



Berry Bulletin

November 2016

Around the traps

Southern regions

As I'm sure everyone is aware spring weather has been a real challenge in the southern states of the country this year. Deep low pressure systems accompanied by intense cold fronts have consistently marched through South Australia and Victoria providing freezing temperatures, howling wind and buckets of rain. These cycles are continuing with snow falling in the Victorian High Country two out of the last three weekends and its now late-November!

This weather has meant that it has been difficult for growers to get onto soaked paddocks and plant development has been slow. Production is as much as a fortnight behind normal on many farms and volumes have been low. On the up side, fruit quality has been exceptional with some of the best eating fruit in a long time.

Mite and thrips pressure has been reasonably quiet, however more activity is being monitored here and there following the odd hot drying weather event.

Conditions have been ideal for establishing predatory mites. However, this can be more challenging in cleaner blocks, where there is then a potential for late outbreaks as a result of poor predator establishment early on. We are providing top up beneficials to ensure good biocontrol of pests in these blocks.

Due to the wetter than normal season start, disease has been more of a problem in southern berry blocks. Leather rot (phytothora) in particular has been a common disease during the wet. Powdery and grey mould have also been prevalent.

Levels of bugs such as mirids, Rutherglen bugs and lygus bugs have been low, and they have been controlled well with the use of Transform.

From observations so far, there seems to be a general consensus that the reduced use of Maldison (even at lower rates) has preserved beneficials and allowed for better predator activity. Fortunately we are still finding good numbers of general predators such as green and brown lacewings, nabid bugs and bees a few days after Transform applications. We will keep an eye out for any signs of delayed beneficial disruption that may be associated with this product down the track.



Leather rot

Fruit quality and size is excellent, and providing the weather remains good, we can expect excellent production to continue right up to Christmas.

Stanthorpe

Growing conditions have been a lot more favourable in the Queensland 'High Country'. The storms that have hit hard down south have provided a consistent source of short rain events and cool temperatures that have generally done more good than bad. Another big bonus is that there have been no significant hail events (I'll get arrested next time I'm in Stanthorpe for mentioning the word).

Cool nights and mostly clear, dry days have provided ideal berry growing conditions. Production volumes have been good from both second and first year plants and berry quality has been great with beautiful tasting berries the norm. Berry size has been very good, though some growers have been having issues with over-sized fruit on first year plants. In some cases, getting more than 3 berries in a punnet has been a challenge and resulted in rejections due to bruising. After the initial flush berry size is now dropping to more manageable levels.



Stanthorpe's big berries – a real handful

Generally dry conditions between storms has led to low disease pressure on most farms. There is persistent low level powdery mildew in Albion plantings but this has been at manageable levels. Grey mould has not been a problem so far.

Unfortunately the cool dry weather has been ideal for two-spotted mites. A number of farms have had significant issues in achieving early control. Most farms have carried out their predatory mite releases, mostly using mixed releases of persimilis, californicus and montdorensis. Good levels of predator activity have been observed around the district and many of the blocks that were hit hardest by two-spotted mite are now starting to clean up.

We cannot emphasize enough how important it is to have good two-spotted mite management prior to predatory mite releases, to provide the best chance of maintaining good control with a minimum of early plant damage.

Drone releases have also proven a very effective means of achieving good even predatory mite establishment in Stanthorpe.

Plagues of insects

There have been large and continuous flights of heliothis moths, most likely due to good winter and spring rainfall out west. It has also been hard to ignore the huge numbers of caper white butterflies over the past month. There have been stories of not being able to see through the fog of butterflies on Moreton Bay. These butterflies cause no crop damage but heliothis numbers have been equally large with some of the most intense egg lays that we have seen in all our years of walking fields. This massive egg lay has been occurring from Bundaberg through to Stanthorpe. It has been essential to maintain regular cover sprays to combat continuous overlapping generations.

Thrips are also a concern with high numbers present in fields, particularly those under plastic. The combination of early montederensis introductions and regular overhead irrigation has been working well on the farms using this approach. Thrips will most likely continue to be an issue as paddocks continue to hay-off out west. As discussed in previous bulletins, a broad and integrated approach is required to keep thrips numbers at manageable levels.

Rutherglen bugs have also been at plague numbers in many areas. There have been unprecedented levels in tomato, melon and capsicum crops in Gatton and Bundaberg. Though not effecting Stanthorpe strawberry crops at this stage, numbers have started to build on some farms and it is likely that growers will see waves come through over the next couple of weeks. There have also been low levels of mirids starting to appear on some farms.

