

## Glasshouse renovation

### Huge range of products to suit

*The change-over from an old to a new crop, of whatever type and size, is a major job for growers who primarily grow under cover.*



Time-consuming and unproductive, there's no doubt it's a big job to remove old crops entirely, sanitise the glasshouse and replace and recondition the glasshouse's infrastructure, growing media and then replant. The crop changeover needs to happen as quickly as possible to minimise downtime between productive crops and many Fruitfed Supplies branches assist with sourcing the various specialty products to complete this renovation as efficiently as possible.

Over the past twelve months, Fruitfed Supplies staff, particularly in the greater Auckland region, have collated a comprehensive list of products commonly used in New Zealand glasshouses. "We're delighted that so many growers are now aware we sell a wide range of specialised glasshouse products, but we want to spread the word even further," says Jason Sail, Kumeu branch manager.

Tomatoes or capsicums, roses or cymbidium orchids, in-ground or hydroponic, Jason says all kinds of glasshouse growers will find products they use on a regular basis available from Fruitfed Supplies.

"With the bulk items, such as hydroponic growing media like Cultilène rock wool or Cocopeat, it's not always practicable to stock the complete range of the available sizes and grades in store," says Jason. "Therefore we are currently collating growers' requirements into bulk orders. Many of our larger growers have taken advantage of placing early orders for this season's shipments, and there may be some price advantages for smaller growers to place an order with us within the next few weeks. Basically, the sooner they talk to their rep about their requirements, the better."

Several items that Jason and Rene Cabamongan, Pukekohe branch manager, have sourced are intended to simplify and speed up many aspects of plant training.

"Growers of premium tomatoes will be familiar with truss arch clips," says Jason. "We commissioned the manufacture of a rounder-edged clip which causes less damage to the plants from sharp edges, is easier to apply and is not so hard on the fingers of those doing the application. These are certainly strong and very durable."

Stem clips are intended to be used with the hook-and-twine sets says Jason. "Again, it's about saving time when training tomato, eggplant, cucumber or capsicum plants into an easily managed, well-supported form. These reusable plastic clips simply clip the stem and string together. They can be undone and reattached in another position whenever needed, they can't be attached too tightly and they save the laborious process of twisting the string around the stem as the plant grows."

"We also have a range of top quality seeds for glasshouse crops, as well as a complete range of soluble fertilisers, acids, weed mat and flooring and irrigation system components which our in-house irrigation designers can help ensure are laid out for the most efficient and effective distribution of water and nutrients," says Jason who often collates the bulk orders for glasshouse products from Fruitfed Supplies branches around the country.



In this issue we look at:

- ✓ Reglone, the well-proven desiccant
- ✓ End of season botrytis control with Elliott Protector
- ✓ Better strawberry quality with fertigation

*Continued on page 2*

# PRODUCT UPDATES

Your local representative can assist with more information about the products carried by Fruitfed Supplies for glasshouse re-establishment, which include, but are not limited to:

## GROWING MEDIA

### CULTILÈNE

The **Cultilène** range of rock wool-based hydroponic substrates is extensive and well-proven as growing and propagation media for many vegetable and flower crops, and Fruitfed Supplies has the exclusive distribution rights for Cultilène in New Zealand.

Cultilène is well regarded due to:

- ✓ its high level of controllability with an effective air-to-water ratio;
- ✓ its reliable homogeneity to allow unhampered and regular root growth;
- ✓ its functional strength and dimensional stability as slabs or blocks;
- ✓ its high quality polythene sleeving with watertight, strong seals;
- ✓ the ability to provide slabs with factory-made holes.



### COCOPEAT

New to Fruitfed Supplies this year, the 100% natural **Cocopeat** from leading manufacturer Galuku is proving a popular addition to our product range. Suitable for hydroponically-grown flowers, vegetables and berries, Cocopeat comes in two types of slab, as well as bulk and bagged grades. A new addition to the range is the Easyfil planter bag, with the growing medium and bag as one product. It saves time, money and water, and offers excellent hygiene and the chance for multiple crop cycles.



## PLANT TRAINING

### TRUSS ARCH CLIPS

Slightly redesigned, these strong and durable plastic truss arch clip has rounded edges making them easier on fingers when applied to support the ripening tomato bunch from snapping away from the main plant.



