greenhouse gazette

ISSUE 15 APRIL 2014

Contents

Introduction

By Darren McPhan

Welcome to issue 15 of the South Pacific Seeds Greenhouse Gazette.

Please enjoy the informative read on the important issues with bringing seed into our fine country. There is also an interesting article on Blossom End Rot along with some great insights into our existing range and exciting new varieties.

We are pleased to introduce a new Tomato called "Marinika" which is a replacement variety for Bliss. Marinika to date has had some excellent results with yield, flavour and production numbers.

As we expand our range, and efforts in both low and high tech production, be sure to familiarise yourself with our specialist company representatives found on the back page of this edition.

We thank you all for your past patronage and look forward to a positive and rewarding remainder in 2014.

Summer trial result review

By Travers Pickmere

Summer trials conducted by SPS highlighted a list of promising new material for trial for 2014.

Greenhouse Cucumber

Lebanese cucumber varieties 174-2 and 180-2 are two new summer multi-fruited types which have shown encouraging results alongside the standard Colorado.

174-2 is a high yielding variety with strong generative plant and good setting ability and heat tolerance. The high quality fruit are approx. 17-18cm in length, with moderate rib and dark green colour.

180-2 is suggested for spring summer production with a strong generative but open plant habit for ease of harvest, and smooth glossy fruit averaging 16-18cm in length. Seed available for spring summer trials.

174-2

180-2

Greenhouse Tomato

POLICARPO (075-2) roma has been a consistent performer in Sydney & SA trials in recent years. It is a large cluster plum type (130g) with generative growth habit and good heat setting ability. The fruit are early to colour with excellent firmness at red stage.

Long-time standard Bliss will soon be replaced by MARINIKA, a new single harvest type for unheated cropping, which offers excellent fruit quality with an extensive disease package. The plant produces multiple trusses, with good setting ability and stable production through the winter months. The fruit are firm with medium to large size, attractive red colour and excellent flavour (approx 8% Brix).

Low-tech Capsicums (non/slightly heated)

SPS have conducted a number of trials in 2013 assessing a range of new product for the low tech capsicum market. SPS trial variety, 267-2 has shown promise in the lamuyo / half long segment alongside Remy with early maturity, good uniformity and attractive glossy red colour.

A number of varieties with intermediate resistance to TSWV have also shown promise in summer trials for the large blocky segment. 247-3 has been one of the highlights with a strong plant habit and high yield potential, and producing fruit with good size and colour, and thick firm walls. Additional trials will be conducted in 2014 to assess the full potential of all varieties for the coming spring production season.

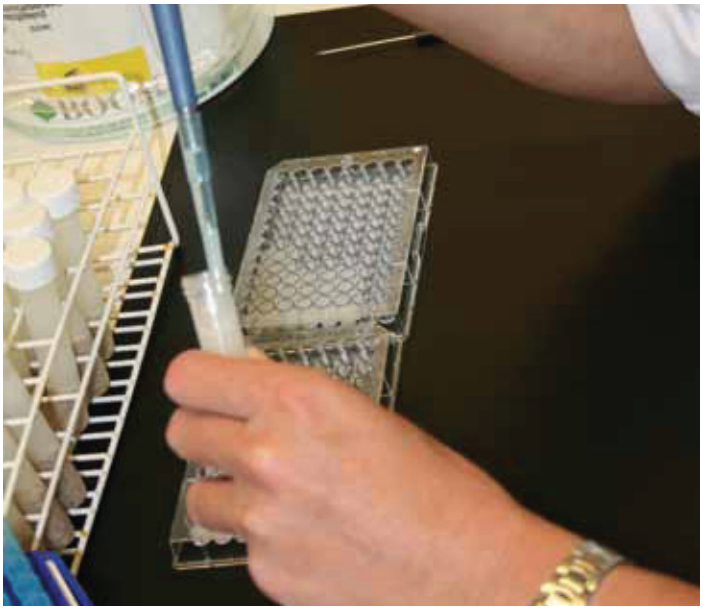
247-3

ENZA ZADEN

PHYTOSANITARY
complexity in a nutshell

By Enza Zaden

Shipping commercial seed lots around the world is just a piece of cake, right? Wrong! Whereas some countries just ask for an import permit, many others have set strict phytosanitary requirements. The number of countries doing so increases as well as the number of pests mentioned specifically on the phytosanitary requirement list of the countries concerned.

