

# grower solutions

## tomato update



February 2006

# TYLCV tomato technical update

**T**omato Yellow Leaf Curl Virus or TYLCV has caused major losses in most tomato producing countries, and is the major limiting factor to tomato production in certain areas but still has not been detected in Australia. It pays, however, to understand the disease so that it can be effectively controlled when it does occur locally.

TYLCV has resulted in major losses in Southern Europe, Mexico, sub Saharan Africa, it also occurs in Asia, Japan, Central America and the Caribbean and has also been detected in some states in the USA. Severe out breaks of the disease are associated with large white fly populations. As a result there has been a major international breeding focus on developing resistant varieties. Levels of resistance vary and there are various strains of the virus. A number of the commercial tomato varieties available in Australia have TYLCV resistance.

TYLCV is not seed borne but is transmitted by its vector, the tobacco whitefly, and also silver leaf whitefly. The importation of infected plant material would also act as a source of infection.

The symptoms of TYLCV are quite varied. Infected seedlings become severely stunted. Leaves that develop after TYLCV infection are cupped downwards, later developing leaves are strongly chlorotic and deformed with leaf margins rolled upward. Infected plants will drop all flowers and thus stop bearing fruit.

TYLCV should not be confused with TLCV (Tomato Leaf Curl Virus) which has been detected in Northern Territory around Darwin and causes the disease known as tomato leaf roll.



*The symptoms of TYLCV*

# F3 cherries of the future - here today!

by: Chris Newmarch - 0408 786 899

After intense screening and followed by semi commercial plantings, Lefroy Valley has released two new Fusarium Race 3 resistant cherry tomato varieties, **Izzie** and **Felicity**. In our request to the breeders four years ago we asked for not only F3 resistance but also better flavour and higher brix. We hoped to narrow the flavour gap between traditional cherry tomatoes and grape tomatoes.

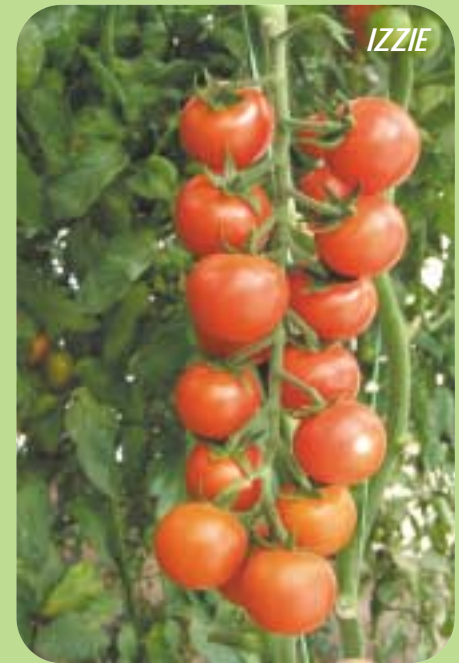
Izzie and Felicity come with a comprehensive disease resistance package and both show a significant increase in sugars and improvement in flavour which will result in greater consumer satisfaction.

Izzie is the marginally smaller of the two with fruit weighing about 12g. The fruit is resistant to splitting and probably has higher sugars (brix). This variety is highly resistant to Verticillium, Fusarium 1, 2, 3, TMV, nematodes & bacterial speck (*Pseudomonas syringae*)

Felicity, weighing in at 14gm, has a slightly higher yield due its slightly bigger size, as the fruit numbers on both these varieties seem similar. The flavour is exceptional for a cherry tomato.

Felicity can have a very attractive, tiny, yellow fleck around the calyx. Felicity is highly resistant to Verticillium, Fusarium 1, 2, 3, TMV & TYLCV, intermediate resistant to Nematodes.

Izzie and Felicity are both outstanding varieties which will change the attitude of growers and consumers to cherry tomatoes for ever.



## new trial Promising variety

**TOM 5954 FRT** is a new roma variety to be on the lookout for in trials next season.

This variety is a minimum prune determinate roma, suitable for 3 wires and with an outstanding disease package.

This variety is highly resistant to verticillium, Fusarium race 3, nematodes and intermediate resistance TSWV and has huge yield potential.



