

# PRODUCT GUIDE 2023-2025

NEW ZEALAND







# LET'S GROW BETTER TOGETHER

Since the 1500s, pioneers in the Netherlands have led the world's breakthroughs in seed science. This rich heritage of innovation is what drives De Ruiter forward. We strive to advance the science of greenhouse and glasshouse production not only for today, but far into the future. It's a passion we'll carry forth, generation after generation.

We are dedicated to serving protected-culture growers and our global presence means that the unique challenges you face can now be met with more tailored solutions. The precision and innovation you've come to expect from De Ruiter can be found at an even more powerful scale as we use our global network and partnerships to help you anticipate market trends and develop shared solutions to help grow future success for the entire value chain.



# TOMATO

# LARGE TRUSS, MEDIUM TRUSS, SALADETTE, CHERRY, COCKTAIL



View our range of Tomato varieties

# "

The combination of local service backed up by global breeding, research and support is something we prize. Bayer/De Ruiter takes the time to understand what we want to achieve with our customers, and then narrows down the solutions. This allows us to focus on growing, and brings credibility to Bayer/De Ruiter as an organisation who understands where they can add value. With complicated import requirements, having a local presence to distribute and support is something that is essential and appreciated. This has been a winning formula for all of my 23 years as a tomato grower, and will be one that sees the Bayer/De Ruiter and T&G partnership endure for many more.

"

BEN SMITH, GENERAL MANAGER COVERED CROPS T&G FRESH

# **LARGE TRUSS**







Grandice is a jointless, extra-large truss tomato with high yield potential and good truss quality. Grandice is another variety from our FULL RED range, glossy on the outside and FULL RED internal colour on the inside. Together with its strong disease resistance package, its appearance and quality will be appreciated by the consumer.

# MARINICE

Marinice is a uniform variety with excellent vigour and good fruit size. Marinice is a dual-purpose variety for both summer and winter crop cycles, making this versatile tomato a great alternative to Merlice in variable growing conditions.



# MERLICE

Merlice really helps growers reach their growing potential. It's a large truss variety with excellent shelf life and wonderful shelf appearance. Merlice maintains fruit size up the vine, leading to higher production and improved yield potential. It has a vigorous plant habit and Intermediate Resistance to Powdery mildew.

# FEATURES



Shape: Round

# Colour: Red

neu

# Weight: 170–200g

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# **Resistances:**

HR ToMV:0–2/ToTV/Pf:A–E/Fol:0,1/ For/Va:0/Vd:0 IR On

# FEATURES

**Shape**: Round

Colour: Red

# Weight: 155–165g

# **Resistances:**

HR ToMV:0–2/ToTV/Pf:A-E/Fol:0,1/For/ Va:0/Vd:0 IR On

# FEATURES

**Shape**: Round

# Colour:

Medium Red

# **Weight:** 150–165g

# **Resistances:**

HR ToMV:0–2/Pf:A-E/Fol:0,1/For/Va:0/ Vd:0 IR On

# **MEDIUM TRUSS**

# SALADETTE

# **CHERRY**





# PRUNUS

# ALFRED

Alfred is an adaptable variety with both cold and heat tolerance. It has a compact to medium plant length with strong vigour. Fruits are flat round, non-greenback and very firm. Suited for both long and short crops. Prunus has the highest yield potential of all commercially available saladette varieties for the protected heated market. It's a medium vigorous plant with generative habit. Prunus is suitable for both truss and loose harvest.

# **DR0603TC**

Its juicy taste makes it a winner for consumers. DR0603TC is grown year-round with a consistent yield and strong disease package.

# **FEATURES**

**Shape**: Flat Round

# Colour:

Red

# **Weight:** 110–140g

**Resistances:** 

HR ToMV:0–2/Pf:A-E/Fol:0,1/For IR Ma/Mi/Mj

# **FEATURES**

**Shape**: Plum

Colour: Red

Weight: 110g

## **Resistances:**

HR ToMV:0–2/Fol:0,1/For/Va:0/Vd:0 IR On

# **FEATURES**

**Shape**: Plum

> Colour: Red

Weight: 12–13g

## **Resistances:**

HR ToMV:0–2/ToTV/Pf:A-E/Fol:0,1/ Va:0/Vd:0 IR On/Ma/Mi/Mj

# **CHERRY**







# **DR0607TC**

DR0607TC is a high yielding cherry truss variety with excellent presentation, flavor and shelf life.