### STEM CLIPS

Many tomato and capsicum growers twist their plants around the supporting twine (see below), which can be a labour-intensive process. Save time by using this sturdy plastic reusable clip to secure the plant to the twine. They are easy to unclip and adjust as plants grow.



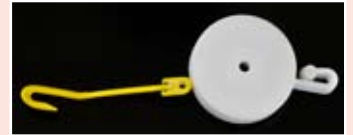
### HOOK & TWINE

Also known as tomato layering hooks, the pre-assembled hook and twine set comes in various sizes and specifications. Available with the option of a freefall mechanism, tomato layering hooks also come in red or green to allow lateral or secondary stems to be marked.



### CYMBI ROLLS

Also called a 'yoyo', this spring-loaded cymbidium orchid tying system is made from high quality German spring steel with UV-stabilised plastic parts. Tested and proven locally over the past five seasons, this version of the cymbi roll is an improved model with extra spring tension and a yellow hook for ease of identification.



## OTHER GREENHOUSE PRODUCTS – see in-store for full details

### INSECT CONTROL

The **Rollertrap** range of sticky insect traps are designed to attract and trap sciarids, shoreflies, aphids, whitefly and leafminers; will also trap thrips.



### STERILISATION PRODUCTS

Ensure no unwanted diseases are carried into your glasshouse on shoes or tyres by laying a suitably-shaped **sterilisation mat** in every doorway. Fill with a suitable **sterilising agent**, refilling regularly.



### FLOORING PRODUCTS

Mulch film, panda film and weed mat all come in various sizes and specifications. Remember, if sufficient quantity is ordered, it's possible to custom make the flooring product of your choice to a specified thickness and width.

### SYSTEM FLUSHING

Hydroponic/irrigation systems need cleaning on a regular basis to prevent the build-up of algae and fertiliser. Discuss with your Fruitfed Supplies representative; there are several different products for sterilisation and flushing, such as Bromax and Hortexine, depending what's appropriate to your end market.

### IRRIGATION SYSTEMS

With world-class components and top level irrigation system designers, Fruitfed Supplies can help create the most efficient and effective irrigation or hydroponic system for your crop.

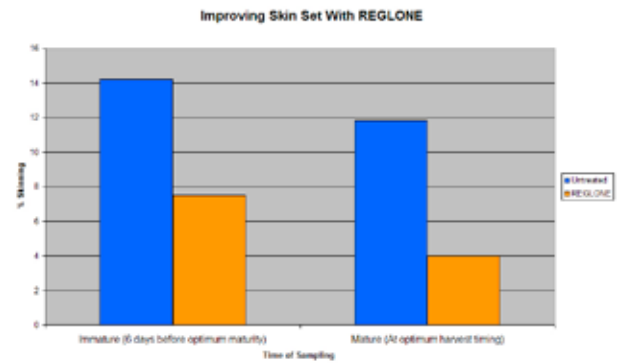
## Powerful, fast-acting and reliable desiccation

*Numerous trials have shown that REGLONE is simply the most effective and versatile chemical desiccant available and its popularity with growers has made it the market leading desiccant in New Zealand.*

REGLONE not only provides a reliable means of preparing a potato crop for harvest, but also contributes to good skin set, tuber uniformity and storage.

REGLONE works by stimulating the formation of an abscission layer in cells between the tuber and the stolon, terminating the flow of plant juices to the tuber. Then epidermal cells on the tuber surface begin to store pectin and form hardened cell walls. As this process continues, the tuber becomes more resistant to skinning and bruise damage, enabling it to be stored with virtually no weight loss. The graph shows the benefits of REGLONE in providing greater skin set, even when the crop is harvested prior to optimum maturity (Syngenta Canada, 2001).

With over 40 years of use throughout the world, REGLONE has a proven track record of success and has played a consistent and vital role in the management of potato harvests, helping growers to achieve their aim of optimising yield and quality. Talk to your Fruitfed Supplies representative for full details on how REGLONE can improve the skin set on your next potato crop.



### KEY BENEFITS

- ✓ Fast reliable desiccation
- ✓ Enables tuber size to be controlled
- ✓ Aids in tuber skin set
- ✓ Maintains crop quality during storage
- ✓ Enables planning and control of harvest timing
- ✓ Reduces late season transmission of diseases
- ✓ Rainfast in minutes, giving application flexibility

## Elliott Protector - a novel approach to botrytis control in grapes

*Botrytis is a devastating disease for grape crops and 'soft' fungicide control options are limited at mid-to-late season.*

Elliott Protector™, a 'soft' soap-based fungicide developed in New Zealand, can give equivalent disease control to standard spray programmes under light infection. Protector's mode of action is fungicidal as well as fungistatic and provides excellent control and prevention of botrytis in grapes.

