

# Experimental

## OUTSTANDING QUALITIES

- ◆ BEIT ALPHA TYPE
- ◆ HIGH YIELD POTENTIAL
- ◆ INTERMEDIATE RESISTANCE TO POWDERY MILDEW AND CUCUMBER MOSAIC
- ◆ EARLY MATURING
- ◆ CONCENTRATED YIELD

**Sunami** is an early maturing Beit Alpha type hybrid. It is widely adapted for production in plastic greenhouses. The plant structure allows for easy picking and pruning with a high concentrated set. The fruits are dark green, 15 to 18cm long, uniform, cylindrical in shape with a slight neck. The good shelf life and firmness makes it an excellent variety for the more sophisticated market. **Sunami** has intermediate resistance to Powdery mildew (Px) (ex Sf) and Cucumber mosaic (CMV).



## SPECIAL VARIETAL REQUIREMENTS

- Contact area representative for a sowing guide

CHARACTERISTIC*	SUNAMI
KIND	F1 hybrid cucumber ( <i>Cucumis sativus L.</i> )
TYPE	Beit Alpha
FLOWERING TYPE	Parthenocarpic
PRODUCTION TYPE	Plastic greenhouses
MATURITY	Early
SEASON	Year round production under controlled conditions
FRUIT SIZE	15 – 18 cm
SHAPE	Cylindrical
COLOUR	Dark glossy green
SPINE COLOUR	White
SPINE DEGREE	Hardly noticeable
DISEASE REACTION (SCIENTIFIC)	<b>Intermediate resistance:</b> <i>Podosphaera xanthii</i> (ex <i>Sphaerotheca fuliginea</i> ) (Px) (ex Sf) and <i>Cucumber mosaic virus</i> (CMV)
UNIFORMITY	Good
AVERAGE SEED COUNT	Sold on seed count
MARKETS / END USE	Pre-pack
POPULATION GUIDE	2 – 2.2 plants per m
SPECIAL FEATURES	High yield of uniform fruit, excellent flavour

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

**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).

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

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

## GENERAL TIPS FOR CUCUMBER PRODUCTION

### Temperature

Air temperature is the main environmental component influencing vegetative growth, flower initiation, fruit growth, and fruit quality. Growth rate of the crop depends on the average 24 h air temperature, the higher the average air temperature the faster the growth. The larger the variation in day-night air temperature, the taller the plant and the smaller the leaf size. Although maximum growth occurs at a day and night temperature of about 28 °C, maximum fruit production is achieved with a night temperature of 19 – 20 °C and a day temperature of 20 – 22 °C. In winter, night temperatures should not go lower than 12 °C.

### Light

Plant growth depends on light. Plant matter is produced by the process of photosynthesis, which takes place only when light is absorbed by the chlorophyll (green pigment) in the green parts of the plant, mostly the leaves. In the process of photosynthesis, the energy of light fixes atmospheric carbon dioxide and water in the plant to produce such carbohydrates as sugars and starch. Generally, the rate of photosynthesis relates to light intensity, but not proportionally. The lower supply of carbohydrates available in the plant during the winter limits productivity, as evidenced by the increase of aborted fruit. A fully-grown crop benefits from any increase in natural light intensity, provided that the plants have sufficient water, nutrients, and carbon dioxide and that air temperature is not too high.

### 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.

### Relative humidity

High relative humidity generally favours growth. However, reasonable growth can be achieved at medium or even low relative humidity. The crop can adjust to and withstand relative humidity from low to very high but reacts very sensitively to drastic and frequent variation in relative humidity. Its sensitivity to such variation is greatest when the crop has developed under conditions of high relative humidity. Other disadvantages of cropping under conditions of high relative humidity include the increased risk of water condensing on the plants and the development of serious diseases. The resultant low transpiration rates are blamed for inadequate absorption and transport of certain nutrients, especially calcium to the leaf margins and fruit. At low relative humidity, irrigation becomes critical, because large quantities of water must be added to the growth medium without constantly flooding the roots and depriving them of oxygen. Furthermore, low relative humidity favours the growth of Powdery mildew and spider mites.

### Air movement

An approximate air speed of 0.5 m/s, which causes leaves to move slightly, is recommended. Horizontal air movement helps in several ways. It minimizes air temperature gradients in the greenhouse and removes moisture from the lower part of the greenhouse (under the foliage). It distributes moisture through the rest of the greenhouse and helps the carbon dioxide from the top of the greenhouse to move into the leaf canopy, where it is taken up and fixed during photosynthesis. Even modest air movement in the greenhouse improves the uniformity of the greenhouse environment, which generally benefits crop productivity and energy conservation.

### Seedling production

It is very important to use healthy, vigorously growing seedlings. Use a suitable sterilised growing medium and seedling tray (72 compartments). Optimum temperature for seed germination is 20 to 25 °C. Seed germinates quickly and will produce a seedling with fully expanded cotyledons within 4 - 7 days. Seedlings should be transplanted directly into the bags when they have one true leaf. Check that the terminal bud is not damaged. Terminal bud damage results in a blind plant that should be thrown away. Check for pests and diseases like *Pythium*, *Fusarium* and *Rhizoctonia*. Moisten the growth medium before planting. Drenching the growing medium with a fungicide and insecticide can be of great advantage.

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