SAKATA®
PASSION in Seed

Northern Star

F1 Hybrid Zucchini Squash

TB REF : NORTHERN STAR: 01/04/2024

OUTSTANDING QUALITIES

- ♦ **EARLY MATURING HYBRID**
- ♦ **OPEN PLANT FOR EASIER HARVESTING**
- ♦ **DARK GREEN FRUIT**

Northern Star is an early maturing zucchini with a very high yield potential. The fruit is uniform, attractive and medium to dark green. The plants are open with few spines to enable faster and more efficient harvesting with reduced fruit damage. Labour prefers harvesting varieties with fewer spines. **Northern Star** is an excellent high yielding variety with quality fruit and has intermediate resistance to Watermelon mosaic virus (WMV).

SPECIAL VARIETAL REQUIREMENTS

- Suitable for production during summer and in winter in sub-tropical areas
- Squash seed can germinate satisfactorily between 15 and 35°C. When expected average soil temperatures are lower than 15°C, we suggest the use of seedlings.
- Contact area representative for more information.

CHARACTERISTIC*	NORTHERN STAR
KIND	F1 hybrid squash (*Cucurbita* pepo L.)
TYPE	Zucchini
MATURITY	Approximately 45 days after sowing
SEASON	Widely adapted for production after danger of frost has passed
PLANT TYPE	Strong, open bush, with few spines
FRUIT SHAPE	Cylindrical
FRUIT SIZE	10 – 15 cm x 2.5cm
INTERNAL FRUIT COLOUR	Cream
EXTERNAL FRUIT COLOUR	Medium to dark green
YIELD POTENTIAL	Very good
SHELF LIFE	Good
UNIFORMITY	Very good
DISEASE REACTION (SCIENTIFIC)	**Intermediate resistance:** *Watermelon mosaic virus* (WMV)
PLANT SPACING GUIDE	1.2 m between rows x 40 cm in the row
POPULATION GUIDE	16 000 – 20 000 plants per ha
MARKETS / END USE	Pre-pack
SPECIAL FEATURES	Plants are open and nearly spineless, thus harvesting is faster with less damage to fruit

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

Sakata Seed Southern Africa (Pty) Ltd.
Tel: +27 11 548 2800
e-mail: info.saf@sakata.eu
Fax: +27 11 548 2820
website: www.sakata.co.za

GENERAL TIPS FOR SQUASH PRODUCTION

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 develop. In some cases, female flowers may appear but fail to bear fruit because of pollen sterility at high temperatures.

Problems
The effect of environmental factors is illustrated by the difference in the response of squash to high temperatures and long days versus low temperatures and short days. Plants tend to favour the production of male flowers during high temperatures and long days. Under extremes of heat and long day length, plants can also produce poorly developed male flowers which shrivel up and die before pollen development. The female phase is dominant at lower temperatures and during shorter days. Flowers can produce parthenocarpic fruit due to lack of pollination, which later aborts under these conditions.

Yield is dependent on the early production of a large number of flowers and the early fertilisation of a large percentage of female flowers. Splitting of pollen sacks to release pollen is dependent on temperature. The minimum temperature for splitting is 8.9 - 10°C and the optimal temperatures are 13 - 18°C. These temperatures should be reached during the diurnal swing and are very important for successful pollination. In other words, if you were planning to establish your crop and you expect temperatures not to reach the critical 13 – 18°C in the morning, you should expect lower than normal yields.

Proper pollination is essential for fruit set. Bees should visit a flower at least 30 times to ensure sufficient pollination for normal fruit development. Inadequate pollination may lead to the production of lopsided, poorly shaped fruit or fruit abortion. It is necessary to see that you have an adequate amount of bees for pollination.

The activity of bees is also affected by environmental factors that should be taken into consideration. It is important to take into account that squash flowers generally open at daybreak and chances of pollination after noon are poor. Bees are sensitive to temperature and humidity. Flying is severely reduced when temperatures are below 9°C or when the humidity is very low. Pollen will dehydrate if the humidity is low and temperatures high, bees will not visit the flowers under these conditions. With squash, pollination is most effective prior to 9 am.

Malformed fruit
Fruit are usually described as malformed if it is round or flat and if the fruit is long or cylindrical at the stalk end. 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.

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