With over seven years of trial work and over five years of commercial use in New Zealand, Protector has been shown to have no negative effects on wine fermentation or quality.

Protector is compatible with other fungicides and insecticides (see label) and also acts as a very good surfactant and wetter, aiding the performance of other crop protection products used with it.

Protector offers growers a very economical novel approach to late season botrytis management. It can effectively be used in either a full season spray programme or a reduced chemical, low residue sustainable programme, offering another option to help reduce the risk of disease resistance.

For further information on Elliott Protector, contact your local Fruitfed Supplies representative. ➡

Elliott Protector is a trademark of Elliott Technologies Limited, NZ. Serenade Max is a registered trademark of Agraquest, USA. Kocide is a registered trademark of Griffin USA.



### RECOMMENDATION

1-2 applications of Protector work well between two Serenade Max® applications late season, giving a soft but robust, cost effective end-of-season botrytis management programme, with no impact on residues in wines. Available in 20L and 200L drums, its short pre-harvest interval of 14 days means Protector can be used until close to harvest. Apply Protector at 1-2% depending on water volumes to achieve 10-20 litres of product/ha.



# TECH-KNOW TIPS

## ASPARAGUS



Take a root sample (about 8 weeks after close-up) to determine the **carbohydrate storage** levels and input this data in the Crop & Food Research model, *AspireNZ*, for help with disease management decisions as plants with low root reserves need more protection from *Stemphylium* to maintain fern health.

Take a **fern sample** this month for **nutrient analysis** to identify any deficiencies. Correct any deficiencies with foliar sprays.



## AVOCADOS



### Reminders for February:

- ✓ Monitor for **leafroller** and **greenhouse thrips** as these pests will move between fruit as they start to size and form bunches, causing significant damage. Control should preferably be carried out with soft compounds such as *Mimic 70W* or *Success Naturalyte* (leafroller) and *Calypso* (greenhouse thrips) to preserve beneficial insect populations.
- ✓ Remember to maintain a fungicide cover with copper products such as **Kocide 2000LF**. Although early applications should now be complete for Australian market requirements, avocado fruit rot pathogens may infect the developing fruitlet at any stage. A protectant cover should therefore be maintained, with industry best practice suggesting a minimum of eight copper applications per year.
- ✓ Fruitset is looking good throughout the regions this season so ensure adequate **nutrients** are available to promote summer flush and fruit growth. Your Fruitfed Supplies representative is fully trained in avocado nutrition; please contact them to discuss your individual orchard requirements.
- ✓ With current predicted El Nino weather conditions likely to result in a dry summer in eastern areas, monitor soil moisture and maintain **irrigation** during the summer months to ensure developing fruitlets have adequate water during cell division. Renewing **mulch** beneath the trees at this point will also help conserve moisture and promote healthy root growth. Will also help conserve moisture and promote healthy root growth.



Adult six spotted mite

**Six spotted mite** (SSM) has been a greater issue on a number of Bay of Plenty orchards this season, compared to the past several years. Monitor for SSM and control with Mit é mec + DC Tron Plus (or surfactant) as necessary. Research shows either a mineral oil or surfactant is necessary for best efficacy of avermectin products.

## BRASSICAS



If needed, insecticides from the second window of the **diamondback moth** (DBM) resistance management strategy should be used from February

onwards. There are good options in this window: *Bacillus thuringiensis* (Bt) products (*Xentari*® and *Agree*®), *Steward*®, *Ascend*® and the synthetic pyrethroids (SPs). Organophosphates, carbamates and endosulfan can also be used in the second window. Resistance to SPs is stable in DBM populations and remains a threat. Their use should be restricted and avoided if possible.



Adult diamondback moth

## CARROTS



Crops with carrots about the size of a pen should have a **nutrient leaf test** done to identify any deficiencies early and allow these to be corrected before yield is affected.

Monitor crops for **leaf spot diseases and beetle larvae**. *Cercospora* spores are released during dry weather and dispersed by the wind. Rain or a prolonged period of relative humidity greater than 90% is needed for the spores to germinate and infect new leaf tissue. *Alternaria* leaf spot is more common after the rows have closed, creating a moist microclimate, and is more prevalent on older leaves. Warm temperatures (28°C) are needed optimum for infection and growth. Spores may also wash down into the soil and infect carrot roots leading to unsightly lesions.