# DRC 564

This truss cherry tomato is popular with a wide range of greenhouses. Its versatility gives growers plenty of production options throughout the year. DRC 564 is recognisable by its deep red colour, uniform, shiny fruits and excellent taste. Majorita is a vigorous variety with Leaf mould resistance. It combines an excellent taste with high yield potential! Majorita's trusses split easily, allowing for increased yields.

MAJORITA

# **FEATURES**

**Shape**: Round

# Colour:

Red

# Weight: 15g

# **Resistances:**

HR ToMV:0–2/ToTV/Pf:A-E/Fol:0,1/ Va:0/Vd:0 IR Ma/Mi/Mj

# **FEATURES**

Shape: Round

# **Colour:** Red

**Weight:** 18–22g

# **Resistances:**

HR ToMV:0–2/Fol:0,1/Va:0/Vd:0 IR TSWV:0/Ma/Mi/Mj

# FEATURES

Shape: Round

Colour:

Red

# **Weight:** 15–18g

# **Resistances:**

HR ToMV:0-2/Pf:A-E/Fol:0,1/For/Va:0/ Vd:0

# COCKTAIL



# **RED DELIGHT**

Red Delight is a cocktail type with excellent truss shape. It maintains eight fruits per truss and has a superb taste.

# **FEATURES**

**Shape**: Round

Colour: Red

**Weight:** 50–60g

Resistances: HR ToMV:0–2/Pf:A-E/Fol:0,1/For/Va:0/ Vd:0



# CAPSICUM

**BLOCKY, HOT PEPPER** 

4., N.P.



View our range of Capsicum varieties

# "

NZ Hot House has enjoyed a close relationship with De Ruiter for close to 40 years. Their excellent performance, quality and integrity have made them one of our most trusted trade partners.

"

SIMON WATSON, MANAGING DIRECTOR NZ HOTHOUSE LTD

# BLOCKY

# **HOT PEPPER**





# **DSP 7054**

# FIREFLAME

DSP 7054 is an orange blocky variety with excellent taste, improved marketable yield and a slightly larger fruit size. Fireflame is a good all-round hot pepper suited to many growing conditions. The plant is vigorous and performs well in long heated and unheated crops. The plant produces long fruit (17cm) with high pungency.