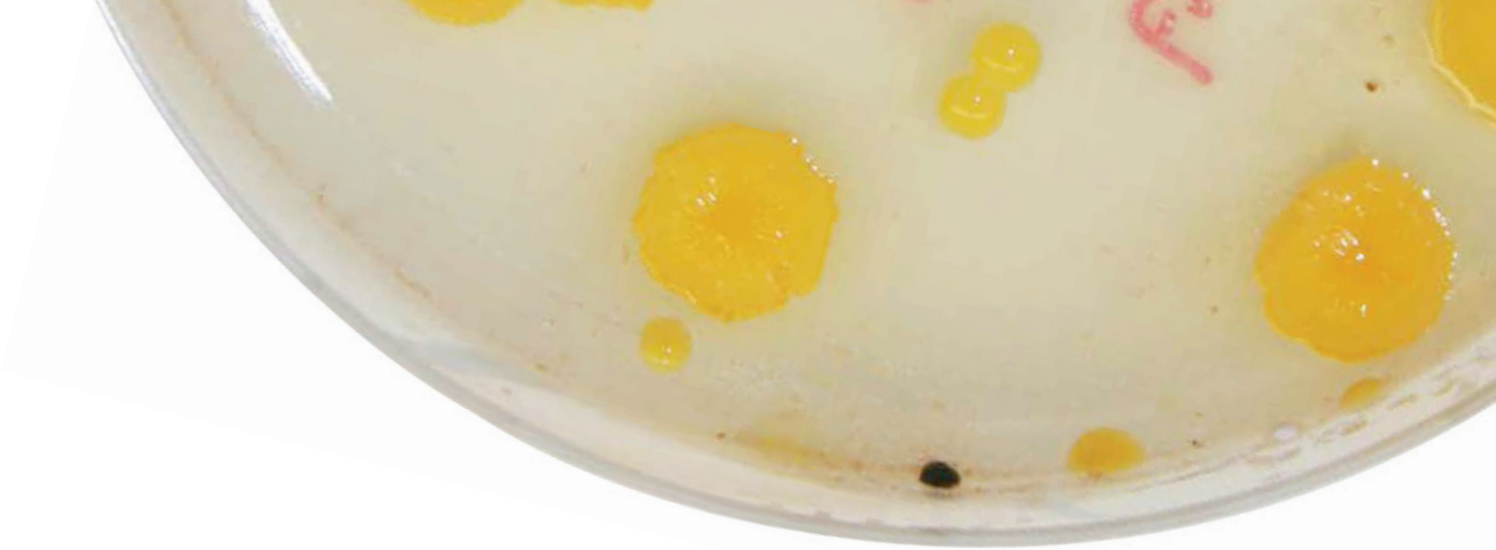


"A survey of the International Seed Federation (ISF) done in 2012, showed fifty countries had published phytosanitary requirements for tomato seed exported from the Netherlands", says Jeroen van Bilsen, Manager Quality Assurance at Enza Zaden, to explain the extent of this trend. "These requirements covered between one and twenty different pests per list. However, the pests concerned often differed from one country to the other, meaning that companies exporting tomato seed to all these fifty countries needed to take a total number of 64 pests into consideration during their seed production and processing in order to comply with the requirement of each export phytosanitary certificate."

Phytosanitary requirements

Seed is a living organism and seed itself or seed lots may be a host for pests. Shipping seed around the world for trials, production or commercial purposes entails the risk of introducing and spreading pests of one country to another. Obviously, seed companies do everything in their power to prevent this from happening by ensuring proper seed production procedures and by thoroughly testing seed lots. Countries protect themselves by setting up legislations, regulations and official procedures.

Van Bilsen: "Today's seed business is a very global business that involves much more than just shipping commercial seed lots from one country to the countries of destination. So-called pre-commercial seed also travels the world, for instance for trials and local breeding to make sure that new crops are properly adapted to the specific conditions of each market. It is not uncommon for seed companies to have breeding programmes in ten to fifteen countries. Apart from that, Enza Zaden produces seed in nearly 25 countries and we distribute commercial seed to more than 120 countries from just a handful of logistic centres where seed is cleaned, treated, tested and packed. Just imagine the organisational and logistic complexity of these immense seed flows now many of these countries have set their own specific phytosanitary regulations."



Trends complexity in a nutshell

However, the phytosanitary complexity doesn't stop just here. Seed produced in country A is exported to country B for processing, testing and packaging. This seed lot subsequently is stored and will be re-exported in multiple small shipments of commercial seed to its final destination sooner or later. The period of seed being produced and the commercial seed lot being shipped to its final destination may cover a long period of time, but requirements of destination countries change over time. When this happens after the seed has already left the country of production or the country of origin, it's impossible to retroactively get the necessary additional declarations. Moreover, if destination countries put new pests on their phytosanitary requirement list, the seed that has already been produced a few years earlier needs additional declarations. These cannot be procured anymore.