Larvae of grass grub beetles and manuka beetles can do considerable damage to carrots and populations should be monitored by digging a number of carrots and inspecting them for damage. Diazinon granules can be broadcast over the crop for control of beetle larvae, but must be washed into the soil by rain or irrigation.

## CITRUS



### Reminders for February:

- ✓ **Kelly's citrus thrips** (KCT) are enemy number one, particularly for lemons, limes and some mandarin cultivars. KCT often reach damaging levels during February, so monitor closely for these and control if necessary.
- ✓ Keep a look-out also for **citrus red mite**, which often makes an appearance during mid-summer, particularly where hard compounds have been used to control KCT.
- ✓ Many species of **scale** release crawlers in February. In particular, soft brown, Chinese wax, soft wax and black scale crawlers have been noted during this period in the past. The young stages are most easily controlled, whereas heavy adult populations are extremely difficult to remedy.
- ✓ For control options for any of the above pests, please contact your Fruitfed Supplies representative.
- ✓ **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.

Post-flowering, it is important to maintain your **fungicide** programme needs to be maintained to protect against scab and melanose infection (prevalent during wet periods) of young shoots and fruitlets.



Citrus scab infection on lemon

## GRAPES



### Reminders for February:

- ✓ **Leaf plucking** will enhance air movement and light penetration within the vine canopy. This decreases drying time of bunches, reducing the potential for disease development.
- ✓ The application of a suitable protectant fungicide at veraison prior to any adverse weather conditions is vital to prevent **botrytis** contamination of berries.
- ✓ Continue monitoring for downy mildew into February. Apply an appropriate fungicide in anticipation of conditions conducive for infection.

During veraison berry sugars are increasing and acid levels are decreasing to levels that will support **botrytis** growth. As berries soften, botrytis can sometimes penetrate intact tissue but any wounding of berries, e.g. bird and leafroller feeding activity, will greatly enhance the probability of infection. Therefore, practices that minimise this damage will certainly contribute towards disease prevention.



Botrytis infection

As bunches become progressively more susceptible to botrytis infection as harvest approaches, it's vital to maintain a tight fungicide cover from veraison to pre-harvest. Product and application timing decisions at this time of the season are strongly influenced by the frequency of rainfall and resistance management restrictions. Most protectant fungicides will afford protection against botrytis for 7-10 days or approximately 25mm of rainfall, whichever comes first. Once the cover degrades or is washed off then a reapplication should be made before the next rainfall, particularly if prolonged periods of leaf wetness, e.g. 15 hours or more, and warm temperatures are forecast. Please contact your local FruitFed Supplies field representative if you wish to discuss aspects of late season botrytis control further.

## KIWIFRUIT



### Reminders for February:

- ✓ Monitor for **leafroller** and, if thresholds are exceeded, apply an insecticide such as Proclaim (42 day PHI), approximately four weeks after the fruitset application. Alternatively, apply Delfin WG (3 day PHI), the *Bacillus thuringiensis* product with superior efficacy. Either of these leafroller sprays may only be applied more than five weeks (Hayward) or seven weeks (Gold) after fruitset if leafroller thresholds are exceeded during crop monitoring.
- ✓ Monitor also for **scale** and if thresholds are exceeded, apply either Dew 500 (60 day PHI) or DC Tron Plus mineral oil. If using oil, note precautions listed on label. Scale sprays applied more than nine weeks after fruitset (Gold) or more than seven weeks after fruitset (Hayward) must be in response to monitoring.
- ✓ **Foliar fertilisers**, such as Kiwi K, may be of use during summer to help maintain leaf condition and assist with fruit quality.
- ✓ **Leaf sampling** should also 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.

**Sclerotinia** has again been an issue on a number of orchards this season, following the period of warm, wet weather late in December. This damage often results in scarring seen at harvest (see photo). Timely application

of Flint (during flowering) or Rovral (during or after flowering) provides excellent control of this pathogen. Rovral has a 100-day PHI; Flint may be used during flowering only.



Sclerotinia scarring on fruit at harvest

## LETTUCE



Populations of the new lettuce aphid will reach their peak in warm summer weather. Crops must be closely monitored to maintain good control of this pest. If lettuce aphid manages to get into the head of developing lettuces, they can be very difficult to remove.