# **FEATURES**

**Colour:** Orange

# Weight: 210g

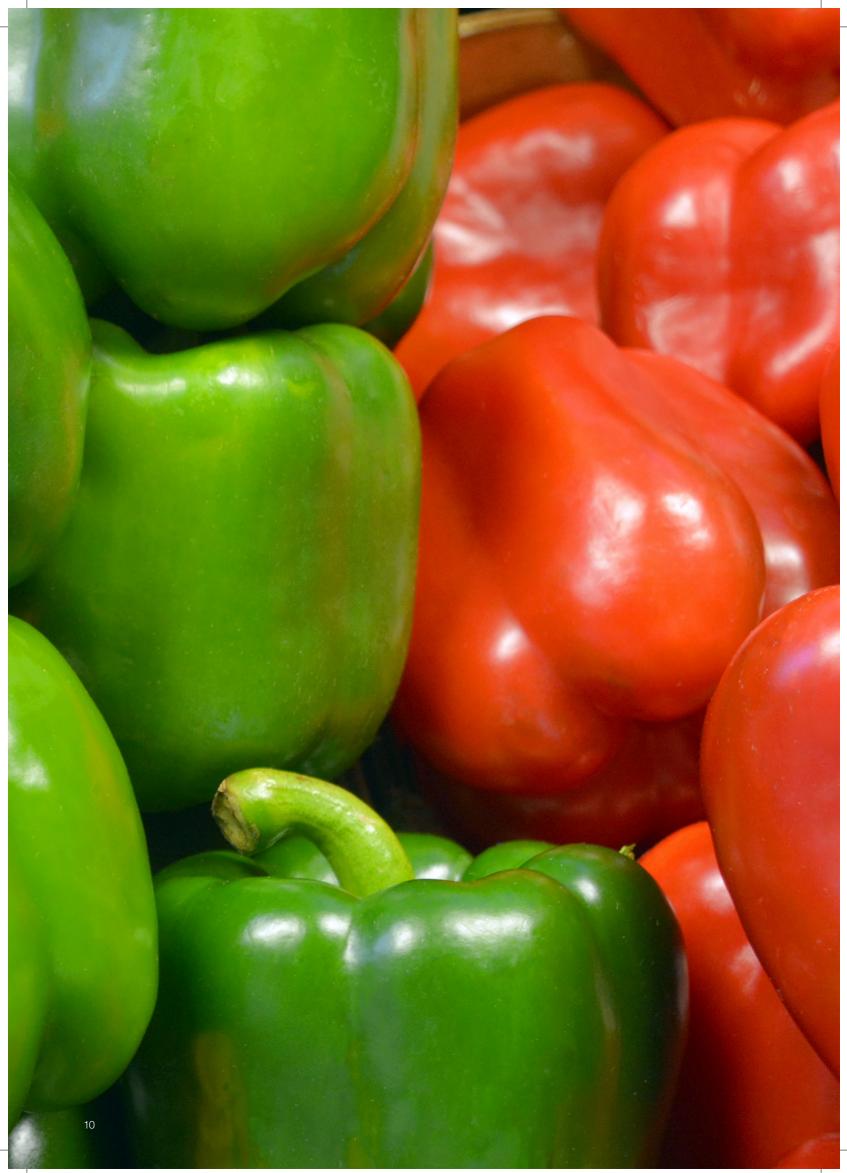
Resistances: HR Tm:0–3

# **FEATURES**

**Colour:** Green/Red

**Weight:** 18–20g

**Resistances:** HR Tm:0–2

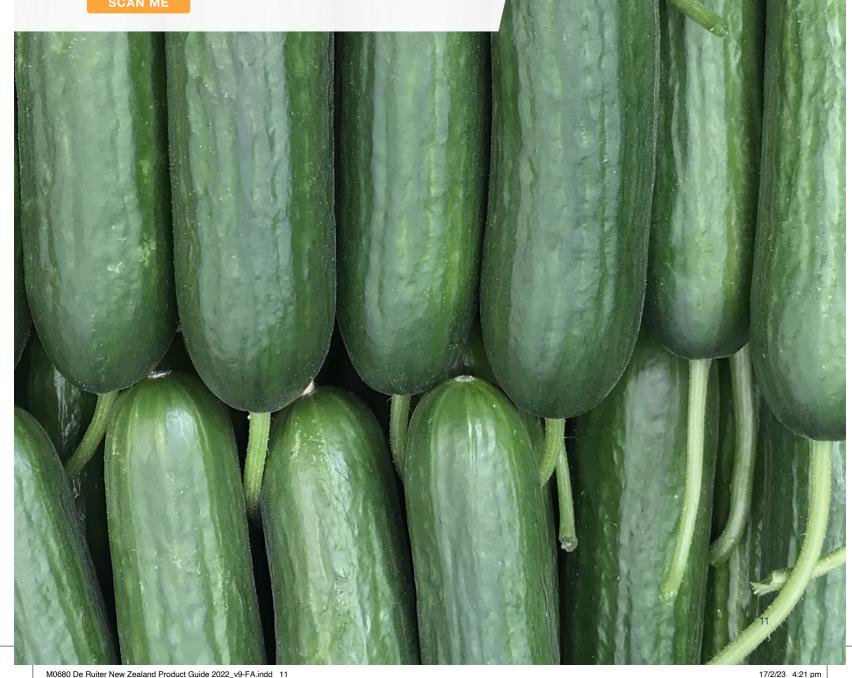


# CUCUMBER

**TELEGRAPH, MINI, SLICER** 



View our range of Cucumber varieties



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I have been growing cucumbers for many years, I choose De Ruiter because they provide consistent varieties that deliver on promises, and keep developing new varieties to meet our challenges.

"

RAJ SHARMA, OWNER SHARMA PRODUCE LTD

# **TELEGRAPH**

SV0091CE





# ULRICA



MINI

This cool-weather continental cucumber is suited to protected unheated environments. It is a vigorous, healthy plant with Intermediate Resistance to Powdery mildew and is strong against cold stripes. It fills its fruit well and creates an attractive dark green shape with very little neck, providing you with a great-looking, marketable crop. Ulrica is suitable for spring, summer and early autumn plantings. It is a medium strong plant that displays early production and high yield potential from both stem and lateral production. Saxes is a dark, cylindrical mini cucumber that is suitable for spring, summer and early autumn plantings. It has a strong vigour with multiple fruit set and early production.

