

# PARTHENON

## F1 Hybrid Broccoli

### OUTSTANDING QUALITIES

- ◆ INDUSTRY STANDARD WORLD WIDE
- ◆ VERY HIGH QUALITY HEADS
- ◆ EXCELLENT COLD TOLERANCE
- ◆ EXCEPTIONALLY HIGH YIELD POTENTIAL
- ◆ EXTREMELY VERSATILE


**Parthenon** is one of Sakata's 'new generation' broccolis created as a result of extensive research and breeding programs. **Parthenon** has achieved a new level of quality with its exceptional characteristics and versatility. It is for these reasons that **Parthenon** is steadily capturing not only the European, but also the American broccoli market and is creating much interest within South Africa. **Parthenon** is a vigorous stout plant that produces large heads of excellent quality in cold weather. The heads are a high dome shape with very small beads of a dark blue-green colour. However, bead quality is adversely affected by warm weather. **Parthenon** is unlikely to develop anthocyanin (red pigment) build up and Hollow stem. **Parthenon** has very compact heads and thus excellent field holding ability, even if harvesting is delayed. **Parthenon** has an exceptional yield potential for both fresh market and processing. Excellent adaptability, reliability, quality and high yields make **Parthenon** the first choice for cool season production.



### SPECIAL VARIETAL REQUIREMENTS

- **Parthenon** is a large, strong plant with an excellent root system. It has been found to require less nitrogen than other varieties
- **Parthenon** should only be grown in the cool season
- Contact area representative for a sowing guide

CHARACTERISTIC*	PARTHENON
KIND	F1 hybrid broccoli ( <i>Brassica oleracea</i> L. convar <i>botrytis</i> (L.) Alef. Var. <i>cyposa</i> Duchesne)
SEASON	Only cool
MATURITY	Medium, around 85 - 95 days from transplant
HEAD SIZE	Large
HEAD SHAPE	High dome
HEAD COMPACTNESS	Excellent
EXTERIOR COLOUR	Dark blue-green
BEAD SIZE	Very small
SIDE SHOOT PRODUCTION	Good
PLANT SIZE	Large
DISEASE REACTION (SCIENTIFIC)	-
FIELD HOLDING	Excellent
YIELD POTENTIAL	Exceptionally high
SUGGESTED SPACING	36 000 – 40 000 plants per ha
MARKET SEGMENT	Bulk packaging, pre-pack and processing
SPECIAL FEATURES	Exceptionally high yield potential of excellent quality. Extremely versatile

\* 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).

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## GENERAL TIPS FOR BROCCOLI PRODUCTION

### 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.

### Susceptibility definition:

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

### Tolerance definition:

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.

### Climatic requirements

Broccoli is most suited to growth and development in cool, moist conditions. Under high temperature broccoli heads may turn an unattractive yellowish colour. This happens particularly after harvest but can occur before the crop is harvested. Broccoli also has a tendency to abscission or partial abscission of buds leading the condition known as 'brown bud'. This problem is more common with certain cultivars when they are grown under stress. Varietal choice is very important for summer production as certain varieties are more resistant to heat and will perform better in the warm months.

### Fertilisation

Broccoli crops generally have a high nutritional requirement with the main factors limiting yield in many

areas of South Africa being soil acidity, low soil phosphorous, low soil nitrogen and potassium levels as well as low or unavailable molybdenum. A good nutritional programme is essential to maintain high nutrient levels in the soil with annual applications based on a reliable soil test. Soil tests should be conducted for each field prior to planting to record the status of the soil and to be able to correct any nutrient imbalances and problems prior to planting. Applying small amounts of fertiliser through the life of the crop is more beneficial, cost effective and results in good quality produce. Incorporation of organic matter greatly benefits growth and development of broccoli.

Please note too that Boron is exceptionally important in preventing Hollow stem and broccoli can be very sensitive to Boron shortages. Regular foliar sprays of Boron will help prevent this damage from occurring.

### Nutrients withdraw limits (kg/ha):

	N	P	K
Norm	120.0	65.0	150.0

### Harvesting

Parthenon matures between 85 – 95 days from transplant depending on the variety and heads tend to develop very rapidly. The crop should therefore be harvested every two or three days. Heads are picked when they are well-sized and well-coloured, but before any signs of loosening. Heads continue to expand and loosen after harvest and quality deteriorates rapidly, especially where high temperatures occur. The primary heads are the most sought after and generally command the highest prices. They are cut within the first 2 weeks of harvest and comprise 60 – 80 % of the total crop of most varieties. At closer spacing, individual heads are reduced in size but total yields are higher and the primary heads form a greater proportion of the crop. Commercial yields generally range from 8 – 12 tonnes per hectare.

### Post-harvest handling

Broccoli should be carefully stored after harvest at a temperature of about 4 °C. Cool storage conditions aid in maintaining head firmness and reducing post-harvest disease. It is essential that a cold chain is maintained from harvest to the final destination and whilst the produce is on display. A break in the cold chain will result in post-harvest decay and loss of quality. Maintaining a high humidity during cooling reduces rapid loss of moisture from the heads. Rapid moisture loss leads to very quick weight loss by heads impacting final yield.

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