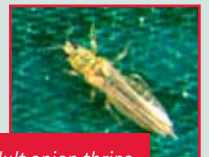
Lettuce aphids on a Cos crop  
(Photo: Kate Gordon)

## ONIONS



Lifting and harvesting of onions needs to be timed to avoid wet weather if field curing is used. Rainfall during curing increases the risk of **soft rots** after harvest. Onions must be handled carefully when harvesting them as the soft rot bacteria can use the wounds as entry points for infection.

A tight monitoring schedule is important for effective control of **onion thrips**. If the threshold of five thrips on 50 plants is exceeded, a cluster of three sprays at 5-7 day intervals should be applied. Avoid use of synthetic pyrethroids, if possible, as resistance is still present in the populations. Their use should be carefully managed and other insecticide groups should be included in the programme. Ascend® is a late-season option as it has a three day withholding period.



Adult onion thrips

## PIPFRUIT



### Reminders for February:

- ✓ The un-seasonal wet weather experienced in many districts makes management of **black spot** and **summer rots** vital. If higher temperatures and wet weather are anticipated, it is important to ensure that a protectant fungicide application is applied prior to an infection period.
- ✓ Continue to monitor for **codling moth**; the recording of trapping activity and the maintenance of traps is essential for audit purposes. Apply Mimic if thresholds are exceeded. NB: Mimic 14 day PHI and only one application in the last 28 days.
- ✓ Continue to monitor traps for **leafroller** and, if thresholds exceeded, apply Mimic on late season varieties. For early season varieties apply Success or Proclaim. NB: Success 14 day PHI, Proclaim 3 day PHI.
- ✓ Monitor for **European red mite** and **two spotted mite** late January to mid-February. This timing is recommended in particular if predator numbers are low. If thresholds are exceeded, apply a selective miticide.
- ✓ In known high risk areas of the orchard or where **scale-infested fruit**

# TECH-KNOW TIPS

has been detected in the previous season, the application of Calypso timed for crawler release is recommended for mid-late season varieties. NB: Calypso has a 42-day PHI.

- ✓ From mid-January to harvest, if **woolly apple aphid** (WAA) is found infesting shoots, then sample shoots every two weeks and apply Diazinon as soon as WAA numbers on shoots exceed 10% irrespective of *A. mali* numbers. NB: Diazinon 28 day PHI.
- ✓ Continue with regular **calcium** chloride applications, but 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 application of the **plant growth regulator Retain** 28 days prior to harvest on selected blocks can assist in harvest management. Contact your Fruitfed Supplies representative to discuss further the correct use and advantages of Retain.
- ✓ **Leaf sampling** should be carried out during January/February, 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.

If weather conditions are conducive to **black spot** infection shortly before harvest, further infection of fruit may take place. These late infections cannot always be detected at the time of packing and black spot lesions may develop during the subsequent storage period. For early maturing varieties, apply Dodine, e.g. Syllit Plus, as your last pre-harvest fungicide. Dodine is recommended as it is an effective protectant fungicide with both curative and eradicator action on this disease pathogen. NB: Dodine 14 day PHI.

For late maturing varieties, it is important to maintain a regular protective fungicide cover, e.g. Euparen Multi or Orthocide. Reapply protective fungicides after each rain. NB: Euparen Multi 45 day PHI for Taiwan, 14 day PHI for USA, UK and Europe. Orthocide 14 day PHI with only 1 application in the last 28 days.



Black spot on fruit

## POTATOES



**Early blight or target spot** appears in potato crops after the canopy has closed, creating conditions more favourable for the disease. Periods of alternating wet and dry weather, e.g. cool nights with dews followed by warm dry days, favour early blight infections. A protective fungicide cover should be maintained (Dithane® Rainshield at 7-10 days). Score® should also be applied if favourable weather conditions are forecast (maximum 2-3 applications per crop).

**Potato tuber moth** populations reach their summer peak during February and March. Populations should be monitored and the risk of tuber infestation assessed before an insecticide is applied. Foliar populations of potato tuber moth can be tolerated until late



Adult potato tuber moth

tuber bulking when the tubers are close to the soil surface or are exposed. This allows natural enemies, the parasitoid wasp of tuber moth larvae in particular, to play an important role.

