

MERLIN

F1 Hybrid Garden Beet

OUTSTANDING QUALITIES

- ◆ ADAPTED TO WARM SEASON PRODUCTION
- ◆ DARK RED COLOUR
- ◆ VERY EARLY MATURING
- ◆ HIGH SUGAR CONTENT
- ◆ EXCEPTIONAL QUALITY



Merlin is a very early maturing F1 hybrid for sowing during spring and summer seasons for high yields of excellent quality beets suitable for processing and the fresh market. **Merlin's** roots are extremely uniform and are characterized by a round shape, refined taproots, small crowns, smooth surface and very high total soluble solids (up to 15 % Brix). **Merlin's** adaptability makes it less prone to zoning during adverse conditions. The overall vigour of **Merlin** tends to make it less susceptible to diseases. **Merlin** has intermediate resistance to Lea Leaf spot (Cb) and Downy mildew (Pfb).

SPECIAL VARIETAL REQUIREMENTS

- We do not recommend sowing during April, May and June for most areas and avoid production under extreme cool conditions
- Contact area representative for a sowing guide

CHARACTERISTIC*	MERLIN
KIND	F1 garden beet hybrid (<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	Small
SMOOTHNESS	Very smooth
INTERNAL COLOUR	Dark red
ZONING	Very light
SUGAR CONTENT	Very high (13 – 15 %)
TOP HEIGHT	38 – 43 cm
LEAF HABIT	Erect
LEAF COLOUR AND GLOSS	Dark green / glossy
PURPLE IN LEAF (BETALIN PIGMENT)	Low
BOLTING HABIT	Very slow to bolt
DISEASE REACTION (SCIENTIFIC)	Intermediate resistance: <i>Cercospora beticola</i> (Cb) and <i>Peronospora farinosa</i> f.sp. <i>betae</i> (Pfb)
PLANT POPULATION	450 000 - 550 000 seeds per ha for normal roots 600 000 – 800 000 for baby beet production
UNIFORMITY	Very good
MARKET USE	Fresh market, processing and baby beet production
SPECIAL FEATURES	Excellent yield, leaf colour stays green throughout growing season, very high sugar content, excellent for baby beet, processing and fresh market, and tall dark green tops can also be used for cooking

* 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

Climatic requirements

Beet is produced from hot tropical areas to cold temperate climates. Beet grows best at mean temperatures between 15.5 and 18.5 °C. Germination can occur at temperatures between 4.5 and 24.5 °C, maximum 30 °C. Beetroot is not generally severely affected by winter colds and light frost, although, cultivars differ in their susceptibility to cold. Frost before harvesting will, however, damage leaves and retard growth. Maturity can be significantly delayed by cold weather and tops tend to be significantly reduced in size. Where the climate is moderate, beet can be cultivated throughout the year.

During hot, bright, sunny days, young plants can be badly injured or killed by the high temperatures that develop at or just below the soil surface. Prolonged hot weather later in the development of the plants may not only retard growth and depress yield, but also may cause undesirable strong flavour, white concentric rings within the root and coarseness in the roots in some cultivars. However, Sakata varieties like Merlin and Globe Dark Red have been bred to resist the development of white rings during warm temperatures better than beet varieties better suited for cool season production.

Soil requirements and tillage

Beet grows well in a variety of soils, growing best in a deep, friable well-drained soil abundant with organic matter. They may grow on heavier (clay) soils, but harvesting is more difficult and root growth may be impaired. Optimum pH is 6.0 – 6.8, but neutral and alkaline soils are tolerated in some areas. Some salinity may be tolerated after the seedling stage. Beet is notable for their tolerance to manganese toxicity.

Beet grows well on sandy loam, silt loam, or muck soil. Such soils are among the easiest to work and permit good development of the roots. In irrigated districts where moisture can be accurately controlled, silt loams and even clay loams produce high quality yields. These heavy soils are not recommended where soil moisture is not subject to precise control. Growing beet on heavy soils is more difficult than on light ones, even when soil moisture is controlled.

Beet has a large root system that extends to about 1 m or more, unless root growth is impaired.

Cloddy, stony, trashy or very shallow soils are undesirable. Uniform soil moisture is essential for best quality. Rotate crops to avoid Damping-off and root rot diseases. Beet is sensitive to Damping-off on soils that may flood or otherwise have poor aeration. Raised beds can increase the effective depth of loose soil. This allows the soil to drain

better, concentrate topsoil around the root zone, provide more oxygen for healthy root development and warm earlier in spring. There is better aeration and often reduced disease infection and the incidence of Damping-off are also reduced. It is of most benefit on heavy and poorly drained soils. Harvesting is also made easier with raised beds for the blade system.

Irrigation

Irrigate carefully, especially early in the season as to avoid over watering. Water logging can cause beet leaves to turn red and cause plants to stop growing for a while. Soil type does not affect the amount of total water needed but does affect frequency of water application. Moisture management is especially important during stand establishment, the early growth stage and root expansion. Since seedlings are unable to emerge when surface crusting occurs, irrigation during pre-emergence period should strive to maintain loose soil surface. This often requires frequent, light irrigations. During the last half of the growing period, irrigate only early in the day to allow for rapid canopy drying.

Yield expectations

Yield per ha varies significantly from season to season and year to year. One may expect open pollinated Detroit strains to yield from 30 - 40 tonnes per ha with a good yield being 50 tonnes per hectare. Hybrid varieties at the correct plant populations and optimal fertiliser programmes may well yield in excess of 55 tonnes per hectare.

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.

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.