) is seen in brassicas through winter and early spring, usually on older leaves. Cabbages, in particular, need to be protected as ringspot can infect the whole cabbage head and reduce marketable yield. While ringspot cannot infect the heads of broccoli and cauliflower, heavy infections can still reduce growth and delay harvest.

August is a critical time for sclerotinia (*Sclerotinia sclerotium*) in several crops such as brassicas, lettuce, potatoes and carrots. It's typically seen as white fluffy fungal growth, especially where plant material contacts soil. If it develops, then hard and black sclerotia can be found on the white fungal growth. These sclerotia enable the disease to survive for long periods of time in the soil.

Management of these diseases varies according to crop and the stage of disease or crop cycle. Prevention is easier than trying to control an outbreak, so monitor crops regularly and respond quickly if required.

For more information on early disease control in vegetable crops, please contact your local Fruitfed Supplies Technical Horticultural Representative.

ARTICLE WRITTEN BY DANIEL SUTTON, TECHNICAL SPECIALIST – VEGETABLES



The foreground shows the weedy untreated portion of the site compared to the various herbicide treatments behind.

PRODUCT SHOWCASE IN PUKEKOHE

Syngenta Crop Protection showcased their products for potato growers for the second time over the 2021-22 season.

Raeleen Watherston, Syngenta Customer Marketing Lead, explains: "The aim of the Pukekohe Potato Partners Innovation site is to showcase our products in a programme designed to put them under pressure, so visible differences can be seen between products that you wouldn't see if you were growing a potato crop in a commercial situation."

Two trials being run in one location was convenient for growers and local Fruitfed Supplies personnel to visit and see for themselves how the products were working in the field.

Raeleen says last season they showed Boxer Gold® herbicide alone and with various mixing partners. "There was a good level of weed pressure in the untreated part of the site and when compared to the treated areas, indicated the level of control achieved. We could also observe the performance of the herbicide combinations on bare earth and with a crop, where weed control was further enhanced by crop shading."

The second trial looked at a new potato tuber treatment being developed for seedborne diseases. Amistar® fungicide was also applied as an in-furrow treatment which, when compared to the untreated area, showed how it protected the crop against Rhizoctonia and silver scurf through crop emergence to improve overall marketable yield at harvest.

Daniel Sutton, Fruitfed Supplies Technical Specialist – Vegetables, values Syngenta taking the initiative to demonstrate how their products perform in the field under testing conditions. "It's a great way to show our growers how to get the best from any recently launched Syngenta products for the potato sector."

Raeleen says they intend to repeat the innovation site trials this coming season alongside Syngenta's Potato Partners programme, which supports the precise use of Syngenta crop solutions in potatoes.

Your local Fruitfed Supplies Technical Horticultural Representative can assist with more information on Syngenta products.

ACVM registration number: Amistar® #P004840, Boxer Gold® #P009706. Read the registered label before use.

ARTICLE SUPPLIED BY SYNGENTA



TICK THE COPPER BOXES

Tri-Base Blue® is the only liquid product of its kind available to New Zealand growers with its handling characteristics just as important as its ability to control fungal and bacterial disease. As a suspension concentrate, Tri-Base Blue is easy to pour, mix into solution and apply. This formulation means it's dust-free which is good for your team and your health and safety planning.

Available exclusively from Fruitfed Supplies, Tri-Base Blue is registered for control of many diseases on fruit, vegetables, and ornamentals.

At this time of the season, it's most topical as a late dormant application in pipfruit to add control of diseases such as fireblight; and leaf curl, shot hole, bladder plum and bacterial blast in stonefruit.

Tri-Base Blue is registered to help control anthracnose in avocados, melanose and brown rot in citrus, downy mildew in wine grapes, leaf spot and Psa in kiwifruit, downy mildew in lettuce, downy mildew and bacterial blight in onions, downy mildew, Ascochyta blight and bacterial blight in peas, and early blight and late blight in potatoes.