# **FEATURES**

Type:

Telegraph

# AFL: 31cm

STCIII

# Resistances: HR CVYV/Cca/Ccu

IR CYSDV/Px

# FEATURES

**Type:** Telegraph

**AFL:** 32–38cm

**Resistances:** HR Px

# **FEATURES**

SAXES

**Type:** Mini

AFL:

17cm

**Resistances:** 

HR WMV/ZYMV/Px IR CMV/CVYV/PRSV

# **SLICER**





# **KENIA**

# SV6836CP

Kenia is a slicing cucumber that produces excellent long dark green fruits. It offers fruits with consistent marketable quality and excellent shelf life. Suitable for year round plantings in unheated greenhouses. A slicing cucumber from Seminis, SV6836CP offers growers a reliable variety with high marketable yield potential and good disease package. With improved fruit quality, SV6836CP is also friendly to manage.

# **FEATURES**

Type: Slicer

# AFL: 22cm

**Resistances:** HR Ccu/Px

IR Cca/CMV

# **FEATURES**

**Type:** Slicer

**AFL:** 19–22cm

Resistances: HR CMV,CVYV,Ccu,Px IR Cca

# ROOTSTOCK

# ΤΟΜΑΤΟ



View our range of Rootstock varieties

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# YOUR ROOTS OF SUCCESS

Yield has to do with choices, especially if you cultivate tomatoes. This starts as early as the choice of rootstock. For every cultivation strategy, the grower must take a great many factors into account nowadays including:

Variety, cultivation medium, specific resistances, greenhouse type, CO<sub>2</sub> capacity, climate and cultivation method, etc. That is also why De Ruiter offers its clients five different and unique rootstock varieties which take their specific conditions into account – five solutions waiting for one thing only: your search for success.

# **CULTIVATION CONDITIONS** DETERMINE SUCCESS

With its broad range of rootstocks, De Ruiter is responding to the latest developments in the market.

The market is characterised by an increasing variety of cultivation methods and demands, a greater selection of available varieties, and a search for optimum cultivation systems. The choice of the appropriate rootstock is determined by a range of cultivation factors including the type of greenhouse, the variety chosen, the  $CO_2$  capacity, and last but not least the grower.



# $CO_2$

The CO2 capacity impacts upon crop growth throughout the cultivation season and also affects the choice of rootstock.

# GREENHOUSE

Recently built greenhouses over 4 metres tall, larger glass surfaces and greater light penetration guarantee higher production potential.

# GROWER

Every grower has their own personal methods. Some target vegetative growth, others prefer a generative crop cycle.

# VARIETY

To obtain optimum benefit from the variety as well as the rootstock used, both must be well suited to each other.

# SUBSTRATE

The type of substrate also influences the choice of the rootstock. The plant will respond differently to a generative substrate compared with a vegetative substrate.



Scan the code to download more information about Rootstock from De Ruiter®

# TOMATO



# EQUIFORT

Equifort is a generative tomato rootstock enabling better control of the plant and a more balanced crop. Equifort directs its vigour and activity towards fruit production, leading to higher average fruit weight and a larger number of trusses.

# **Resistances:**

HR ToMV:0–2/Fol:0,1/For/Pl/Va:0/ Vd:0 IR Ma/Mi/Mj



# DR0141TX

This rootstock combines it all. The absolute superior power in this rootstock can be exploited and converted into higher yield potential and will equally give better endurance in long summer crops. DR0141TX has been developed with the trend towards artificially lit crops in mind.

## **Resistances:**

HR ToMV:0–2/Fol:0,1/For/PI/Va:0/ Vd:0 IR Ma/Mi/Mj

# MAXIFORT

The rootstock for substrate crops that has proven its value over and over again. Your safe choice, even for vegetative scions, Maxifort provides a balanced growth to maximise your yield.

# **Resistances:**

HR ToMV:0–2/Fol:0,1/For/Pl/Va:0/ Vd:0 IR Ma/Mi/Mj

# "

Marinice on Equifort provides the generativity and balance required to steer the crop adequately through vegetative conditions, we see less instances of vegetative trusses and an easier start to the crop.

"

JASON CULBERT, HEAD GROWER NZ HOTHOUSE LTD



# TECHNICAL INFORMATION

VARIETY SUMMARIES, RESISTANCES, SEED QUALITY, QUALITY ASSURANCE

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# TOMATO

Large Truss	Resistances	Heated	Unheated	Truss	Loose	AFW (G)
GRANDICE	HR ToMV:0–2/ToTV/Pf:A–E/Fol:0,1/ For/Va:0/Vd:0 IR On	$\checkmark$		$\checkmark$	$\checkmark$	170–200
GRANDICE	A jointless, extra–large truss tomato with high yield potential and good truss quality. Glossy on the outsid and a FULL RED internal colour.				the outside	
MARINICE	HR ToMV:0–2/ToTV/Pf:A–E/Fol:0,1/ For/Va:0/Vd:0 IR On	✓		√		155–165
	Strong fruit skin, good brix, a d	ual purpose v	ariety for both	summer and	winter crop cy	vcles.
MERLICE	HR ToMV:0–2/Pf:A–E/Fol:0,1/For/ Va:0/Vd:0 IR On	√		✓	✓	150–165
	Excellent yield potential and Intermed	iate Resistanc	e to Powdery	mildew. Maint	tains fruit size	up the vine.