At this stage things continue to look good for Stanthorpe with another week of cool nights and warm days setting plants up well for sustained quality production right up to Christmas.

Getting the most out of your predatory mites

Our quality assurance

At Bugs for Bugs we realise that the money you invest in predatory mites is significant and it is very important to us that growers get the maximum benefit from this investment.

To achieve this, we have developed robust systems to ensure that the predatory mites we deliver to the grower are of the highest quality. The production techniques we use in our insectaries have been refined over many years and are considered to be world-class. Our harvesting, storage and packaging methods have been developed to minimise interference with the organisms and exposure to stress. We utilise transport networks that ensure that our product spends a minimum amount of time in transit and is exposed to minimal temperature variations whilst in transit. These systems enable us to maintain the highest level of consistency and viability of our organisms.

We have quality control mechanisms throughout the process from production through to delivery to ensure that our high standards are maintained. Our quality assurance procedures include the following measures:

1. Our biocontrol agents are monitored daily at the production facilities to ensure that any contamination from other organisms is identified and dealt with promptly
2. We examine our biocontrol agents to assess health and viability prior to mixing them with the holding media
3. After mixing with the holding media, the product is examined again to check that an even distribution has been achieved
4. Sample bottles are regularly sent to an independent party to assess the quality and condition of the product after transit
5. Temperature sensors are regularly included in shipments, allowing us to monitor environmental conditions during transit so that we can identify and respond to any problems at this stage.

With all of these measures in place, we can be confident that we are supplying growers with the freshest, most viable product possible.

Tips for growers

Once growers receive predatory mites there are a number of things they should do to ensure that they get the most from their predatory mites.

Upon delivery growers should release the predatory mites as soon as possible. If they need to be stored for a short period before releasing (e.g. overnight) they should be kept in a cool store.

We highly recommend that growers check the bottles for mite activity prior to releasing them in the field. To do this the grower can take a number of sample bottles out of the shipment and stand them upright for a short period of time. If the bottles have just come out of the cool store be aware that they will need to warm up to ambient temperatures before the mites will become highly active. Place the bottles in a relatively warm (15-25°C) place out of direct sunlight for 5-10 minutes. Over this time the mites will crawl upwards within the bottle and begin to gather at the top. When the lid is removed, mites should be seen running around the rim of the bottle or tube. After you have seen that there is good activity in the bottle or tube put the lid back on and gently rotate the bottle end-to-end to remix the mites throughout the media.



A healthy bottle of Persimilis – remember to check that predatory mites emerge from tubes or bottles prior to release

At this stage if there is any doubt about the quality of the shipment growers should place the bottles back in the cool store and contact us immediately so that we can analyse the product and identify any problems.

As the contents of the bottles will settle during transport it is a good idea for growers to rotate all bottles/tubes gently end-to-end immediately prior to spreading them in the field to ensure that there is an even spread of mites throughout the media.

Once the predatory mites have been released into the field it is very important that growers provide the right conditions for the mites to establish and the population to build. The mites that we provide are designed to inoculate a paddock, not to immediately eliminate the pest. The organisms require time to develop a population that is large enough to effectively control the pest population. Having

good control of the pest population prior to releasing the predatory mites is important so that the pest problem does not get out of hand while the population builds.

Two-spotted mites are the most persistent pest affecting plant health and vigour in Australian strawberry production. All other pests and diseases become easier to manage when plants are not under stress from mite infestations. For this reason, it is very important that growers do their utmost to ensure early, strong establishment of predatory mites.

During the establishment phase predatory mites are particularly sensitive to toxic insecticides so it is important that the grower is careful to use only soft chemistry during this period. Insecticides such as Lannate should be avoided altogether once predators have been introduced. Miticides such as Abamectin and Milbeknock, and insecticides such as Success Neo and Hy-Mal should be avoided until predators are well established in the crop and then only used sparingly. Products that are safest for predators during the establishment period include Coragen and Acramite.

Regular monitoring is important for understanding how the predatory mite population is developing and getting the timing right if miticide applications are required. It is also important to consult with your agronomist and develop an appropriate strategy for pest management when predatory mites are being used in the field. Make sure that your agronomist has experience integrating pesticides with the use of biological control agents. If the grower lacks confidence in their agronomist's ability to manage such a program, we are happy to support the agronomist through the process to ensure the grower achieves the best possible outcome.

Finally, we hope you find this update helpful. It is written as a result of years of experience in the berry industry. Our objective is to help the industry learn and grow through good, sustainable and profitable farming practices.

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