The active ingredient in Tri-Base Blue is tri-basic copper sulphate, and unlike copper oxychlorides and copper oxides, it has a unique copper ion release pattern. Upon application and in the presence of moisture, approximately 75 percent of the copper ions are released immediately. The remaining 25 percent of copper ions require exposure to atmospheric carbon dioxide and moisture to be released. These ions form a protective barrier that helps to prevent disease from taking hold, killing

fungal and bacterial pathogens before they can penetrate the plant tissue.

This two-step release process means Tri-Base Blue delivers a quick knockdown followed by a slower, more uniform release, providing extended protection.

Contact your Fruitfed Supplies Technical Horticultural Representative about Tri-Base Blue's role in your crop protection programme.

ACVM registration number: Tri-Base Blue® #P008732. Read the registered label before use.

ARTICLE SUPPLIED BY NUFARM



Help prevent leaf curl with your winter applications of Tri-Base Blue fungicide.

FOCUSED ON THE FUTURE

As growers face increasing challenges to grow profitable crops that meet consumers' environmental concerns, many of them are utilising biological products to support crops and improve yield.

Valagro was established 40 years ago with the goal to create innovative products that can provide sustainable solutions to produce more with fewer inputs, by using a softer approach.

Shakil Saiyed, Valagro's Market Development Manager for Oceania and the Far East Countries, says Valagro's products go through a rigorous process of development, supported by cutting-edge technologies like genomics, phenomics and metabolomics, ensuring the highest quality parameters.

Shakil says: "Only the purest seaweed, Ascophyllum nodosum from Norway, vegetal extract molecules and natural active ingredients are used as raw materials to create products that stimulate plant physiology and positively influence the

plant's metabolism at the genetic level to improve crop productivity and quality."

Valagro products can mitigate abiotic or physical stress (Megafol), improve photosynthesis (MC Cream), help the plant to produce higher Brix and shelf life (Sweet), stimulate the plants' nutrient uptake capacity (Activave), improve crop water productivity (Talete), enhance root biomass (Radifarm), reduce root biotic and abiotic stress and help the plant to thrive in hostile growing conditions (Kendal Root). They can also naturally improve plant immunity to biotic stress (Kendal) and increase fruit size (Benefit Kiwi and PZ).

Valagro's merger with Syngenta in 2020 increased its capacity for further development of the biological range that growers can use to complement traditional inputs. Valagro's already-extensive focus on research and development capabilities has increased even more, enabling the development of new products aimed at ecosystem conservation, increasing sustainable production and efficient management of resources.

Your local Fruitfed Supplies Technical Horticultural Representative can assist with more information about the Valagro biostimulant and specialty nutrient range.

ARTICLE SUPPLIED BY AGRITRADE





MAGNESIUM: AN IMPORTANT SECONDARY NUTRIENT

Magnesium (Mg) is often referred to as a secondary plant nutrient, simply because less Mg is required than nitrogen (N), potassium (K) or phosphorus (P). In fact, Mg is required in relatively large quantities and, in many crops, the requirements for P and Mg are similar.

Magnesium is an important constituent of chlorophyll, which is essential for green leaf colour. It is involved in producing several enzymes necessary for normal plant growth, and plays an active part in moving other nutrients, especially P, within the plant, and is associated with the movement of water within plant cells.

As David Spencer, Agronomy Manager for Yara Fertilizers, explains “Magnesium is absolutely key in ensuring optimal

photosynthesis. A shortage can result in smaller leaves that are lighter in colour, as well as poor flowering, reduced fruit size, and potential fruit drop.

“My observations over the years are that it is critical to provide optimal Mg supply throughout the early vegetative growth stage for subsequent yields and quality.”

Soil testing is important to monitor the Mg level in the soil and provide guidance for solid fertiliser inputs such as Calmag, Kieserite or dolomite; however, often Mg supply to the plant can be limited by factors such as a cold, wet period, lighter soils, K rich soils, or from soils receiving high K applications.

