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Beetroot

Production guide



PLAN THE GRADE. GROW EVENLY. HANDLE WITH CARE.

Practical guidance for table beetroot in South Africa. Plan for uniform roots, manage crop health and protect quality from field to market.

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01 / CROP PLANNING

Start with the grade

Scope: table beetroot (*Beta vulgaris*) for fresh roots, bunching or processing. Sugar-beet and fodder-beet production require different programmes.

Choose the product before the cultivar

Agree whether the crop will be sold as baby roots, standard loose roots, leafy bunches or processing material. Colour, shape and internal zoning differ between cultivars. Cylindrical types may suit slicing; a striped or golden root should be a deliberate market choice. [1]

Decision	Record before sowing
Buyer specification	Target root diameter, shape, colour, leaf condition, trim length, pack mass, delivery frequency and rejection criteria.
Cultivar and seed lot	Local performance, maturity range, bolting tolerance, documented disease claims, germination, seed type and treatment.
Harvest route	Hand lifting, bunching or mechanised harvest; confirm bed geometry, labour, grading and cooling capacity.
Marketable yield	Budget accepted roots or bunches, not total field biomass. Include undersize, oversize, cracked and damaged roots in loss estimates.

Fit the crop to the season

Beetroot generally performs best in cool conditions. South African guidance gives 15-18°C as a favourable growth range. Long cold exposure can induce bolting, while hot weather can reduce quality. Use district experience, field temperatures and cultivar response to select the planting window. [2]

Allow for local maturity: South African extension guidance gives roughly 75-90 days in summer and 105-120 days or longer in winter. Baby-root harvests and other cultivars may be earlier. Use these as planning ranges, then sample root diameter in the field. [2]

02 / ESTABLISHMENT

Create an even stand

Root uniformity starts with consistent sowing depth, soil moisture and final plant spacing. Match the stand to the buyer's size specification.

Prepare a workable seedbed

Use well-drained soil with a level, friable surface. Avoid compacted layers, clods and crusting that restrict emergence or root development. Work soil when its moisture allows good structure; use soil analysis to guide amendments. [2, 4]

Establishment choice	Starting guidance
Direct sowing	A local extension range is 15-20 mm deep, with rows 200-400 mm apart. Adjust to soil texture, seed form, equipment and harvest system. [2]
Final spacing	The same local bulletin uses 50-70 mm between plants after thinning. Wider or narrower stands change root size; test the selected layout against the buyer's grade. [2]
Multigerm or monogerm	Traditional seed balls can produce several seedlings. Monogerm seed is selected for one embryo per fruit. Check the supplied seed type and thin multigerm stands early. [1]
Moisture and emergence	Keep the seed zone evenly moist without waterlogging. Inspect for crusting and patchy emergence rather than assuming every gap is a seed-quality problem. [4]

Measure the stand, then correct it

Count emerged plants over a known row length in several representative locations. Record dense clusters and gaps separately. Thin before roots compete heavily, minimising disturbance to retained plants. Keep the lot number, planting date and actual layout in the crop record.

Worked example: 0.30 m between rows × 0.07 m between plants gives about 476,190 plant positions per hectare before paths and headlands. This is a calculation, not a universal recommendation. Order seed using germination, expected emergence and whether the lot is multigerm or monogerm.

Grow roots consistently

Base the input plan on soil and water results, the previous crop and a realistic marketable yield. Reassess the crop as roots begin to enlarge.

Maintain an even water supply

Moisture fluctuations can contribute to cracking and uneven growth. Check the seed zone during establishment and the active root zone as the crop develops. Use rainfall, soil-moisture observations or sensors, and irrigation records to adjust applications to soil and weather. [4]

Check delivery, not only run time

Inspect irrigation uniformity, blocked emitters and leaks. Check the wetting depth after watering and investigate persistent wet patches. Avoid applying water faster than the soil can absorb it. Drip irrigation can reduce leaf wetness where practical; do not allow drainage problems to persist. [4, 6]

Set nutrients from the soil report

Use a local adviser to translate soil results into nitrogen, phosphorus, potassium and other nutrient inputs. Credit compost, manure and previous fertiliser applications. Record nutrient mass separately from product mass, and reassess before adding a top-dressing. Do not copy overseas fertiliser rates directly. [3, 4]

Treat boron as a precise input

Boron deficiency can cause blackened areas inside roots and damaged growing points, but appearance alone does not establish the cause. Sample affected and unaffected areas and confirm with an adviser. Excess boron can also injure crops: use a calculated, evenly distributed correction only where justified. [8, 9]

Protect the crop from early weeds

Young beetroot competes poorly with weeds. Remove small weeds early and cultivate shallowly to avoid root damage. Identify the weed spectrum before deciding whether a herbicide is needed, and use only a currently approved beetroot label. [1, 10]

Record each adjustment: block • date • rainfall/irrigation (mm) • soil-moisture reading • product and nutrient rate • reason • follow-up observation. A crop with large tops still needs root sampling to confirm marketable progress.

Protect leaves and roots

Scout from emergence through harvest. Record where symptoms occur, their frequency and recent weather; obtain a diagnosis before selecting treatment.

