



OUTSTANDING QUALITIES

- ◆ HIGH YIELD POTENTIAL
- ◆ EXCELLENT STORAGE LIFE
- ◆ DARK GREEN FRUIT COLOUR

Smarag is a *Cucurbita pepo* gem squash which has become a standard in this class. In many gem squash producing areas, **Smarag** is being used as a direct replacement for Rolet with trial and field plantings indicating the possibility of a 30 % increase in yield. Vines are extremely vigorous and fruit size is better than that of Rolet. Production in winter in sub-tropical areas is very successful. The fruit retains the dark green colour longer than Rolet and the flavour is considered superior. The fruit is a globe shape and very dark green in colour. **Smarag** is widely adapted and is generally used as mature gem squash, but can also be used as baby and young gems.

SPECIAL VARIETAL REQUIREMENTS

- Contact the area representative for more information

CHARACTERISTIC*	SMARAG
KIND	Open pollinated squash (<i>Cucurbita pepo</i> L.)
TYPE	Gem squash
MATURITY	Baby: 55 days after sowing Mature: 75 days after sowing
SEASON	Widely adapted for production after danger of frost has passed
PLANT TYPE	Full vine
FRUIT SHAPE	Baby: Oval to globe Mature: Globe
FRUIT SIZE	Baby: 3.5 x 3.5 cm Mature: 8 x 9 cm weighing approximately 300 g
INTERNAL FRUIT COLOUR	Cream-yellow
EXTERNAL FRUIT COLOUR	Dark green
SHELF LIFE	Baby: Good compared to baby marrows Mature: Excellent
UNIFORMITY	Very good
PLANT SPACING GUIDE	1.5 m between rows x 45 cm in the row
POPULATION GUIDE	15 000 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	Superior open pollinated selection

* 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.
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GENERAL TIPS FOR SQUASH PRODUCTION

Climatic requirements

Soil temperatures

Squashes are warm-season crops and perform best when soil and air temperatures are above 15°C. Above 15°C, seedlings should emerge within seven days. Seed germinates poorly below 13°C and requires two to three weeks to emerge. No germination takes place at temperatures below 10°C. Seed may decay before germination if planted in cold, wet soils.

The optimum soil temperature for root development is 20°C. Black plastic on raised beds will speed soil warming and can dramatically increase early and total yields. Seed or transplants can be planted through the plastic by hand or with machinery designed for direct seeding through plastic.

Air temperature

Vegetative growth, flowering and fruit set are greatly affected by temperature. Cucurbits are sensitive to frost and are injured at temperatures below 0°C. Almost no growth takes place at temperatures below 15°C, but rapid growth takes place at temperatures between 18 and 27°C. Plants generally grow more luxuriantly at higher temperatures.

Relatively low temperatures and short daylight periods promote the formation of more female flowers in relation to male flowers. As temperature and daylight period increase, the process is reversed. At extremely high temperatures only male flowers may be formed. Temperatures have an important effect on the dehiscence of the pollen sac. This applies especially to the minimum temperature, as pollen will still be released above the optimum temperature but not below the minimum temperature.

The length of the growing season is determined by temperature. This fact must be kept in mind when plantings are planned. Early plantings are subjected to relatively low temperatures at the beginning of the growth period, while late plantings, on the other hand, are subjected to relatively low night temperatures at the end of the growth period. Under these conditions, the period of the crop on the land is extended. The length of the growing season for squash from planting to harvesting can be between 85 and 120 days, depending on the variety and growth conditions.

Humidity

Squash prefer long periods of warm dry weather. Areas with a high humidity during the growing season can be troubled with fungus diseases especially if the moist period occurs at the end of the growing season.

Pumpkins, cucumbers and squashes are less sensitive to these diseases than watermelons and muskmelons. In these areas production is dependent on a highly efficient spraying program. A long rainy period just before or during harvesting can cause the fruit to rot, especially on the heavier types of soil.

Plantings must be planned in such a way that flowering does not occur during periods when cool, cloudy or moist weather is expected. Bees do not work under such conditions with the result that pollination and fruit set will be poor.

Flowering, pollination and fruit set

Squashes have separate male and female flowers on the same plant. Bees are the most important pollinators. If bees are not abundant in the field at flowering time, hives should be placed next to the field with at least 2 - 3 hives per hectare. Poor yields often result due to a scarcity of bees. There should be no other flowers in the vicinity that are more attractive to bees like Lucerne, etc. Special precautions should be taken with insecticides during flowering. Only systemic insecticides should be used and should be done in the afternoon or on cool, cloudy days. Bees only visit flowers in the morning. Systemic insecticides sprayed the previous afternoon should be absorbed by the following morning and a minimum number of bees will therefore be killed.

Some varieties of squash grown under high temperatures (22°C nights/32°C days) produce female flowers that wither and die before they open. In such situations, male flowers develop normally and open on schedule, but few if any female flowers are seen in the field. In some cases female flowers may appear but fail to bear fruit because of pollen sterility at high temperatures.

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