Nutrient mixes such as Krista MgS (Mg Sulphate) or Krista MAG (Mg Nitrate) are increasingly being added to fertigation

programmes. Also foliar applications of the YaraVita™ range can be very beneficial in over-coming deficiencies at essential growth stages throughout the season. Magflo 300 (30 percent Mg) at the right time can be specifically targeted to the leaf or fruit, according to the immediate crop need and helps avoid soil-related nutrient availability issues.

Other Yara foliar options are Ezy Mg Plus, GramitreI, BrassitreI and Bud Builder Flo which is used both pre-flowering and post-harvest in fruit crops. Your local Fruitfed Supplies Technical Horticultural Representative can provide guidance as to the best option.

ARTICLE SUPPLIED BY YARA

IMPROVED BIOLOGY FOR ORCHARD ESTABLISHMENT

A BioStart trial¹ shows that enhancing soil biology from the time of planting results in faster orchard establishment, sturdier trees, and higher yields earlier.

The trial started in August 2018 when Royal Gala and Pacific Star trees were planted in a commercial Hawke's Bay orchard. Planting density was 3 m x 1.2 m in a Longlands silt loam. Trees were trained using the standard central leader method and received the same standard fertiliser and agrichemical programme each season.

Mycorrhcin, BioStart's soil biostimulant, was applied three times each year: in spring at green tip, in summer at fruit-set and when fruit changed colour. Digester, a biostimulant that speeds up decomposition of litter, was applied at leaf-fall in autumn.

By year four, BioStart-treated trees had an increased trunk cross-sectional area, up 44 percent from 15.5 cm² to 22.3 cm². They

were 24 percent taller, up from an average 2.9 m in untreated trees to 3.6 m in treated trees. They also had more branches, with the average up by 25 percent from 9.6 to 12 branches per tree. Importantly, all treated trees had two or more branches at a height of 0.7 m to 1.1 m up the trunk.

In January 2022 the two dominant branches of each tree were assessed for branch length and fruit numbers. BioStart-treated trees had a 27 percent increase in branch length of the two dominant branches per tree, from 0.9 to 1.1 m per tree, and the fruit count was 25 percent greater. This means the BioStart-treated trees had a better architecture with more branches located in the right area of the trunk creating a high yielding tree shape.

This year the grower harvested 3 kg more apples per tree from BioStart-treated trees, meaning a 12 percent yield increase and correlating to 8 MT/ha.

For more information on BioStart products to support new orchard establishment, please talk with your local Fruitfed Supplies Technical Horticultural Representative.

¹2018-2022 BioStart orchard establishment trial, Hawke's Bay.

ARTICLE SUPPLIED BY BIOSTART



Andy Sandbrook, Orchard Manager, Vesty Orchards (left) and BioStart Hort Territory Manager Phi Carter (right) after the trial harvest this year.



POTATO HERBICIDE USE GROWS

Boxer Gold® herbicide has been available for the past two seasons and use by potato growers around the country is continuing to grow as they become more familiar with the product, according to Syngenta Customer Marketing Lead Raeleen Watherston.

Boxer Gold contains two active ingredients, designed for broad spectrum grass and broadleaf weed control, with control of nightshade of particular benefit to growers who contend with this weed.

Field experience shows best results are obtained when it's applied after planting but before crop emergence. If any weeds are present at the time of application and the crop has not emerged, it's recommended to tank-mix glyphosate or Preeglone® with Boxer Gold.

Using field observations from growers and work done at Syngenta's Potato Partners Innovation site, Raeleen makes the following recommendations for the coming season:

- » Apply Boxer Gold at 5 L/ha with a suitable mixing partner, such as Metribuzin, depending on which weeds are present to ensure robust and persistent weed control.
- » Make applications when at least 5 mm of irrigation or rainfall is forecast within the next seven days. This incorporates Boxer Gold into the soil. Rain or irrigation before the application of Boxer Gold is unreliable for weed control.
- » Deciding when to apply Boxer Gold should be made with moisture in mind, rather than waiting to apply just prior to the crop emerging.

