



OUTSTANDING QUALITIES

- ◆ NEW MINI PLUM VARIETY
- ◆ OUTSTANDING FLAVOUR AND HIGH SUGAR CONTENT
- ◆ INTENSE RED COLOUR
- ◆ EXCELLENT YIELD POTENTIAL

Bellastar* is a highly productive indeterminate mini plum tomato that performs very well in the early and main season slots. It offers medium-tall and vigorous plants with a good leaf cover and maintains good fruit size and shape uniformity throughout the production cycle. The fruit is high quality with a rich deep red colour and good flavour. The variety is suited to long cycle crops.

SPECIAL VARIETAL REQUIREMENTS

- Adequate light and optimal temperatures ensure good flavour and colour development

CHARACTERISTIC*	BELLASTAR*
KIND	Indeterminate F1 hybrid tomato (<i>Lycopersicon esculentum</i> Mill. nom cons)
TYPE	Mini plum
PRODUCTION TYPE	Under protection
FIRMNESS	Excellent
MATURITY	Early
PLANT VIGOUR	Medium
SEASON	Year-round culture in frost-free areas
FRUIT WEIGHT	11 - 15 g dependent on pruning technique
FRUIT SHAPE	Elongated
PEDUNCLE	Jointed
ATTACHMENT POINT	Minute, neat
SHOULDER	Smooth
SHOULDER COLOUR	Uniform green turning red
COLOUR	Intense red
FLAVOUR	Outstanding
UNIFORMITY	Excellent
LEAF COVER	Good
DISEASE REACTION (SCIENTIFIC)	High resistance: <i>Fusarium oxysporum</i> f.sp. <i>lycopersici</i> race 1 (Fol:1), <i>Fulvia fulva</i> (Ff: A-E) and <i>Tomato mosaic virus</i> races 0-2 (TMV:0-2) Intermediate resistance: <i>Meloidogyne incognita</i> (Mi)◆ ◆ Nematode resistance can break down when soil temperatures are above 32°C
MARKET USE	Single fruit, pre-packing, export
POPULATION GUIDE	24 000 - 28 000 final stand per ha
SPECIAL FEATURES	Outstanding flavour and colour and high yield potential.

* Characteristics given are affected by production methods such as soil type, nutrition, planting population, planting date and climatic conditions. Please read disclaimer.

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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 (HR = High resistance, IR = Intermediate resistance).

* **Experimental:** This variety does not appear on the current South African Variety list, but has been submitted for registration.

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GENERAL TIPS FOR TOMATO PRODUCTION

Mediums for use in hydroponic systems

A good medium generally provides good aeration and good water movement. Fresh nutrient solution is added with each irrigation cycle and there is less chance of the spread of diseases especially soil-borne diseases. In a suitable growing media excess salts that accumulate in the media and cause damage to the plant can be rapidly removed. Sawdust is a popular medium in South Africa. Other suitable mediums include coir, ash, and rock wool slabs. Remember, different mediums require different management.

Soil requirements

In South Africa, tomatoes are cultivated in different soil types, from heavy clay to light sandy soil and sandy peat. Tomatoes seem to prefer well-drained sandy soils. Good moisture-holding capacity with good drainage is important. Tomatoes grow well at a wide pH range from 5.5 - 7.5 but are sensitive to acid soils and if the pH (H₂O) is lower than 5.5, additional lime should be applied. The lime should be added 4 - 6 weeks before planting.

Pruning

Removal of side shoots of indeterminate growers should be done from the outset to restrict the plant to one or two stems. Side shoots should be removed when they are less than 5 cm in length. A big reduction in yield will occur if the side shoots are left to develop to a length of 15 – 20 cm. Use scissors or fingertips to remove the side shoot and dip in a disinfectant to prevent the spread of disease. The smaller the wound, the faster it will heal and the less likely disease infection will occur.

Late blight (*Phytophthora infestans*)

Symptoms

The leaves and fruit are affected and water-soaked lesions that change to purple-brown, oily blotches can be seen on the leaves. The fruit show slightly sunken dark brown lesions.

Conditions for disease development

Cool night temperatures and warm days (temperature between 10 - 25°C) with an RH of 90 % and more. The disease spreads by rain and wind and survives on infected plant material. The main inoculum source is from potatoes.

Prevention and control

- High temperatures (30°C) and dry weather conditions reduce the disease development
- Reduce the RH and minimize the wetting of the leaves
- Spray with a fungicide at regular intervals but rotate to prevent resistance

Pith necrosis (*Pseudomonas corrugata*)

Tomato pith necrosis has become a problem in recent years, but mainly affects crops under protection. The disease in isolated cases may be severe.

Symptoms

The initial symptoms include chlorosis of the young leaves, wilting of affected plants bearing fruit and later on, stems become hollow. The stems can start to crack and adventitious root growth can be possible.

Prevention and control

- Avoid high humidity and excessive plant growth by controlling plant growth (high nitrogen)
- Sanitation (burning of infected plant material).
- No chemical control exists

Nitrogen deficiency

Symptoms

- Spindly plants
- The lower leaves turn a yellowish-green colour
- In severe cases the entire plant has a pale green appearance
- Major veins have a purple colour
- Small fruit size

Remedies

- Use a foliar spray of 0.25 to 0.5 % solution of urea
- Add or increase calcium nitrate or potassium nitrate to nutrient solution

General strategies for the control of virus diseases

- Control alternative hosts of the virus, especially weed and volunteer plants
- Control insects as they act as vectors
- Destroy infected plants as soon as possible

Disease resistance definition

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 resistant varieties. Moderately/intermediately 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.

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