The **nutrition status** of potato crops should be monitored through visual checking of foliage, a petiole test around row closure and leaf tests to confirm possible deficiencies found in the field. Foliar fertilisers can be tank mixed with most fungicides to correct any deficiencies identified.

## SQUASH



**Powdery mildew** epidemics are favoured by warm humid weather, such as temperatures between 15 and 30°C, relative humidity >95% and wet foliage. Regular applications of sulphur fungicides, e.g. Kumulus®, should be used to protect squash foliage from infection. Two applications of Flint® can be applied to each crop for powdery mildew control. Timely applications of DMI fungicides, e.g. Topas® or SaproI®, will help control early stages if powdery mildew infections present.

**Viruses** tend to become more widespread at the height of summer as plants are more likely to be stressed from water or nutrient shortages, lowering their natural defences against diseases such as the viruses. Management practices that minimise stress on crops will help reduce virus problems in crops.

**Correction:** Last month's Squash Tech-Know Tips stated that there are strains of the powdery mildew pathogen, *Sphaerotheca fuliginea*, resistant to some fungicide groups. These strains have been reported to be present overseas and the strains present in New Zealand are currently controlled by the fungicides registered for this purpose.



Powdery mildew on pumpkin leaves

## STONEFRUIT



### Reminders for February:

- ✓ Apply your pre-harvest application of a suitable protectant fungicide for **brown rot** control prior to any anticipated infection events.
- ✓ For late season varieties, regular insecticide covers are vital to control the summer generation of **leafroller** larvae. For summerfruit destined for the local market (not cherries) Mimic is recommended as it is selective to beneficial insects. Mimic has a 14 day PHI for New Zealand, and also a 14 day export PHI period for Australia and Taiwan (not cherries).
- ✓ **Leaf sampling** should be carried out during January/February, 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.

Most of the summerfruit harvest will now be completed, but there are still significant numbers of later varieties on the tree. For these varieties, following the adverse weather conditions experienced in most districts, brown rot infection still presents a significant risk. The registration of Folicur as a pre-harvest fungicide for brown rot control certainly provides a very effective management tool to assist growers. Folicur (tebuconazole) is from the Azole chemistry group; it's systemic with both protectant and curative activity. Our pre-harvest research trials demonstrated significantly higher levels of disease control than provided with industry standards. This has been supported by university research studies conducted in the US.

The use of Folicur should be restricted to the pre-harvest period and follow resistance guidelines, namely a maximum of three applications per season. NB: Folicur has a 1 day PHI in NZ, Australia and USA. Folicur is not registered for apricots in USA, (shuckfall PHI). Always check PHI with your exporter.

Brown rot on peach



David Tong  
Product and Field Support Manager



Ken Jeffery – contributes for pipfruit and summerfruit.



Richard Bawden – contributes for avocados, citrus and kiwifruit.



Tim Herman – contributes for brassicas, onions, potatoes, squash and tomatoes.



Paul Hassan – contributes for grapes.

## NURSERY NOTES

### Avoiding botrytis in ornamentals

*Grey mould, botrytis cinerea, is a very common parasitic disease on ornamental plants, particularly in greenhouses, but it is also very active outdoors attacking soft leaves, flower petals, seedlings and fruit when conditions are warm and wet.*

Grey mould usually first shows as water-soaked areas on plant tissue. Later, these develop into a dense growth of blue-grey mass of mycelium and spores on the plant tissue and finally the infected areas collapse. Botrytis thrives well in poorly ventilated, shaded, warm, humid conditions where plants are grown too close to one another.

#### Symptoms

- ✓ Blighting of leaves, petioles, blossoms and stems
- ✓ Flower buds may die prior to opening
- ✓ Petals turn brown and develop 'ghost spots', especially on indoor plants
- ✓ Leaf spots form, particularly where faded petals have fallen
- ✓ Overcrowded seedlings collapse in seed trays. This condition differs from damping off caused by soil fungi although the resulting damage looks similar, except with botrytis the seedlings show greyish brown mycelium and spores
- ✓ Fruits develop soft brown mushy areas during periods of warm, wet weather



#### Cultural control

- ✓ Maintain a relatively dry environment by keeping greenhouse relative

humidity below 90%. Install a humidity gauge to achieve accurate measurement of relative humidity

