

# TRAINA

## F1 Hybrid Sweet Pepper

### OUTSTANDING QUALITIES

- ◆ GOOD FRUIT SETTING UNDER HOT GROWING CONDITIONS
- ◆ ATTRACTIVE RED BLOCKY FRUIT
- ◆ EXCELLENT VIRUS RESISTANCE PACKAGE
- ◆ FOR PRODUCTION UNDER PROTECTION



**Traina** is a blocky green to red hybrid sweet pepper, especially adapted for not growing conditions under plastic houses with the ability to have continuous fruit setting under hot growing conditions. The open plant do not need pruning if trellised on the spanish system. High total yield potential under virus pressure. Labour friendly variety with less production costs. Fruit colour is green turning red at maturity, with a tendency to elongate shape on top of plant. The fruits are very uniform, 9 cm x 10 cm on average with an improved red colour compared to most of the commercial varieties. The fruit have thick walls and smooth skin with a good cracking resistance. **Traina** has high resistance against Tomato spotted wilt (TSWV), Potato Y (PVY) and Tobamo viruses *Tm: PO, P1, P1.2, P1.2.3 (L4)*.

### SPECIAL VARIETAL REQUIREMENTS

- **Traina** is for production under protection during warm season

CHARACTERISTIC*	TRAINA
KIND	F1 hybrid pepper ( <i>Capsicum L.</i> )
TYPE	Blocky
MATURITY	Medium
FRUIT DIMENSIONS	Approximately 10 x 10 cm (app. 250 g)
FRUIT SHAPE	Blocky
FRUIT WALL	Thick
SMOOTHNESS	Smooth surface with shallow lobes
FRUIT COLOUR	Green turning red
PLANT TYPE	Indeterminate
DISEASE REACTION (SCIENTIFIC)	<b>High resistance:</b> <i>Tomato spotted wilt virus (TSWV), Potato Y virus (PVY) and Tobamo viruses Tm: PO, P1, P1.2, P1.2.3 (L4)</i>
PRODUCTION	Under protection
POPULATION GUIDE	Under protection: 2 – 2.3 stems per m <sup>2</sup>
USE	Pre-packing and bulk lose
SPECIAL FEATURES	Excellent virus resistance for production under protection. Ideally for warm season productions

\* 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).

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## GENERAL TIPS FOR SWEET PEPPER PRODUCTION

### Seedling production

- The Sakata Range Test is available for hybrid peppers and is used to determine suitable germination temperatures of a specific seed lot.
- Cold sensitivity: low temperatures have a detrimental effect on germination. Seed will not germinate at temperatures below 15 °C.
- Pepper seedlings should be transplanted before root growth becomes stunted. It is suggested to transplant seedlings from 200-cavity trays when the first pair of true leaves is fully extended. Seedlings in larger cavities can be transplanted later.
- Make sure to plant seedlings in deep enough cavities to avoid J-roots and subsequent poor growth.

### Poor shelf life

- Wilted fruit has a compromised shelf life, so avoid harvesting in the heat of the day. Cold storage conditions should be maintained at a consistent 8.3 – 9 °C.
- Temperature fluctuations lead to condensation and bacterial rotting, higher temperatures lead to ripening, and lower temperatures result in cold injury.

### Flat fruit

#### Causes

- The occurrence of short-blocky or flat fruit is common for some varieties under high temperature conditions
- Low temperatures can cause flat fruit as fertilisation does not take place when temperature is too low
- Incidence of short blocky fruit increases with high N-concentration in the nutrient solution

#### Control

- Select varieties suited to the environmental conditions.

### Fruit cracking

- This defect is often a problem with high diurnal temperature swings and high humidity at night, for example in spring and autumn.
- Fruit become very turgid at night as a result of water uptake. If the humidity is very high, little transpiration takes place and eventually fruit cracks as a result of the pressure in the fruit wall.
- Reduce humidity in the greenhouse through ventilation before sunrise.
- Control greenhouse temperature to 18 – 30 °C, or produce during a cooler time of year.

- Keep the ratio ppm N-NO<sub>3</sub> : ppm N-NH<sub>4</sub> to around 5:1 and limit the N-NH<sub>4</sub> concentration to < 32 ppm.

### Climatic requirements

- Peppers grow best when relative humidity (RH) is 65 – 75 %
- Maintain good ventilation (0.5 m/s) to keep conditions favourable for transpiration
- Pepper plants need good light (1 100 – 1 300 µs/m<sup>2</sup> or 60 000 lux). Heavy shade can induce stress, but light shade stimulates growth
- The ideal temperature is around 18 °C (minimum) and 25 °C (maximum)
- Temperatures lower than 15 °C result in very poor growth
- Temperatures higher than 28 °C induce stress

Despite the need for warm conditions the plant is sensitive to high temperatures. Above 32 °C the flowers are inclined to fall off and few fruits, if any, set at temperatures above 35 °C, especially when these high temperatures are coupled with dry winds. Fruit that form at such high temperatures is usually malformed. The fruit is also very sensitive to sunburn and for this reason Sakata has select varieties that develop well leaf covering to protect the fruit.

### Unmarketable fruit

Malformed, sun scalded, cracked or diseased fruits must be removed as soon as possible to allow the plant to set new fruit. If plants lose leaves due to disease, young fruit should be removed so the plant can restore the balance between fruit (nutrient sink) and leaves (nutrient source).

- Do not irrigate in the late afternoon.
- Application of Calcium as a foliar spray every two weeks can reduce cracking.

### Sun scald

Sudden exposure of fruit to high light intensity (mainly the UV spectrum) can cause sun scald (sunken, pale tissue that often becomes infected by secondary pathogens). This is more of a problem in open field production, and when foliage cover is reduced. Avoid over pruning of the canopy and use varieties with adequate foliage cover.

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