

STORMER

F1 Hybrid Determinate Salad Tomato

OUTSTANDING QUALITIES

- ◆ LONG LIFE
- ◆ GOOD QUALITY FRUIT
- ◆ HIGH RESISTANCE TO ROOT-KNOT AND TOMATO SPOTTED WILT



Stormer is a long life, determinate salad tomato hybrid. This variety is highly resistant to *Verticillium* race 1 (Vd: 1), *Fusarium* races 1 and 2 (Fol: 1 - 2), Root-knot (Mi, Mj) and Tomato spotted wilt (TSWV). Fruit have a good quality and are deep oblate in shape and an average fruit size of approximately 160 – 180 g. Yield potential is very good with a high percentage of first grade fruit. **Stormer** has a good track record in areas where Tomato spotted wilt and Root-knot occurs.

SPECIAL VARIETAL REQUIREMENTS

- Contact your area representative for more information

CHARACTERISTIC*	STORMER
KIND	Determinate F1 hybrid salad tomato (<i>Lycopersicon esculentum</i> L.)
PRODUCTION TYPE	Open field
FIRMNESS	Very good
MATURITY	Early
PLANT VIGOUR	Good
SEASON	Year round culture in frost-free areas
FRUIT WEIGHT	160 - 180 g
FRUIT SHAPE	Deep oblate
PEDUNCLE	Jointed
ATTACHMENT POINT	Medium, neat
SHOULDER	Smooth to slightly ribbed
SHOULDER COLOUR	Light green
BLOSSOM END	Small, neat
COLOUR	Internal: good; External: good
FLAVOUR	Good
UNIFORMITY	Very good
LEAF COVER	Good
DISEASE REACTION (SCIENTIFIC)	High resistance: <i>Verticillium dahliae</i> race 1 (Vd: 1), <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> races 1 and 2 (Fol: 1 - 2), <i>Meloidogyne incognita</i> (Mi), <i>Meloidogyne javanica</i> (Mj) and Tomato spotted wilt virus (TSWV).
MARKETS / END USE	Fresh market
POPULATION GUIDE	12 000 – 14 000 final stand per ha (45 – 50 cm in row, 160 cm between rows)
SPECIAL FEATURES	Proven record in the Western Cape in areas where Tomato spotted wilt and Root-knot occur

* Characteristics given are affected by production methods such as soil type, nutrition, planting population, planting date and climatic conditions. Please read disclaimer.
 WARNING: VARIETY PROTECTED UNDER PLANT BREEDERS RIGHTS. UNAUTHORIZED MULTIPLICATION AND/OR MARKETING OF SEED PROHIBITED.

Disclaimer: This information is based on our observations and/or information from other sources. As crop performance depends on the interaction between the genetic potential of the seed, its physiological characteristics, and the environment, including management, we give no warranty express or implied, for the performance of crops relative to the information given nor do we accept any liability for any loss, direct or consequential, that may arise from whatsoever cause. Please read the Sakata Seed Southern Africa (Pty) Ltd Conditions of Sale before ordering seed.

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).

Recent version: Kindly contact Sakata or Area Representative for the most recent version of this Technical Bulletin.

GENERAL TIPS FOR TOMATO PRODUCTION

Climatic requirements

Tomatoes can grow at a wide range of temperatures but for optimum growth tomatoes prefer temperatures between 10 °C (minimum) and 30 °C (maximum). The temperature requirements for the different growth stages are given in the Table below. Tomatoes do not tolerate frost or waterlogged conditions and these should be avoided at all cost. The most sensitive stages for water and temperature stress are directly after transplanting, during the flowering stage and during the fruit development stages. Water stress during these stages of tomato development will reduce yield and quality.

Developmental stage	Temperature °C		
	Min	Opt	Max
Germination	11	16 - 29	34
Vegetative growth	18	21 - 24	32
Fruit set (night)	10	14 - 17	20
Fruit set (day)	18	19 - 24	30
Red colour dev.	10	20 - 24	30
Yellow colour dev.	10	21 - 32	40
Chilling damage		< 6	
Frost damage		< 1	
Lethal temperature		< -2	

Tomato spotted wilt virus (TSWV)

TSWV is a very important virus on tomatoes and has the widest host range of any virus (vegetables, ornamentals and weeds). The virus is spread by thrips.

Symptoms

First symptoms are visible on the older leaves showing round necrotic spots, with a bronze discolouration. Similar spots or streaks can occur on the stems and petioles, the entire plant becomes dwarfed. Symptoms resembling a wilt can be observed on the plant. Chlorotic ring spots can form on the fruit.

Prevention

Thrip control and strict weed host control. Good sanitation by removing any infected plant material to reduce the amount of inoculums and the use of resistant varieties.

Root knot nematode (*Meloidogyne sp.*)

Root knot nematode has a worldwide distribution, and can occur on a wide range of soils, but their association with crop damage is most severe on sandy soils.

Symptoms

Diseased plants exhibit typical symptoms of water or nutrient deficiency stress. The foliage may appear yellow

and stunted due to reduced translocation of nutrients. The most conspicuous symptoms of infection is the presence of root swelling, called galls, which is evident when plants are uprooted.

Conditions for disease development

Life cycle takes 3 - 4 weeks in soil temperatures of 25 - 30 °C.

Soil requirements

In South Africa tomatoes are cultivated on 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.

Soil preparation depends on the soil conditions and the climatic conditions under which the crop is cultivated. Raised beds are ideal for tomato production. It helps prevent damage from soil compaction and flooding. Raised beds also improve airflow around the plant roots resulting in reduced disease incidence. Before beds are made, the soil should be properly worked to a depth of 40 cm to enhance aeration as well as water penetration and drainage.

The Range Test

This is a vigour test, and is designed to give the seedling grower additional information about the lot's potential to perform at a range of temperatures (above and below ideal). As with the germination test, all other factors remain constant, it is only the temperature that varies. Both the radicle count (at 120 hours) and the final germination count are provided for all 6 test temperatures. In nurseries where germination rooms are not used the range test should be looked at very carefully and temperatures should be monitored to insure good germination. It can be possible that the radicle count is higher than the final germination count, as some seeds that do produce a radicle, may turn out to be abnormal. If this is the case the lower count. Ask your representative of a lot specific copy of the range test.

Susceptibility (S): is the inability of a plant variety to restrict the growth and development of a specified pest or pathogen.

Tolerance (T): is the ability of a plant variety to endure **abiotic stress** without serious consequences for growth, appearance and yield. Vegetable companies will continue to use tolerance for abiotic stress.

Disclaimer: This information is based on our observations and/or information from other sources. As crop performance depends on the interaction between the genetic potential of the seed, its physiological characteristics, and the environment, including management, we give no warranty express or implied, for the performance of crops relative to the information given nor do we accept any liability for any loss, direct or consequential, that may arise from whatsoever cause. Please read the Sakata Seed Southern Africa (Pty) Ltd Conditions of Sale before ordering seed.

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).

Recent version: Kindly contact Sakata or Area Representative for the most recent version of this Technical Bulletin.