Another challenge is meeting the 'principle' that each country requires. As said before, destination countries have different requirements that the exporting seed companies have to take into account at the time of seed production. It's also common that one country requires a field inspection whereas the other country needs a laboratory test for the same lot. And what about destination countries having requirements that are not accepted or recognized in the country of production? This makes it practically impossible to obtain the requested additional declarations. Van Bilsen: "These are just the practical implications in terms of meeting phytosanitary requirements. A seriously complicating factor is that many destination countries set requirements for pests for which seed is neither the pathway nor the means for their spread or establishment."

Frightening?

This all sound very frightening, doesn't it? What does this mean for dealers and distributors worldwide? Seed companies put in all efforts to remain flexible suppliers despite the extensive scope these regulations entail? At Enza Zaden, the time dealing with the issues mentioned above has more than doubled in the last few years to make sure the seed flow continues as it should be. Van Bilsen: "However, this doesn't mean that dealers and distributors don't notice the effects of this trend at all. Seed companies ask for a longer forecast scope to be able to produce seed according to the specific requirements of each country. And if the country concerned needs extra laboratory tests, shipments may delay."

Distributors and dealers as partners

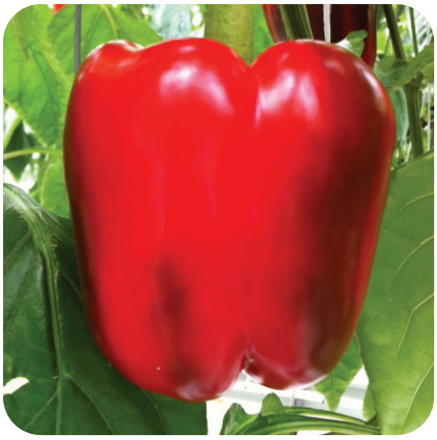
The phytosanitary regulations are something we just have to deal with worldwide, but a good partnership between the seed company and its dealers and distributors limits the consequences of this trend. "They can assist us to convince local regulators to change regulations that cause trade barriers. But even more so, distributors and dealers are an important source of information. They are our eyes and ears to inform us about the upcoming changes in phytosanitary regulations, allowing us to anticipate in time. By the time the changes are officially acknowledged, it's often too late to take immediate measures to deliver seed lots in time."

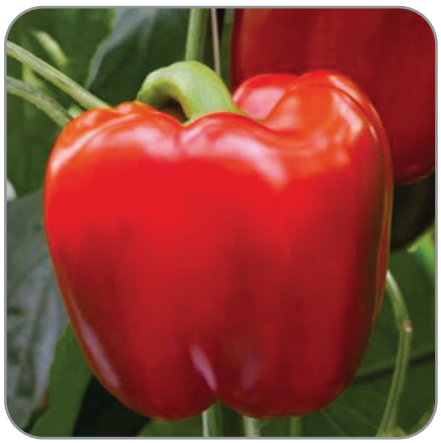
What does the future has in store?

The worldwide phytosanitary regulations have become a true challenge. Although the situation has deteriorated during the past decade, regulators are now discussing about harmonisation by implementing an international phytosanitary standard for seed. It will still take a considerable time before this standard is final, but at least the problems are recognized and taken seriously. Van Bilsen: "In the meantime, our Customer Services, Quality Assurance, Logistics and Production departments of Seed Operations do their utmost to fulfil all compliances and regulations. Together with the input of our dealers and distributors, and with help of the Marketing and Sales, we will improve our demand planning and supply chain processes to ensure that our customers can serve their clients in time."

ENZA ZADEN

Capsicum hi-tech
(heated)





Maduro

A high quality blocky red variety, MADURO will maintain fruit size throughout the season providing consistency of yields. MADURO has a compact sturdy plant with an open habit which is labour friendly, and has shown excellent endurance which is most important in long term cropping. MADURO recuperates quickly following periods of high fruit loading and is strong against Blossom End Rot and internal fruit rot. The fruit of MADURO are very firm with good shelf life and a glossy red colour.