Medium Truss	Resistances	Heated	Unheated	Truss	Loose	AFW (G)
	HR ToMV:0–2/Pf:A–E/Fol:0,1/For IR Ma/Mi/Mj	$\checkmark$	V		$\checkmark$	110–140
ALFRED	Fruits are flat round, non-g	reenback and	l very firm. Suit	ted for long ar	nd short crops	

Saladette	Resistances	Heated	Unheated	Truss	Loose	AFW (G)
	HR ToMV:0–2/Fol:0,1/For/Va:0/Vd:0 IR On	$\checkmark$		$\checkmark$	$\checkmark$	110
PRUNUS	Prunus is a multi-purpose, high yield	•	iety. It is suitab presentation.	ole for loose ar	nd truss harve	st with an

# ΤΟΜΑΤΟ

Cherry	Resistances	Heated	Unheated	Truss	Loose	AFW (G)
DR0603TC	HR ToMV:0–2/ToTV/Pf:A–E/Fol:0,1/ Va:0/Vd:0 IR On/Ma/Mi/Mj	V			V	12–13
	Cherry plum loose variety that produces consistently uniform smooth fruits with an average fruit weight of 12–13g.					
DR0607TC	HR ToMV:0–2/ToTV/Pf:A–E/Fol:0,1/ Va:0/Vd:0 IR Ma/Mi/Mj	√	V	√	√	15
	Medium-sized cherry tomato for trus		Produces double presentation.	e trusses easil	y. Very uniforn	n fruit with
DRC 564	HR ToMV:0–2/Fol:0,1/Va:0/Vd:0 IR TSWV:0/Ma/Mi/Mj	$\checkmark$		✓	$\checkmark$	18–22
DI 10 304	DRC 564 is a versatile variety	with a deep r	ed colour, unifc	orm shape and	l excellent tas	te.
MAJORITA	HR ToMV:0–2/Pf:A–E/Fol:0,1/For/ Va:0/Vd:0	✓			$\checkmark$	15–18
	Combines excellent taste with high	yield potential.	. Trusses branc	h easily allowi	ng for increase	ed yields.

Cocktail	Resistances	Heated	Unheated	Truss	Loose	AFW (G)
RED DELIGHT	HR ToMV:0–2/Pf:A–E/Fol:0,1/For/ Va:0/Vd:0	√		√		50–60
	Cocktail type with excellent t	truss shape. N	Aaintains eight f	ruits per truss	. Superb taste	Э.

# CAPSICUM

Blocky	Resistances	Heated	Unheated	AFW (G)
	HR Tm:0–3	$\checkmark$		210
DSP 7054	Orange blocky variety with ir and	nproved marketable yi shelf life as Orange Glo	•	the same fruit quality

Hot Pepper	Resistances	Heated	Unheated	AFW (G)
	HR Tm:0–2	$\checkmark$		18–20
FIREFLAME	The plant is vigorous and pe The v	rforms well in long hea ariety is suitable for gre		Il in unheated crops.

# **CUCUMBER**

Telegraph	Resistances	Heated	Unheated	AFL (CM)
SV0091CE	HR CVYV/Cca/Ccu IR CYSDV/Px		$\checkmark$	31
	This winter cucumber keeps its cool agair	nst cold stripes a	nd Powdery mild	lew.
ULRICA	HR Px		$\checkmark$	32–38
	Ulrica is suitable for spring, summe	er and early autur	mn plantings.	

Mini	Resistances	Heated	Unheated	AFL (CM)
SAXES	HR WMV/ZYMV/Px IR CMV/CVYV/PRSV		$\checkmark$	17
	Mini cucumber suitable for spring, summer and ear multiple fruit set and e		0	ng vigour with

Slicer	Resistances	Heated	Unheated	AFL (CM)
KENIA	HR Ccu/Px IR Cca/CMV		$\checkmark$	22
	Kenia offers fruits with consistent marketable quality plantings in unheate		helf life. Suitable	for year round
SV6836CP	HR CMV/CVYV/Ccu/Px IR Cca		$\checkmark$	19–22
	A slicing cucumber that is reliable with high markets	able yield potenti	al and good dise	ease package.