Observation	Investigation and prevention
Leaf spots with pale centres	Cercospora can produce small lesions with coloured margins that merge as disease increases. Warm, humid weather favours outbreaks. Inspect both old and young foliage. [5]
Collapsed seedlings or root lesions	Damping-off and crown/root rots have several causes. Check roots and drainage; send representative samples to a diagnostic service. Keep affected roots out of storage. [6]
Leaf mines or small chewing holes	Check for leafminers, flea beetles or other locally present pests. Identify the organism and assess damage to the intended product, especially when tops will be sold. [4]
Internal dark areas or poor growth	Check nutrition, moisture and root disease together. Boron deficiency is one possible cause of internal blackening, not a diagnosis from colour alone. [8]

Break disease carry-over

For Cercospora, use a non-host rotation of at least three years where practical, manage host weeds and residues, and shorten leaf-wetness periods. Spinach and Swiss chard can also host the pathogen. Root-rot rotations need separate advice because Rhizoctonia has a broad host range. [5, 6]

Before applying a remedy: confirm current South African registration for beetroot and the target problem. Follow the approved label, protective equipment, re-entry and preharvest intervals. Check residue requirements for the intended market and whether harvested leaves are covered. Plan mode-of-action rotation with an adviser where applicable. [5, 10, 11]

Keep the harvest sound

Sample root diameter and internal quality across the block. Harvest to the agreed grade rather than a fixed calendar date.

Lift, sort and trim carefully

Lift roots without cuts, bruising or excessive abrasion. Separate diseased, cracked and mechanically damaged roots. For topped roots, trim to the buyer's specification without cutting into the crown. Keep leafy bunches shaded and cool promptly. [3, 7]

Product / checkpoint	Handling guidance
Topped roots	Commercial guidance recommends 0°C and 98-100% relative humidity. Sound roots may store for 4-6 months under well-controlled conditions; validate performance for the actual lot. [3]
Bunched roots and greens	These are far more perishable: commercial guidance gives about 10-14 days at 0°C, with at least 95% relative humidity. Plan faster sales and inspect frequently. [3]
Cooling and packaging	Remove field heat quickly. Use clean, ventilated containers, suitable stacking and sufficient airflow. Monitor product and room temperatures. [3, 7]
Moisture and decay	Maintain humidity without allowing dirty standing water or damaging handling. If washing or hydrocooling, use a managed hygienic water system and buyer-agreed procedures. [7]

Release a traceable lot

Record field and seed lot, harvest date, spray clearance, grade, packed mass and dispatch conditions. Inspect roots and foliage before loading. Use clean transport and a handling plan suited to whether the product is leafy, topped, washed or unwashed.

Storage figures are potential, not guarantees. Initial quality, harvest injury, cultivar, sanitation and temperature control determine actual life. Keep a retained sample or inspection record and shorten the marketing period if deterioration appears.

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06 / FILLABLE CROP PLANNER

Your next planting

Save a copy before filling it in. Use a PDF reader that supports forms and keep the completed record with your field documents.

Farm / block

Cultivar / seed lot / monogerm or multigerm

Sowing date / expected harvest window

Row spacing / final spacing / planned area

Buyer / root size / bunch or topped / pack

Soil and water results / nutrient and boron plan

Next action / responsible person / due date

Ready-to-plant checks

- [ ] Buyer grade confirmed
- [ ] Seed lot and type checked
- [ ] Rotation and crop health checked
- [ ] Soil and water reviewed
- [ ] Thinning and weeding planned
- [ ] Cooling and transport arranged

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07 / REFERENCES & EDITION NOTES

Sources you can follow

Independent sources reviewed on 17 September 2026. Links are clickable. Older local bulletins support established principles; historic prices and pesticide registrations are not adopted here.

01. University of Maryland Extension - Growing Beets (2023)
Seed type, root characteristics and early crop care.

02. KZN Department of Agriculture - Beetroot (legacy bulletin)
South African climate, crop duration, soil and establishment ranges.

03. University of Maryland - Beets (Garden), 2026 commercial guide
Nutrient planning and topped versus bunched storage. Overseas context.

04. Utah State University Extension - How to Grow Beets
Moisture consistency, seedbed care, weeds and pest recognition.

05. Cornell Vegetables - Cercospora Leaf Spot of Table Beet (2021)
Symptoms, host crops, rotation and resistance-management principles.

06. Cornell Vegetables - Rhizoctonia Crown and Root Rot (2021)
Root disease, drainage, equipment hygiene and pathogen-specific rotation.

07. Penn State Extension - Keeping Produce Fresh
Cooling, handling and storage-system principles for producers.

08. University of Minnesota - Beet root internal discolouration
Boron-deficiency symptoms as a diagnostic lead.

09. University of Minnesota - Is boron deficiency a problem? (2024)
Boron toxicity and site-specific decisions; no sugar-beet rates transferred.

10. SA Department of Agriculture - Maximum Residue Limits
Crop-specific registration, approved use and market requirements.

11. SA Government Gazette - Agricultural Remedies (11 Oct 2024)
Amended labelling regulations; consult current approved product labels.

About this edition. Original AgriCart editorial synthesis for planning and education. Obtain farm-specific agronomic advice before setting inputs or crop-protection programmes. No yield or shelf-life guarantee is implied. Cover image is AI-generated crop illustration, not a named cultivar or documented farm. Source organisations do not endorse AgriCart.