Maranello

MARANELLO is a large Viper type with very good shelf life and high overall yields. The compact but powerful plant offers strong resistance to Tm:0-2. The fruit are fast to colour with fresh red colouring at maturity and average 85mm in diameter with an average fruit weight of 190-220gms. MARANELLO offers excellent quality with low percentage of second class fruit and is strong against heat spots, cracking and Blossom End Rot.

Marletta (trial)

MARLETTA is a stronger Veyron type with large fruit size and improved firmness. The plant has good vigour with an open habit and has shown good heat tolerance in trials. The fruit are uniform with dark shiny red colour and average 190-200g in size. MARLETTA has the ability to maintain size very well throughout the production season. TRIAL SEED NOW AVAILABLE!

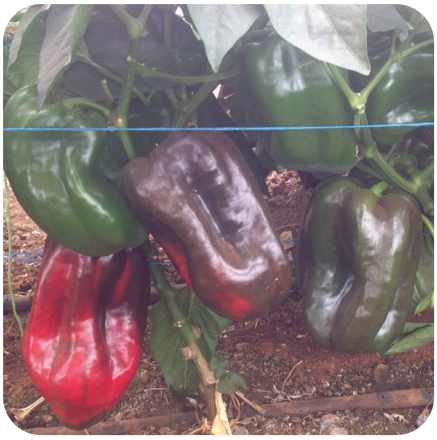
Capsicum low-tech
(heated/non heated)

Atlante (trial)

A large blocky yellow variety, ATALANTE maintains its fruit size and shape throughout the production cycle, particularly in the second part of the season. Suited for heated growing systems, ATALANTE is early to mature with a vigorous but generative plant type. The plant is flexible and well balanced, and has the ability to set well in both high and low light conditions. The fruit average 195-200g in weight with excellent firmness. ATALANTE is strong against internal fruit rots and Anthocyanin and has high resistance to Tm: 0-3.

Orandino (trial)

ORANDINO is a medium sized hitech blocky orange type suggested for trial as a Mazzona replacement. The fruit have a regular blocky shape with thick fruit wall, and average fruit weight of 185-190 gms. The plant is more compact than that of Mazzona but with a generative open habit and offers intermediate resistance to Tobamo Tobacco Virus races: 0-3. Trial seed expected to be available April May 2014.



Tijuana

TIJUANA is a large lamuyo type for the low tech greenhouse market. TIJUANA has shown excellent shelf life with good thick walls. The average fruit length is approx 16 x 9cm with 3-4 lobed elongated fruit shape. The medium sized plant is best suited to late June transplant for spring summer harvest with good setting ability going into the warm weather.

ENZA ZADEN

Cucumber lebanese

Austin

AUSTIN has good cool weather tolerance performing well in both heated and unheated greenhouses and is suitable for autumn and winter production. In cooler conditions the variety is mainly single fruited. In milder conditions however, AUSTIN sometimes gives an extra fruit per internode. The fruit are straight, mid ribbed, averaging 17-18cm in length and have a dark green colour.

Eskimo

ESKIMO is recommended for the late autumn to winter timeslot alongside Austin. It has a very uniform fruit set with a vigorous open plant habit. ESKIMO is suitable for cooler climates and is mainly single fruited. In milder conditions however, the variety sometimes gives an extra fruit per internode. The mid ribbed fruits are straight and average 17-19cms in length with dark green colour and excellent gloss. Offers an excellent disease package.

Cobra

COBRA has a medium to strong plant with an open habit for easy plant management and reduced labour costs. The plant produces mainly single fruits that are 17-19cm in average length. The fruit are an attractive dark green with medium ribbing. COBRA is suitable for autumn and spring harvest or mid-winter where heat can be added.

Cucumber
slicer/continental

Corinto

A very flexible greenhouse slicer type, CORINTO will set well during hot conditions with some cold tolerance for growing into the winter. A powerful plant with moderate lateral development, CORINTO sets fruit easily and regularly with high overall yield potential and is more vigorous and earlier to mature than it's sister line Dinero. CORINTO produces high quality fruit which are dark green in colour, have a smooth skin, uniform cylindrical shape and excellent shelf life.

Dom

DOM is a versatile continental type for heated and non heated production under mild conditions, extending further into warmer conditions in some regions. Easy setting ability is a feature. The dark green attractive fruit are approx 33-35cm [depending on season] with very good shelf life and very good uniformity throughout the growing cycle. DOM is a reliable variety that offers excellent adaptability and offers intermediate resistance to Powdery Mildew.