More information on incorporating Boxer Gold in your pre-emergence weed control programme in potatoes is available from your local Fruitfed Supplies Technical Horticultural Representative.

ACVM registration number: Boxer Gold® #P009706, Preeglone® #P001061. Read the registered label before use.

ARTICLE SUPPLIED BY SYNGENTA

UPCOMING WINDOW FOR CHERRIES

Preparation is everything when it comes to optimising cherry fruit-set this season with a plant growth regulator at flowering. It's not always needed for all trees, nor in all locations. However, for certain varieties, like Staccato and Skeena, or when weather conditions are not ideal for pollination like last season, it can make a significant difference to yield.

As large-scale orchard developments continue to expand into non-traditional growing areas, particularly in Central Otago, being able to delay flower senescence for better pollination and fertilisation is a valuable crop management tool.

A simple and important step in your preparation is to order ReTain® early so you have it on hand for the short application window in spring, because accurate timing is essential.

Nufarm Technical Specialist Cynthia Christie explains: "Sometimes there is as little as 24 hours between 'just right' (30 percent flowering) and 'too late' (70 percent flowering), so if you don't have ReTain ready to go, it's easy to miss your opportunity. Growers who use it successfully say they also keep a very close eye on development of their crops, so they know when the window is approaching."

Efficacy is reduced from late applications, as most flowers are then past the stage where ReTain can make an impact.

ReTain is a naturally occurring plant growth regulator which reduces ethylene production in plant tissue. As soon as the cherry flower opens, the female part of the flower or ovule begins to senesce, and in some varieties, it is viable for a shorter time than others. ReTain effectively keeps the ovule alive for longer.

Delaying flower senescence also has significant benefits when variable weather over flowering affects bee activity. Bees are very sensitive to cold conditions and are not active if temperatures drop below 13°C.

For more information, contact your local Fruitfed Supplies Technical Horticultural Representative.

ACVM registration number: ReTain® Plant Growth Regulator #P004890. Read the registered label before use.

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GYPSUM – A TRUE MULTI-TASKER

Gypsum is a soft mineral composed of calcium (Ca) and sulphate. The calcium component encourages clay particles to group together.¹ The improvement in soil structure results in a range of different sized soil pores.

Larger pores allow water infiltration and drainage, while smaller ones provide water storage for plant roots to access. Varied soil pore sizes also allow aeration enabling roots and soil organisms to breathe. A more porous soil allows better root development and growth deeper into the soil profile to take up more water and nutrients, even during dry periods.

As a fertiliser, gypsum helps increase and maintain soil levels of calcium and sulphur in a plant-available form. New Zealand soils are typically low in sulphur. Gypsum is moderately-soluble, but much more soluble than lime, making it a good source of medium-term release calcium with reasonable mobility through the soil profile. A key advantage of gypsum, over lime, as a calcium fertiliser is that it has no effect on soil pH.

Elenka Nikoloff, at Winstone Gypsum, says: "Maintenance of calcium supply is essential for plant growth, as unlike some other nutrients, calcium does not move easily within the plant from, say,

older leaves to the growing tips where it is needed.

Calcium is especially important for horticultural crops. It is well known that fruit and vegetable crops containing a high calcium content are less likely to develop physiological and postharvest storage problems."

Talk with your Fruitfed Supplies Technical Horticultural Representative about Gypsum's role in improving soil texture, drainage and aeration in clay soils.

¹Soil Science Society of America, Bulletin 945

ARTICLE SUPPLIED BY WINSTONE



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For more than 100 years, Fruitfed Supplies have worked closely with growers, suppliers and industry bodies to support the success and sustainability of the horticultural sector.

Fruitfed Supplies continuously enhance their products and services to ensure growers can meet industry requirements and market demands.

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