GEMINI

F1 Hybrid Gem Squash

OUTSTANDING QUALITIES

- **EXCELLENT QUALITY AND YIELD**
- **SEMI-BUSH**
- **SUITABLE FOR BABY AND MATURE FRUIT PRODUCTION**
- **VERY EARLY MATURING**

Gemini is the first gem squash type developed with a semi-bush habit. **Gemini** is a strong grower with an open plant structure and very high yield potential. The first fruit are harvestable as baby squashes at approximately 45 days after direct sowing. The fruit shape is oval to globe shaped at the baby stage and matures to a globe shape. The fruit stem colour is very dark green and is long enough to make harvesting quick and easy. The rind is smooth and mature fruit weigh 300 – 350 g. The rind colour of the baby is a very dark green with slightly lighter flecks. Fruit mature to very dark green with good holding ability, uniformity and shelf life. **Gemini** can be used as a baby squash in pre-packs and mature fruit on the fresh market.

SPECIAL VARIETAL REQUIREMENTS

- Plant spacing may be decreased to 30 – 45 cm in rows by 150 - 180 cm between rows to maximize yield potential, trial under specific conditions
- Contact the area representative for more information

CHARACTERISTIC*	GEMINI
KIND	F1 hybrid squash (*Cucurbita pepo* L.)
TYPE	Gem squash
MATURITY	Baby: 45 days after sowing Mature: 65 days after sowing
SEASON	Widely adapted for production after danger of frost has passed
PLANT TYPE	Compact vine
FRUIT SHAPE	Baby: Oval - globe Mature: Globe
FRUIT SIZE	Baby: 3.5 x 3.5 cm Mature: 8 x 9 cm weighing 300 – 350 g
FRUIT COLOUR	Internal: Cream-yellow External (mature) : Very dark green
SHELF LIFE	Baby: Excellent compared to baby marrows Mature: Excellent
UNIFORMITY	Very good
PLANT SPACING GUIDE	120 – 160 cm between rows x 35 – 50 cm in the row
POPULATION GUIDE	15 000 - 18 000 final stand per ha
AVERAGE SEED COUNT	10 000 – 12 000 seeds per kg
SEED REQUIREMENT	1.5 – 2 kg per ha
MARKETS / END USE	Fresh market and pre-pack
SPECIAL FEATURES	Very high yield potential and very early maturing

* 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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GENERAL TIPS FOR SQUASH PRODUCTION

Seedling production

The majority of squashes are direct seeded, however with the more expensive F1 hybrid seed, trends are towards a portion of the crop being established by seedlings, especially at the beginning of the season.

In summer 2 - 3 week old seedlings are ideal but in winter this may have to stretch to 5 - 6 weeks. A good norm to use is to transplant after the development of the first true leaf. Very quick varieties are especially prejudiced by seedlings being too old. The result of old seedlings is a reduction in yield, as plants mature quickly after transplanting. The faster a variety matures, the more the set back if the seedlings are too old when transplanted. It is further critical that seedlings do not become root bound as this seriously influences yield potential, general disease tolerance, maturity, etc.

Hardening off

Hardening off is necessary especially when the seedlings are to be planted out during warm conditions. The seedlings should be kept fairly dry but not allowed to wilt and should be moved to an area with about 15% shade, or in the open for 2 - 5 days. Seedlings must be drenched immediately before planting.

Seedling inspection prior to planting

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*.

Transplanting

Seedlings should be wetted prior to planting and should be transplanted into a pre-wetted soil, preferably deep wetted. Transplanting should occur once one can get into the lands without puddling. Roots should be straight and seedlings should be planted up to their cotyledons. A planting stick should be used. Watering should occur directly after transplanting. This should eliminate air pockets around the roots and facilitate contact with the pre-moistened subsoil. Capillary action will keep the seedling moist and encourage downward root growth. Cutworm bait is essential.

Fruit cracking

All squash fruit have the potential to crack. Some varieties are more susceptible to cracking than others. Thin rind and high sugar content both predispose squash to cracking. Cold air temperatures and warm soil temperatures increase the tendency of cracking. Cracking under these conditions is as a result of the equilibrium of water in the plant being governed by root uptake of water and leaf transpiration of excess water. Warm soil enhances water uptake and cool air retards transpiration. Under these conditions water builds up in the plant. Fruit with a high sugar level have a higher osmotic potential than fruit with lower sugar levels. Since water travels through the plant from a low to a high osmotic potential and fruit usually has a relatively high osmotic potential, the water is forced into the fruit. If the fruit has an even higher osmotic potential than usual, the water will move with an even greater force. The amount of water that gathers in the fruit cells causes them to swell to such an extent that the fruit may crack; this pressure may be as high as 50 bars.

Malformed fruit

Fruit are usually described as malformed if it is round or flat and at the stalk end if the fruit is long or cylindrical. This is usually as a result of fruit development occurring on one side of the fruit only, resulting in asymmetrically formed fruit. This can be a common occurrence in fields, but it is rarely severe. The malformation is mainly caused by poor pollination and therefore poor fertilisation. The shortage of viable seed causes a deficiency of growth hormones, which is reflected in the deformed growth of the fruit. Malformation can also be aggravated by lack of moisture and/or a nutrient deficiency, especially nitrogen, or by diseases attacking the fruit.

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.

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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