Reko

REKO is a very early and productive variety producing very dark green medium long shiny fruit with a slight rib. The fruit are approx 32-36cm in length. REKO has a vigorous growing habit with strong cool weather tolerance and strong recuperative powers. Good resistance to Target Spot and Scab. Recommended for cool season production, this versatile variety has an extended production slot in many areas.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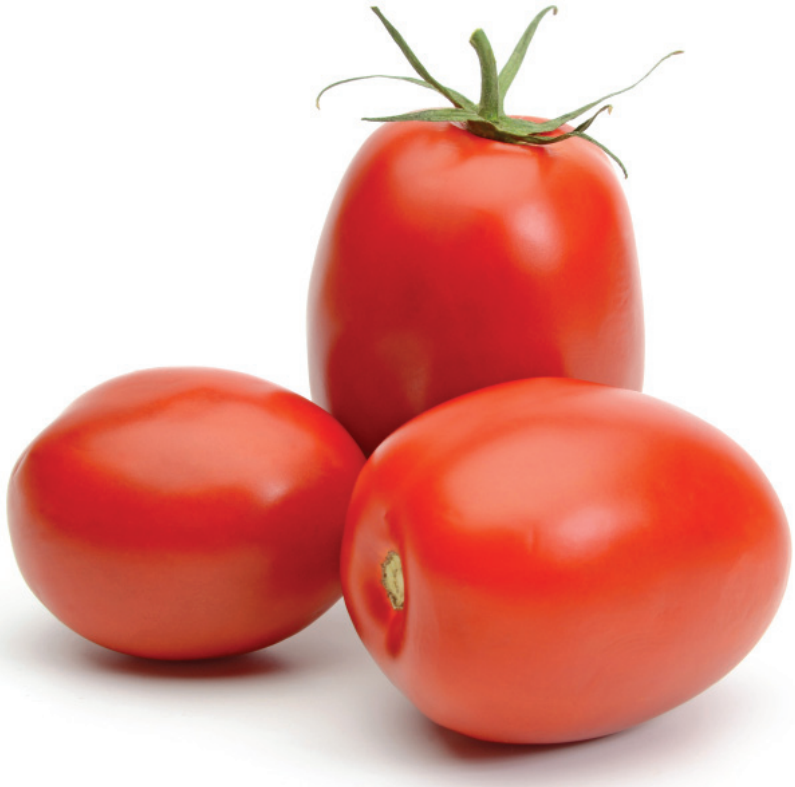
Brianna

High Resistance: Va, Vd, Fol:0-2(EU), ToMV, Ff:1-5, For
Intermediate Resistance: TSWV, TYLCV, Ma/Mi/Mj

BRIANNA has again proven to be a consistent performer through the recent spring and summer harvest in Sydney, maintaining excellent firmness during periods of heat stress. BRIANNA's vigorous nature and extensive disease package helps it out yield other varieties while maintaining fruit quality, uniformity and size throughout the plant. Layering of the plant is recommended to help maximise the yield per square meter.

- Flat round shape
- 175-185gms average fruit weight
- Shiny bright red fruit
- Strong open plant, early to production
- High production potential
- Extensive disease package
- Suit loose large or tray markets

BRIANNA is beef type tomato averaging 175-185gms in fruit weight, with an ability to maintain good fruit size throughout the plant. The fruit are flat round in shape with excellent uniformity throughout the crop cycle. The fruit are an attractive shiny bright red colour with excellent skin quality. The plant has dark green foliage, is very strong and has an open easily worked, plant habit. Production is early to commence with high overall yield potential. BRIANNA is suitable for year round plantings and has good set under warmer conditions. BRIANNA offers an excellent disease package including resistance to Fusarium Wilt: 0-2 (EU), Leaf Mould (Cladisporium):1-5, TSWV and Nematodes.



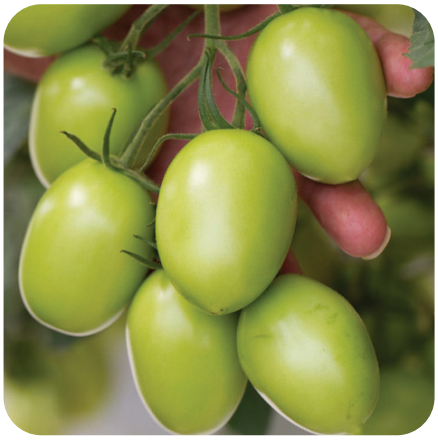
Tomato roma

Concordia

CONCORDIA is an indeterminate saladette roma for greenhouse production. Fruit average 110-140gms with good uniformity of size and good firmness at mature red stage. The vigorous plant has the ability to set high quality fruit under high humidity. CONCORDIA offers a strong disease package including intermediate resistance to Fusarium Wilt races 1-3, TSWV, TYLCV and Nematodes.