# ROOTSTOCK

Rootstock	Resistances	Heated	Unheated	
DR0141TX	HR ToMV:0–2/Fol:0,1/For/Pl/Va:0/Vd:0 IR Ma/Mi/Mj	$\checkmark$		
DIOTATIX	High performance in high input environment.			
EQUIFORT	HR ToMV:0–2/Fol:0,1/For/Pl/Va:0/Vd:0 IR Ma/Mi/Mj	$\checkmark$		
	Comfort and high performa	ance		
MAXIFORT	HR ToMV:0–2/Fol:0,1/For/Pl/Va:0/Vd:0 IR Ma/Mi/Mj	$\checkmark$		
	Full power, maximum reliab	pility.		

# RESISTANCES

Codes indicate available resistance in the Vegetable Seeds variety catalogue. Bayer has exercised reasonable care and skill in compiling this catalogue. The varieties with disease resistance claims have been tested for specified disease resistance. All resistances quoted refer only to races or pathotypes of the variety. It is important to recognise that the response of resistant plants to pests or pathogens can vary according to host age and depend on environmental factors. New and/or atypical pest or pathogen biotypes, races, or strains may overcome resistance, sometimes completely.

The descriptions, advice, resistance claims and vegetation cycles that are presented in this product guide are intended for general guidance only. The user should apply it in accordance with knowledge and experience of local conditions. Bayer follows International Seed Federation (ISF) recommendations concerning Resistance Codes. Bayer cannot accept any liability in connection with this product guide and does not guarantee any result or performance.

# DISEASE RESISTANCE TERMINOLOGY

**Resistance:** Resistance is the ability of a plant variety to restrict the growth and development of a specified pest or pathogen and/or the damage they cause when compared to susceptible plant varieties under similar environmental conditions and pest or pathogen pressure. Resistant varieties may exhibit some disease symptoms or damage under heavy pest or pathogen pressure. Two levels of resistance are defined.

**High/Standard Resistance (HR)**: Plant varieties that highly restrict the growth and development of the specified pest or pathogen under normal pest or pathogen pressure when compared to susceptible varieties. These plant varieties may, however, exhibit some symptoms or damage under heavy pest or pathogen pressure.

**Moderate/Intermediate Resistance (IR):** Plant varieties that restrict the growth and development of the specified pest or pathogen, but may exhibit a greater range of symptoms or damage compared to high/standard resistant varieties. Moderate/intermediate resistant plant varieties will still show less severe symptoms or damage than susceptible plant varieties when grown under similar environmental conditions and/or pest or pathogen pressure.

**Tolerance:** Tolerance is the ability of a plant variety to endure abiotic stress without serious consequences for growth, appearance and yield. Bayer makes NO claims of tolerance to diseases or disorders caused by pests.

Code	Scientific Name	English Name
Aal	Alternaria alternata f. sp. lycopersici	Alternaria stem canker
Fol	Fusarium oxysporum f.sp. lycopersici	Fusarium wilt
For	Fusarium oxysporum f.sp. radicis lycopersici	Fusarium crown rot
t	Leveillula taurica (anamorph: Oidiopsis sicula)	Powdery mildew
la	Meloidogyne arenaria	Root knot nematode
1i	Meloidogyne incognita	Root knot nematode
Лj	Meloidogyne javanica	Root knot nematode
Dn	Oidium neolycopersicum (ex Oidium lycopersicum)	Powdery mildew
Pf	Passalora fulva	Leaf mould
Pi	Phytophthora infestans	Late blight
9	Pyrenochaeta lycopersici	Corky root rot
st	Pseudomonoas syringae pv.	Tomato bacterial speck
bl	Stemphylium botryosum f.sp. lycopersici	Grey leaf spot
i	Silvering	
	Stemphylium lycopersici	
S	Stemphylium solani	
юMV	Tomato mosaic virus	
oTV	Tomato torrado virus	
SWV	Tomato spotted wilt virus	
YLCV	Tomato yellow leaf curl virus	
a	Verticillium albo-atrum	Verticillium wilt
d	Verticillium dahliae	Verticillium wilt

