



OUTSTANDING QUALITIES

- ◆ HIGH YIELD POTENTIAL
- ◆ EXCELLENT FLAVOUR
- ◆ FIRM FLESH
- ◆ EARLY MATURITY

Thunder is an early maturing diploid Crimson Sweet type watermelon with very high yield potential. It has very dark green skin, with lighter green stripes. **Thunder** produces very uniform, round shaped fruit weighing 10 - 15 kg. The internal quality is excellent, with very firm flesh and excellent flavour. **Thunder** has intermediate resistance to Anthracnose race 1 (Co: 1) & Fusarium race 1 (Fon: 1).

SPECIAL VARIETAL REQUIREMENTS

- Suggested plant populations of up to 6 000 plants per ha

CHARACTERISTIC*	THUNDER
KIND	F1 hybrid watermelon (<i>Citrullus lanatus</i> (Thunb.) Matsum. et Nakai)
TYPE	Diploid Crimson Sweet
MATURITY	Early
GROWTH HABIT	Trailing
PLANT VIGOUR	Strong
SEASON	Spring to summer production
FRUIT WEIGHT	10 - 15 kg
FRUIT SHAPE	Round
INTERNAL FLESH COLOUR	Red
RIND QUALITIES	Very dark green background with lighter green stripes
BRIX	Very high, 11 - 12 %
FLAVOUR	Excellent
UNIFORMITY	Very good
LEAF COVER	Good
DISEASE REACTION (SCIENTIFIC)	Intermediate resistance: <i>Colletotrichum orbiculare</i> race 1 (Co: 1) and <i>Fusarium oxysporum</i> f. Sp. <i>niveum</i> (Fon: 1)
AVERAGE SEED COUNT	20 - 25 seeds per gram
MARKETS / END USE	Fresh market and processing
POPULATION GUIDE	6 000 final stand per ha (60 - 100 cm in row, 1.6 - 2 meter between rows)
SPECIAL FEATURES	Very high yielding

* 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

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* 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 WATERMELON PRODUCTION

Climatic requirements

Watermelons are warm season plants and grow best at 21 - 32°C. The optimum growth temperatures at night are 18 - 20°C, and during the day 24 - 30°C. Optimum temperatures for fruit ripening are between 15 - 25°C. The optimum soil temperatures are between 21 - 25°C, whereas the optimum air temperatures for growth are between 20 - 35°C.

Temperatures below 0°C will kill the plants, and below 12°C growth virtually stops. Temperature above 40°C will suppress the total number of flowers. The seed will germinate and emerge within 4 - 6 days at a soil temperature of 25°C and within 6 - 12 days at 20°C. Watermelon seed does not germinate well at soil temperatures below 16°C.

Water requirements

Irrigation has a pronounced effect on both yield and quality of melons. Beds must be watered to a depth of 1 m before planting. Depending on the soil type and season, 18 - 25 mm water must be applied weekly after emergence. **Avoid regular light irrigations.** The best time to irrigate is during crop development. Limit irrigation when the fruits approach ripening. **Excessive moisture at ripening will cause internal decay, lower sugar content and fruit bursting.**

There are three stages in melon growth, each require a different technique in calculating the amount of water to be applied:

Sowing to emergence: Irrigate the soil to field capacity to a depth of at least 1 m prior to sowing/transplanting. Keep the soil profile at field capacity until the seedlings have emerged or roots are growing strongly. Use plain water.

Emergence to first fruit set: Use plant colour as a guide. When areas of stressed plants appear in the field at midday, apply water according to the following formula:

Number of days since last irrigation x Penman daily evaporation x crop factor

To calculate the amount of water to apply multiply mm water (from above calculation) times 10 to give cubic meters of water per hectare required to replenish the field to field capacity.

First fruit set to harvest: The best system is the book keeping approach using the same calculations as in stage two. Irrigate when the accumulated deficit (water available to the plant from the soil) is at approximately 30 mm for sandy soil and 50 mm for clay soil. Soil and weather patterns will influence the irrigation intervals. Make use of the finger assessment of the soil to confirm if irrigation is really required. Remember: Limit irrigation when the melons approach ripening time without causing any stress to the plant.

Nutrition

The rate of uptake of nutrients varies with growth stages, namely germination, early runner, first flower, fruit expansion, and fruit ripening. Post-plant fertiliser applications need to be split to supply to the varying demands by the plants through the different growth stages. It's necessary that fertilisers are applied continuously through the development of the crop in the irrigation water.

The availability of Ca and Mg during the fruit expansion phase is crucial. These nutrients must be applied in irrigation water even if the soil analyses indicate that it is present in adequate amounts. Weekly foliar sprays of Ca and Mg from fruit set to harvest may ensure the best fruit quality.

Bees and pollination

Melon plants have separate male and female flowers on the same plant. Female flowers are only open for one day and need to be visited by bees several times to enable fruit set. Bees are the main pollinators and must therefore be placed as close as possible to the field. Poor pollination results in reduced yields and an increased percentage of misshapen fruits. Check blooming fields late morning on sunny, warm days – if there is minimal bee activity, it is recommended to provide beehives. One strong colony of bees per 4 - 5 hectares is normally sufficient. If an insecticide application is required on the melon crop or nearby fields, do it late in the afternoon when the bee activity has ceased. Place beehives up wind from the field in order to limit the possibility of insecticide drift. Apply insecticides carefully during flowering.

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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