Trinidad

Medium large sized indeterminate saladette roma type, approx 130-150gms. Very smooth jointed fruit with attractive tapered shield shape, uniform green shoulder, very good uniformity and excellent firmness. TRINIDAD shows good size and quality in Sydney greenhouse plantings remaining smooth and clean with good tolerance to marking and blossom end problems under difficult conditions.



Policarpo (trial)

POLICARPO is a large saladette plum type suggested for trial for summer harvest in low tech greenhouse production. POLICARPO has an extensive disease package, with a generative growth habit and good heat setting ability. The fruit of POLICARPO reach approx 130g in size, with 5-6 fruit per cluster and good size and firmness maintained throughout the plant.

Tomato speciality

Garincha

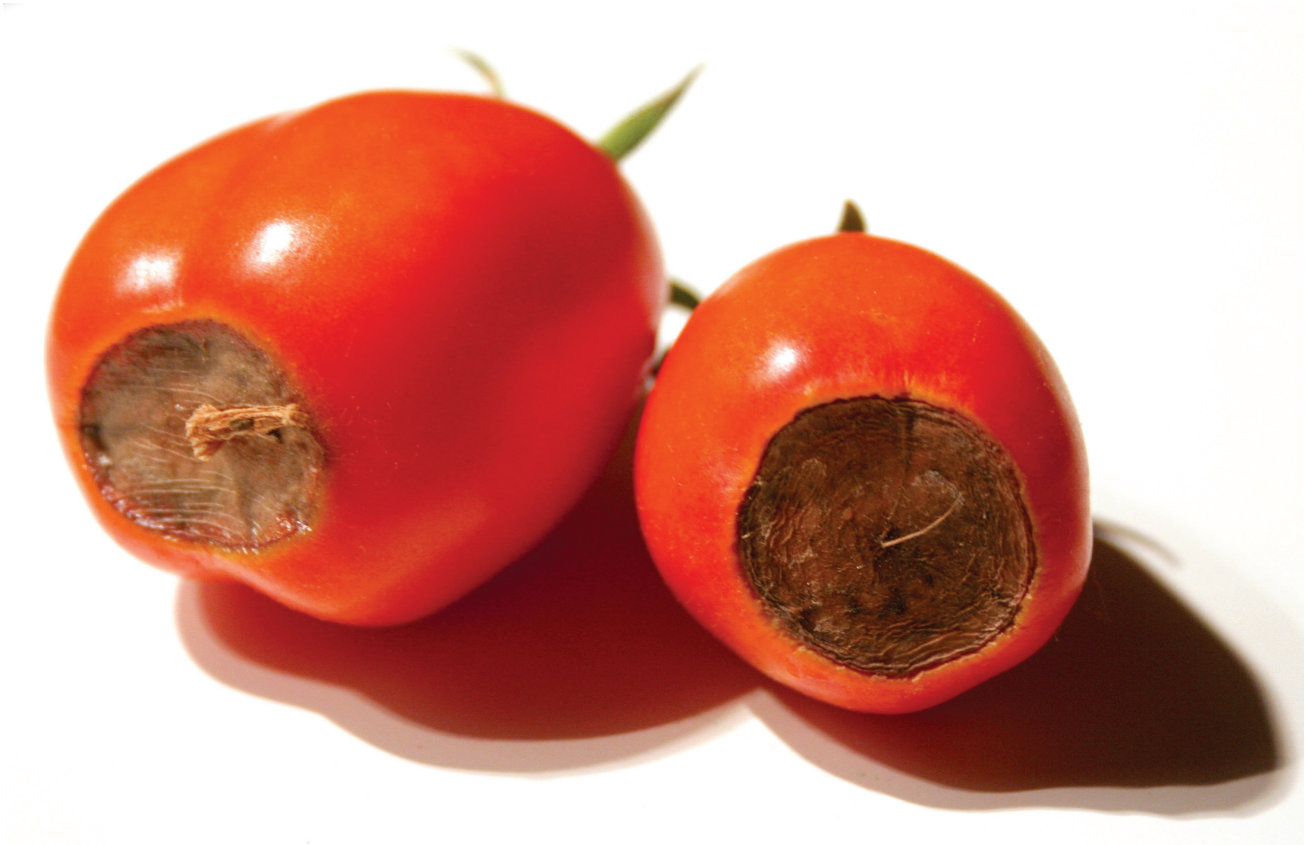
GARINCHA is a 'Santa' type meaning that the fruit are shaped similarly to the plum tomatoes but having the small fruit size and sweetness of a cherry tomato. The eating experience of a tomato is such an important component of the varietal traits and, as such, GARINCHA has been developed to provide excellent sensory qualities including a crunchy texture and superior sweet taste. The small size of the GARINCHA fruit enables a range of packaging options to be considered, from standard square punnets to plastic 'cup' options.