Capsicums			
Code	Scientific Name	English Name	
PVY	Potato virus y	Potato virus y	
Tm	Tobamovirus group	Tobamovirus group	
TSWV	Tomato spotted wilt virus	Tomato spotted wilt virus	

Cucumber				
Code	Scientific Name	English Name		
Pls	Pseudomonas syringae pv. lachrymans	Angular leaf spot		
Со	Colletotrichum orbiculare	Anthracnose		
Et	Erwinia tracheiphila	Bacterial wilt		
BPYV	Beet pseudo yellowing virus	Beet pseudo yellowing virus		
Fsc	Fusarium solani f.sp. cucurbitae	Crown and root rot		
CGMMV	Cucumber green mottle mosaic virus	Cucumber green mottle mosaic		
CMV	Cucumber mosaic virus	Cucumber mosaic		
CVYV	Cucumber vein yellowing virus	Cucumber vein yellowing		
CYSDV	Cucurbit yellow stunting disorder virus	Cucurbit yellow stunting disorder		
Pcu	Pseudoperonospora cubensis	Downy mildew		
For	Fusarium oxysporum f. sp. radicis-cucumerinum	Fusarium crown and root rot		
Foc	Fusarium oxysporum f. sp. cucumerinum	Fusarium wilt		
Db	Didymella bryoniae	Gummy stem blight		
PRSV	Papaya ringspot virus	Papaya ringspot		
_	Phomopsis sclerotioides	Phomopsis root rot (black root rot)		
Gc	Golovinomyces cichoracearum	Powdery mildew		
Px (Sf)	Podosphaera xanthii	Powdery mildew		
Ccu	Cladosporium cucumerinum	Scab		
Cca	Corynespora cassiicola	Target spot		
WMV	Watermelon mosaic virus	Watermelon mosaic		
ZYMV	Zucchini yellow mosaic virus	Zucchini yellow mosaic		

Cucurbits – Rootstock			
Code	Scientific Name	English Name	
Foc	Fusarium oxysporum f. sp. cucumerinum	Fusarium wilt	
Fom	Fusarium oxysporum f. sp. melonis	Fusarium wilt	
Fon	Fusarium oxysporum f. sp. niveum	Fusarium wilt	
Forc	Fusarium oxysporum f. sp. radicis-cucumerinum	Fusarium wilt	
Ps	Phompsis sclerotioides Phomopsis	Phomopsis black root rot	
Vd	Verticillium dahliae	Verticillium wilt	
Ma/Mi/Mj	Melodogyne arenaria, incognita, javanica	Root knot nematode	
Rs	Rhizoctonia solani Rhizoctonia	Rhizoctonia root rot	
CMV	Cucumber Mosaic Virus	Cucumber mosaic virus	
CVYV	Cucumber Vein Yellowing Virus	Cucumber vein yellowing virus	
Px	Podosphaera xanthii (was Sphaerotheca fuliginea)	Powdery mildew	

# HOW BAYER PRODUCES HYBRID SEEDS

Hybrid seed production at Bayer requires rigorous processes to ensure high standards of quality. Hybrid parent lines are carefully shipped to Bayer-owned farms or to contracted seed growers. The male and female seeds are then planted side by side. Once the parental plants flower, they cross pollinate to produce the seed-bearing fruit. The fruits are monitored as they mature until they are ready for harvest. Finally the commercial hybrid seeds, also called F1 seed, are extracted from the fruit and shipped to one of twelve Bayer operations facilities where they are prepared for sale.

# ONLY THE BEST SEEDS ARE KEPT

Growing and harvesting high quality seeds is just the beginning. The seeds must be cleaned and conditioned, dried, sorted by size (for precision planters), thoroughly tested and packed prior to shipping. Many growing areas also require seeds to be treated with protectants, primed or pelleted. All of our seed is stored in bulk containers under controlled storage conditions. It is packed to order based on each customer's specifications. These services all require years of training as well as specialised equipment and logistical systems to do well.

It's one of the reasons why growers prefer to purchase seed each season from Bayer. All of our processes are designed to protect the quality of the seed – a fragile, living product.

# CONDITIONING

Seed conditioners separate fully formed seeds by weight, size, shape and colour. The process also removes plant materials, debris, dead seed and seed from other plants.

# SEED TREATMENTS

Seed treatments can be applied to seeds to protect them from disease during their most vulnerable time in the ground. They can also enhance germination, vigour and uniformity in the field. Common treatments include film coating, an application that coats the seed with a polymer that can hold to seed protectants.