# Casablanca - a quality roma with TSWV

Casablanca has performed well in Carnarvon in the winter season and in Perth in the summer season. This variety is a top performer in the Mexican market, under extreme TSWV pressure, and is now demonstrating its pedigree in the Australian market. It has a strong indeterminate plant, with good cool season vigour,

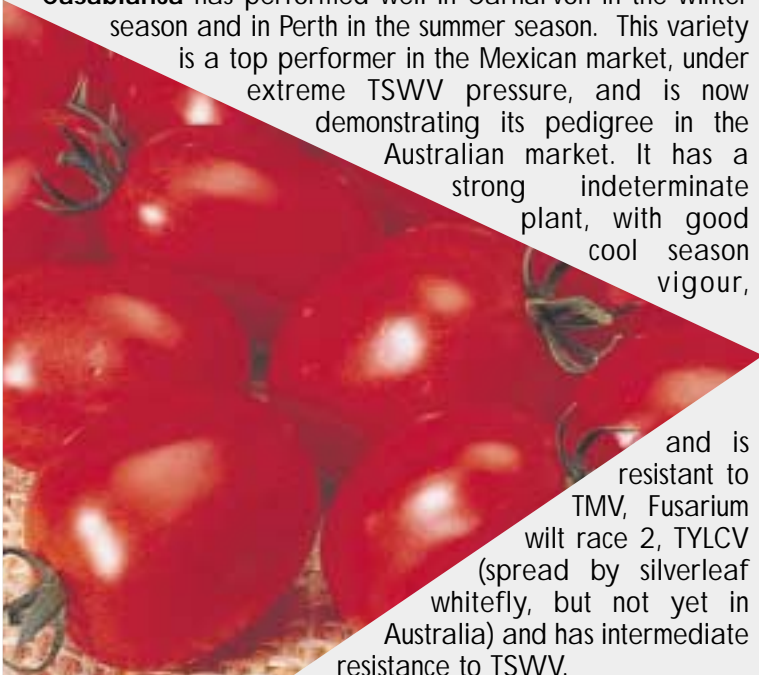
and is resistant to TMV, Fusarium wilt race 2, TYLCV (spread by silverleaf whitefly, but not yet in Australia) and has intermediate resistance to TSWV.

The fruit are a large egg shape weighing between 110 -130g and do not have a nipple. They are not as susceptible to shoulder breakdown as many other commercial roma varieties. They do not have green shoulder, are very firm and are deep red in colour. It must be said that after heavy rain experienced in Carnarvon last season there was water mark damage to fruit, but most other varieties had the same problem.

Although the TSWV resistance is rated as intermediate, it has been observed

where every single plant of a susceptible variety in the same block wilted with TSWV, not one Casablanca plant showed any symptoms. Casablanca is an excellent Roma variety which offers growers outstanding quality and yield even where TSWV is not a problem.

It should be emphasised that normal thrips control measures should be employed even where TSWV resistant varieties are used.



Casablanca



# North Queensland update

**Kaylene** is a new variety which has been selected out of Lefroy Valleys extensive F3 screening programme and evaluated in semi commercial plantings over the 2005 winter season in North & Central Queensland. It is a non green shouldered variety with neat, medium large, gourmet fruit which develop an outstanding red colour. Optimum harvesting appears to be from June through to August in Bowen when this variety offers the advantage of increased size over its competitors. In Bundaberg trials planted in March and April showed outstanding results with high yields of optimum sized fruit. Spring harvests also showed promising results.

Under hot conditions the internodes can stretch a bit but more extensive plantings will occur next season to pinpoint the exact timeslots for this variety.

Kaylene's full disease package includes TMV, V, F1,2,3 and offers an interesting option in F3 areas.



Kaylene

## new trial variety

**TOM 4405** is an interesting new F3 resistant hybrid which was trialled for the second year this season in North Queensland.

It is a determinate, non-pruning gourmet shaped variety that can be ground grown or trellised with 3 wires. 4405 has the capacity to set high numbers of uniform fruit 180 to 200g in size even under cool conditions.