Sarina

An indeterminate grape tomato with medium to large size SARINA produces firm glossy jointed fruit of approx 12-16g in open field production. Offering excellent flavour, shelf life and a high yield potential, SARINA is a proven variety for speciality grape growers with good uniformity, quality and colour. Ideal for regions and timeslots when a larger fruit size is required.

Vespolino

VESPOLINO is an attractive truss mini Marzano plum type (25-30g) with elongated plum shape, excellent firmness and shiny red colour at maturity. VESPOLINO produces long trusses with excellent uniformity and high production potential. The medium strong plant has an easy setting ability and is suited for heated and non heated greenhouse cultivation. VESPOLINO is a high quality variety for speciality market growers.



BLOSSOM END ROT IN TOMATOES

By Glen Haynes

Blossom end rot (BER) can be a troublesome disease and is familiar to most growers who have grown tomatoes. The disease is prevalent in commercial as well as home garden tomatoes, and severe losses may occur if preventative control measures are not undertaken.

What causes BER?

There are a number of reasons tomatoes get blossom end rot and they are primarily the result of plant stress. BER is related to several factors including soil moisture, calcium and nitrogen levels and can occur even when there is abundant calcium in the soil and in plant tissue. BER occurs when the plant is unable to move sufficient calcium to the blossom end (opposite the stem) of the fruit for cell growth. Calcium is required by plant cells, such as those making up fruit, to retain structural integrity and plays a role in transportation of molecules into and out of the cell. Calcium is dissolved in water and is taken up through the plants vascular system from the roots to the leaves. Under moisture stress the water and minerals move rapidly to the leaves where most of the water is transpired through the stomata of the leaf - because the fruit does not transpire as much as the leaves, calcium deficiencies can result. As a consequence, as the end of the fruit grows rapidly without sufficient calcium, the cells collapse producing the sunken lesions.

Blossom end rot causes can be diverse but the unusual suspects are listed below, only one of these is required to cause symptoms of BER:

- Not enough water applied to the crop possibly due to an inadequate pump, too many watering stations and an inability to get around all stations or an incorrect computer set up i.e. start time too late and stop time too early.
- Fertility issues such as not enough calcium in the nutrient solution, too much nitrogen in the fertiliser mix or very high levels of magnesium or potassium.
- Volume of pot or bag for roots is too small and can not hold enough water. A minimum of 8L per plant at start of the crop is required.
- Root disease.
- Excessively vegetative crop.
- Excessively high 24 hour average temperatures.

For severe damage to occur a combination of the following factors is usually needed:

- Low night temperatures that shut down the plant followed by hot days resulting in plant stress.
- Too high humidity during the day or night makes the plant inactive (no transpiration) and the plant cannot take up calcium.
- EC (cf) too high. Dripping EC over 3.0 is too high.
- Using ammonium forms of nitrogen.
- Too vegetative or too generative plant.
- PH too high, 5.5 - 5.9 is the normal range.
- Aggressive leaf pruning - removing 5 leaves and over can cause too much plant stress

What are the symptoms?

BER may occur at any stage in the development of the fruit, but most commonly are first seen when the fruit is one-third to one-half full size. As the name of the disease implies, symptoms appear only at the blossom end of the fruit. Initially a small, water soaked spot appears, which enlarges and darkens rapidly as the fruit develops. The spot may enlarge until it covers as much as one-third to one-half of the entire fruit surface, or the spot may remain small and superficial. The lesion area turns black, leathery and increases in size as the fruit develops. In addition, secondary pathogen infections often invade the fruit. As a result the fruit ripen prematurely and are normally inedible.

Blossom end rot is most prevalent in tomatoes but can be found in most fruiting vegetables. BER in capsicums shows on the side of the fruit closest to the blossom end. BER usually appears on the first truss of a tomato plant due to a combination of rapid plant growth, large leaf area (increasing water transpiration area) and rapid fruit enlargement. Varieties that grow quickly and produce large amounts of leaf tend to be more susceptible to blossom end rot. While foliar forms of calcium will not correct or reduce BER after it has occurred, spraying the upper leaves of the plant with foliar calcium can help the plant move calcium to the fruit. In addition, balanced plant development will reduce stress on the plant by decreasing the demand for nutrients or assimilates by the leaf.


