

EARLY WONDER

Garden Beet

OUTSTANDING QUALITIES

- ◆ HEAT TOLERANCE
- ◆ HIGH ROOT QUALITY
- ◆ VERY GOOD ROOT COLOUR
- ◆ WELL SUITED FOR WARM SEASON PRODUCTION

Early Wonder has proven itself to be a reliable, high yielding variety, ideally suited for warm season sowing. Maturity is early, around 60 - 70 days. **Early Wonder** has deep red roots with light zoning which are uniform, round shaped with a slender, attractive taproot. Tops are medium in size, medium green in colour with a neat collar. **Early Wonder** has very good heat tolerance. **Early Wonder** has performed well in processor trials and fresh market and is well suited for pre-packing.



SPECIAL VARIETAL REQUIREMENTS

- Suggested for warm season production
- Contact area representative for a sowing guide

CHARACTERISTIC*	EARLY WONDER
KIND	Garden beet selection (<i>Beta vulgaris</i> L. subsp. <i>vulgaris</i> var. <i>conditiva</i> Alef.)
MATURITY	60 - 75 days for warm season production
SEASON	Warm
ROOT SHAPE	Round
CROWN SIZE	Medium
SMOOTHNESS	Moderately smooth
INTERNAL COLOUR	Deep red with light zoning
SUGAR CONTENT	High
TOP HEIGHT	25 – 30 cm
LEAF HABIT	Erect
LEAF COLOUR AND GLOSS	Medium green / medium gloss
PURPLE IN LEAF (BETALIN PIGMENT)	Moderate
BOLTING HABIT	Slow
DISEASE REACTION (SCIENTIFIC)	-
PLANT POPULATION	450 000 - 550 000 seeds per ha for normal roots
UNIFORMITY	Good
MARKET USE	Fresh market and home garden
SPECIAL FEATURES	High yield, heat tolerance, refined round shape

* 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).

Recent version: Kindly contact Sakata or Area Representative for the most recent version of this Technical Bulletin.

GENERAL TIPS FOR BEET PRODUCTION

Beet Diseases

Alternaria leaf spot (*Alternaria alternata* and *A. brassicae*)

Symptoms

- Lesions are circular to irregularly shaped spots or regions (2 - 10 mm)
- Dark brown to black, zoned spots or regions may be covered by fungus growth
- Spots may coalesce and cause rapid necrosis

Conditions

- High RH and temperatures of 7 - 10 °C

Control

- Apply registered fungicide sprays

Downy mildew (*Peronospora farinosa*)

Symptoms

- Fungus usually invades young crown leaves and grows into the growing point
- Rosette of distorted, smallish, thickened, light green leaves with downward curled margins
- In cool and wet conditions, a whitish and then dull violet-grey fungal growth develops on lower leaf surface and occasionally on upper leaf surface
- Large, light green spots on upper leaf surface
- Crown infection causes excessive leaf proliferation which in turn causes roots to become misshapen
- Leaves may wilt and die

Conditions

- Optimum conditions: Temperature 12 °C and relative humidity of 85 %
- Little infection at temperatures above 20 °C
- Incubation period ranges from 5 - 32 days

Control

- Use resistant varieties
- Practice beet-free period
- Avoid excess nitrogen and high plant density where possible

Rhizoctonia root and crown rot (*Rhizoctonia solani*)

Symptoms

FORM A:

- Early symptoms are wilting and yellowing of foliage
- Black necrosis of petioles near crown
- Wilted leaves collapse and die forming a dark brown to black rosette
- Exposed areas of roots may be covered with brown felt-like masses
- Crowns and roots may become rotten
- Infected areas on surface are dark brown to black
- Interior of infected roots develop light to dark brown dry rot
- Deep fissures or pits often appear near crown of root

FORM B:

- Numerous, localised, brown, circular lesions exhibiting dark and light concentric rings on root surface
- Below lesions are deep cankers sharply delimited from adjacent healthy tissue by a clear brown line

Conditions

- Over winters in crop debris
- Optimum temperature 25 - 33 °C
- Heavy, poorly drained soils where water collects are most conducive to disease

Control

- Prevent prolonged periods of high soil moisture

- Subsoil ploughing, sprinkler irrigation, raised beds to prevent excess soil moisture
- Encourage vigorous crop growth
- Crop rotation with corn or small grains
- Avoid hilling of plants with cultivation soil
- Control weed hosts such as pigweed
- Apply registered fungicides

Powdery mildew (*Erysiphe poligony*)

Symptoms

- Starts as small disperse, radiating, whitish mats on older, lower leaves
- As disease advances, symptoms spread over leaves
- Leaf may become yellow, then purplish brown
- Heavily infected fields may appear bluish

Conditions

- High humidity encourages disease spread
- Temperatures of 15 - 30 °C, optimum 25 °C
- Disease develops more rapidly in soils with high water levels
- More damage occurs in dry soils where diseased leaves and plants die faster
- Susceptibility to disease increases with age of plant

Control

- Use tolerant varieties
- Apply registered fungicides

Pythium root rot (*Pythium aphanidermatum*)

Symptoms

- Wilting, yellowing and death of lower leaves
- Water soaked, black rot at base of petioles
- Taproots may develop brown-black wet rot internally

Conditions

- High soil temperatures and excessive soil moisture
- High salt and pH

Control

- Prevent prolonged periods of high soil moisture
- Subsoil ploughing, sprinkler irrigation, raised beds to prevent excess soil moisture

Cercospora leaf spot (*Cercospora beticola*)

Symptoms

- Leaf spots are circular and 3 - 5 mm at maturity
- Lesions are tan to light brown with dark brown to reddish purple borders
- At advanced stages, spots coalesce
- Heavily infected tissue becomes yellow, then brown necrotic
- Black dots may appear in necrotic centres of spots
- With high humidity or dew, spots may become grey and velvety
- Blighted leaves fall to ground but remain attached
- Heart leaves remain green and less affected
- Similar leaf spots appear on petioles but are long and elliptical

Conditions

- Optimum temperatures of 25 - 35 °C with night temperatures above 16 °C
- High humidity (90 - 95 %) or dew
- Spread may be encouraged by splashing or wind

Control

- Use resistant varieties.
- Practice 2 to 3 year rotation with non-host crops
- Plough in crop residues
- Apply registered fungicides when necessary

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).

Recent version: Kindly contact Sakata or Area Representative for the most recent version of this Technical Bulletin.