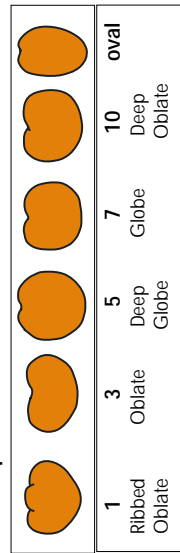
TOM 4405

More extensive trialling will be carried out in the 2006 season.

# Tomato Comparative Chart

	vigour	maturity	shape	size	g/shldr	str/life	TM	Fol 1	Fol 2	Fol 3	V	N	St	Cr	For	TSWV	Ps	TYLCV	NOTES
Indeterminate	Abigail	late	10	140-200	G	extend	✓	✓	✓	✓	✓								growing through warm (set well in the heat), to harvest in hot to cool season
	Angle	mid-late	10	160-180	no	extend	✓	✓	✓	✓	✓								excellent quality fruit under dry conditions
	Belinda	late	3	170-220	LG	extend	✓	✓	✓	✓	✓								good fruit size under cool conditions
	Brilliante	mid	7	130-200	LG	extend	✓	✓	✓	✓	✓								compact minimum prune plant
	Daniela	late	10	120-180	G	v.long	✓	✓	✓	✓	✓								RIN gene for extended shelf life
	Francoise	mid	10	140-200	LG	extend	✓	✓	✓	✓	✓								good fruit size under hot conditions
	Gabriela	late	10	120-180	G	extend	✓	✓	✓	✓	✓								very deep colour
	Kaylene	mid	7	150-190	no	extend	✓	✓	✓	✓	✓								high quality fruit and good size under cool conditions
	Marcelle	mid	10	150-180	no	extend	✓	✓	✓	✓	✓								high quality gourmet
	Puntero	late	3	130-170	no	medium	✓	✓	✓	✓	✓					✓			mid season production in TSWV areas
Roma	Rosemarie	mid-late	10	140-180	G	extend	✓	✓	✓	✓						✓			suitable for low greenhouse in TSWV areas
	Yonina	mid-late	10	160-180	no	extend	✓	✓	✓	✓					✓				high yielding, high quality fruit
	Winona	mid	10	120-200	no	extend	✓	✓	✓	✓									suitable for in and outdoor; good set under cool conditions
	Casablanca	mid	oval	110-130	no	medium	✓	✓	✓	✓						✓			smooth egg shape (no nipple) - good cool season vigour
Salita	early	oval	100-120		medium	✓	✓	✓	✓	✓									suitable for in and outdoor; good truss
Cherry	Izzie	mid	5	12-18	LG	v.long	✓	✓	✓	✓								✓	best disease package, good flavour
	Naomi	mid-early	5	15-30	LG	v.long	✓	✓	✓	✓									market favourite, high yielding 8%SS
	Shiren	mid-early	5	15-30	LG	v.long	✓	✓	✓	✓									high quality and neat fishbone truss; outdoor and GH
	Felicity	mid	5	14-25	LG	v.long	✓	✓	✓	✓								✓	good disease package, high flavour
	Italian P.38		oval	100-110		extend	✓	✓	✓	✓									
Torro	very, s/c	oval	170-200	no	v.long	✓	✓	✓	✓	✓									high quality determinate

## Fruit Shapes



**VIGOUR**  
s/o = semi open  
s/c = semi closed

TM = Tobacco Mosaic Virus  
V = Verticillium Wilt  
St = Gray Leaf Spot  
IR = Intermediate resistance  
LG = Light Green

Cr = Corky Root  
Fol = Fusarium Wilt races  
TSWV = Tomato Spotted Wilt Virus  
Ps = Bacterial Speck  
G = Green

N = Root Knot Nematode  
For = Fusarium Crown Rot  
HR = High resistance  
TYLCV = Tomato Yellow Leaf Curl Virus



**Disclaimer:** Lefroy Valley carries out stringent trialing throughout Australia/New Zealand prior to releasing varieties into the market place. We strongly recommend that all varieties be trialed under your growing conditions prior to commercial sowings taking place. For details of up to date trial results in your area please contact Lefroy Valley. Above information is valid 12 months from publication date. All cultural and descriptive information is supplied in good faith, as a guide only. Varietal performance is influenced by many variables, namely climatic, soil conditions, cultural and management practices. No liability will be accepted by Lefroy Valley or its representatives as to final performance based on this information.



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