ENZA ZADEN

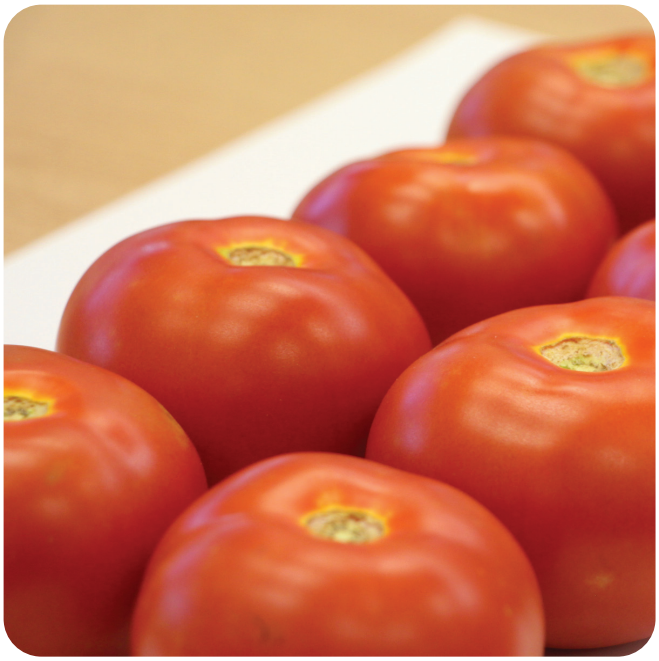
Marinika

High Resistance: Fol:0-1(EU), ToMV, Ff:1-5, For, Aal, Pst, S
Intermediate Resistance: TYLCV

- Single pick greenhouse variety
- 18-20 grams AFW
- Excellent firmness and flavour
- Extensive disease package

MARINIKA is a single harvest cherry to compare to Bliss for nonheated greenhouse production. The plant is strong and vigorous and produces multiple trusses, with good setting ability. The fruit are round in shape, of medium to large size (18-20g) with attractive colour, good firmness at mature red stage, and excellent flavour. MARINIKA has shown good tolerance to splitting in trials to date and has an extensive disease package. A must for all low tech greenhouse cherry growers!

Tomato truss



Diamantino

DIAMANTINO is an improved Dirk type with larger average fruit size on the truss. Although still generative in nature DIAMANTINO is a little more vegetative than Dirk and has produced higher yields in NZ trials. The variety produces attractive uniform shaped clusters with firm globe shaped fruit averaging 120-130gms in size. Suited to heated greenhouse production DIAMANTINO produces year round and has an ability to maintain even colouring under pressure of PepMov virus.

Kanavaro

A reliable variety, KANAVARO produces fruit in the medium large segment with an average fruit weight of 150 grams. A powerful plant, KANAVARO has a regular fruit setting throughout the season providing consistency of production. The fruit of KANAVARO are highly uniform and very attractive with a glossy red colour. A high quality variety, KANAVARO is for markets that require a slightly larger fruit size and the versatility of marketing either loose fruit or trusses.

Zucchini lebanese/green

Columbia

Multi virus tolerant variety for the lebanese zucchini market offering intermediate resistance to ZYMV and WMV. COLUMBIA produces fruit of exceptional quality with nice glossy clean skin. COLUMBIA has shown increased yields over current standards and is suited to both open field and covered production systems. A major variety in the Sydney basin, COLUMBIA is an excellent option for all growers currently growing lebanese fruit types.

Nitro

NITRO offers the additional benefit of multi virus resistance whilst retaining a high yielding ability and is a must for planting in all production areas. The plant has a very strong upright habit with heavy aluminium flecked leaves. A little slower to begin NITRO will be still harvesting when many others have dropped off. DPI trials have shown NITRO to have good tolerance to ZYMV, WMV, PRSV and Powdery Mildew. NITRO has the potential to offer better quality coming out of winter into the spring in greenhouse production, at a time when varieties can suffer from soft blossom end problems.

Sample requests

If you are interested in trialling any of the varieties listed in this edition of the Greenhouse Gazette, please contact your local SPS greenhouse representative to discuss seed requirements and suitability of varieties for your situation.

For all of our products, please visit our website at:
www.southpacificseeds.com.au

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