The bright colour also makes the seed easy to identify during planting. In addition, some types of seed are "primed" to enhance its performance. Primed seeds have been hydrated and redried prior to sale. Another popular option is pelleting, a thick coating that makes very small seeds larger, perfectly round, and easy to handle. The pellet typically splits open or dissolves once it is in the ground and exposed to water.

Other seed treatments, such as hot water baths, are part of Bayer's comprehensive quality assurance system. These treatments are designed to kill harmful bacteria that may be on the seed.

# PACKAGING

Highly accurate machines are used to pack seed by count, weight and volume, depending on the crop and market. Pouches, foils, cans and pails are specially sealed to protect the seed during shipment and storage.

# HEALTH, PURITY AND VIGOUR

At Bayer we complete nearly 500,000 quality checks on our seed each year. This rigorous testing is the centrepiece of our comprehensive quality assurance system. A single seed lot can be subjected to several dozen quality measurements. All commercially sold seed by Bayer is tested every six months for germination.

Several of our labs have been accredited by government auditors, such as the National Seed Health System in the United States and Naktuinbouw, the Dutch Inspection Service for Horticulture. To earn this prestigious status we have proven that our test results are reliable, reproducible and independent from commercial influence.

# **GERMINATION AND VIGOUR TESTING**

Completed in specialised growth chambers and greenhouses, these tests provide one of the most important quality measurements of seeds. High germination percentages are indicative of health, vigour and the overall quality of the seeds. Our procedures meet or exceed international standards.

# PHYSICAL PURITY

Using magnifiers and microscopes, technicians examine seed lots to detect weed seeds or other impurities. Any irregularities are documented and the seed reconditioned or discarded, if needed.

# **IDENTITY AND PURITY TESTING**

It is impossible to identify a plant variety simply by looking at its seed. With 3,500+ products, Bayer has developed highly accurate methods to confirm identity and measure the percentage of hybridity of harvested seeds. Using equipment similar to what is found in sophisticated medical labs, Bayer technicians can even identify specific products via their DNA fingerprint. When needed, field tests, called "grow-outs", are used to visually confirm that the plants have the right phenotype.

# SEED HEALTH

Destructive bacteria and plant viruses can be transmitted on seeds and Bayer takes extreme caution to prevent infection during seed production and afterwards. Random samples of seeds (usually 30,000 or 50,000 seeds per lot) are drawn from seed lots and tested for the presence of pathogens that are known to be problematic.

In addition to grow-outs, where seeds are planted in greenhouses and tested for disease symptoms, the team uses a number of highly sensitive tests to find seeds that may carry pathogens. This may include enzyme based ELISA assays and DNA-based PCR (polymerase chain reaction) tests. Bayer has made many breakthroughs in the area of seed health, and for the benefit of the industry has often shared that knowledge.

# **QUALITY ASSURANCE RESEARCH**

Bayer has a special team of quality experts whose job is to find new and innovative ways to improve the health and quality of seed. They study the physiological, horticultural and genetic factors that affect seed quality. We then use this information to guide our product development as well as the processes and technologies employed in seed production and operations.

# GOOD SEED AND PLANT PRACTICES (GSPP)

Bayer supports GSPP, an industry initiative from seed companies and plant raisers covering seeds and young plants. GSPP is a hygiene and prevention system focusing on Clavibacter michiganensis spp. Michiganensis (Cmm) in tomato and rootstock for protected crops, strictly following state of the art standards and protocols with independent audits.

The goal of GSPP is to improve along the propagation chain the management and the prevention of Cmm risk. Zero risk with Cmm doesn't exist. The success of GSPP depends on the involvement of all partners in the chain, from seed producer until young plant raisers.

# **COMMERCIAL/SALES**



**SERHIY YURCHAK** De Ruiter Business Manager – New Zealand +64 21 849 744 serhiy.yurchak@bayer.com



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For more information visit vegetables.bayer.com or contact your local representative

# Vegetable Seeds Customer Service Ph: 09 239 0666 Email: vegetablesales.nz@bayer.com

## **Bayer New Zealand**

704 Harrisville Road Pukekohe RD2 2677



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The terms and abbreviations used by Bayer New Zealand Pty Ltd to describe the reaction of plants obtained from the seeds to pests or pathogens and to abiotic stresses such as (High/standard resistance (HR), moderate/intermediate resistance (IR), Immunity, Susceptibility and Tolerance shall have the meaning given by the International Seed Federation and can be found on ISF website ( www.worldseed.org).

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.