- ✓ Install fans in greenhouse situations for better air circulation
- ✓ Good housekeeping is important as botrytis colonises any dead, dying and wounded plant matter. Spores are dispersed by wind and rain and from this the infection may attack healthy tissue
- ✓ Irrigate mid-morning and, where possible, avoid overhead watering
- ✓ Spacing plants allows better light penetration, reducing senescence of the lower leaves and this reduces the amount of susceptible plant material
- ✓ Check over plants regularly as all dying leaves and flowers are likely to be infected. Remove and destroy these



#### Chemical control

Fungicides will not compensate for poor sanitation or environmental controls. It is important to tank mix and alternate chemicals to improve resistance management with this fungal disease. For further advice on which fungicide is the best choice for your ornamental crop, please talk with your local Fruitfed Supplies representative. ⇨

# BERRY CROPS

## Good feeding = better strawberries

*Coatesville strawberry farmers, Grant and Lynda Ashby reckon they're getting bigger, firmer strawberries as a result of the fertigation regime they first implemented three years ago.*

The first fertigation application goes on the Ashby's strawberries as soon as they start picking, which wasn't until late October this season due to the cool spring conditions affecting most of the country. Grant's feeding programme of the predominantly Camarosa strawberry variety then builds the nutrient levels and watering throughout the season to keep the plants in top condition.

"There is a balance to be struck between plant vigour, i.e. too much leaf growth, and being able to pick the berries easily without having to push through leaves all the time," says Craig Lamb, Grant's Fruitfed Supplies representative based at Kumeu branch.

Despite the labour-intensive nature of irrigating and fertigating 12 hectares of strawberries, Grant describes the 2006-07 season as "...easy. It's been a reasonably good season with reasonable numbers of fruit despite the cold start."

The Ashbys expect to have finished picking late in January and, with over one million chips picked, packed, shipped and sold under their own and their customers' labels, their 12 hectares have been very productive this season. Another 30 tonnes of berries have been sold for jam production.

"Along with weather conditions, the fertigation programme plays a big part in how long the plants will keep producing fruit of a size that's economic to pick. We use Kristalon, the soluble fertiliser sold exclusively by Fruitfed Supplies, and calcium nitrate," says Grant, who also applies a long term granular fertiliser during the field preparation phase. His plant health routine includes weekly spraying for botrytis and insects like aphids and mites.

Preparation for next season commences in February on the leased block where Grant and Lynda run their Gala Gardens operation. Stocks of T-Tape were delivered recently just as Grant took ownership of a new mounding/plastic laying machine. "In the 20 or so years I've been growing strawberries, I've always used a contractor to prepare the mounds, but this season I've bought my own machine. It produces a higher wider mound, which I'll plant with staggered double rows and T-Tape under each row," confirms Grant. "I've certainly always found T-Tape's one emitter to one outlet system works well with a lot less blocking than some other types of drip irrigation tape."

Strawberries are Gala Gardens' primary business, the berries being picked and graded by the Ashby's own staff then shipped daily to a number of high-volume Auckland retail outlets. Towards the end of the season Grant opens one or two paddocks to 'pick your own' customers. Horned melons and courgettes provide additional cropping income and work for some staff when the berries are not in production. ♦♦



*Based in Auckland's rural north between Coatesville and Riverhead, Grant Ashby (left) inspects the last of this season's strawberry crop with Fruitfed Supplies representative Craig Lamb.*



*The popular Camarosa is the predominant variety grown.*

### T-TAPE SETS THE STANDARD

"We provide a lot of strawberry growers with T-Tape," says Craig Lamb, field representative with Fruitfed Supplies Kumeu. "Around 70% of the strawberry growers we work with around north and west Auckland have found T-Tape worth the investment, in terms of performance and reliability."

Properly managed, T-Tape® drip irrigation tape offers these advantages:

- ✓ Increased field access due to drier furrows
- ✓ Improved crop yield and quality
- ✓ Better management of applied crop protection materials
- ✓ Crop protection savings due to reduced run-off
- ✓ Fertiliser can be delivered directly to the plant's root zone
- ✓ Water and energy savings
- ✓ Less evaporation
- ✓ Precision irrigation
- ✓ Uniform watering
- ✓ Decreased disease and weed pressure



T-Tape comes with specifications for single season use or permanent installation, so talk with your Fruitfed Supplies representative to determine the right kind of T-Tape for your crop's requirements.

**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 or mobile 021 587 227. Subscription details and address updates, please phone Fruitfed Supplies national office on 09 525 0420.

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