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PRODUCTION GUIDELINES / SOUTH AFRICA

Brassicas



CABBAGE / BROCCOLI / CAULIFLOWER / BRUSSELS SPROUTS

Plan the right crop for the season. Build a healthy stand, protect head quality and manage the journey from field to market.

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01 / CROP PLANNING

Four crops, four markets

These crops are forms of Brassica oleracea. This guide covers commercial field production; leafy brassicas and Chinese cabbage need their own plans.

Crop	Decisions before planting
Cabbage	Agree head size, shape, colour, wrapper leaves and pack. Fresh-market and storage cultivars are not interchangeable. [7]
Broccoli	Choose crown, bunch or processing format. Harvest compact buds before opening; head size alone is not a maturity test. [1, 8]
Cauliflower	Match cultivar to the intended season and curd colour. Confirm head size, leaf cover and buyer tolerance for defects. [1, 9]
Brussels sprouts	Allow for a long field occupation. Agree loose sprouts or whole stalks, size range and harvest method before ordering seed. [2, 10]

Work backwards from a realistic harvest

Select locally proven cultivars for the district, planting window and market. Broccoli and cauliflower can lose quality in unsuitable heat; cold stress during early growth can trigger premature small heads. Do not transfer northern-hemisphere planting months to South Africa. [1]

Make the field history part of the decision

Record previous brassicas, disease diagnoses and drainage problems. A change from cabbage to broccoli is not a non-host rotation. Include brassica cover crops and weeds in the history. Inspect incoming seedlings and retain seed-lot traceability. [4, 5]

Budget the accepted product: use saleable heads, crowns or sprouts after grading, not total biomass. Record expected rejects, picking labour, packaging, cooling and transport. Confirm a cultivar-specific maturity range with the local supplier and check development in the field.

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02 / ESTABLISHMENT

Build a uniform stand

Use vigorous, healthy seedlings and a well-drained, workable seedbed. Avoid compaction, standing water and planting into an unresolved disease problem.

Match geometry to the product

Spacing changes plant population, head size, airflow and access. The examples below are converted from the 2026/27 Mid-Atlantic guide. They are comparison ranges, not South African prescriptions; adapt with local cultivar and market advice. [2]

Crop	Between rows	Within rows
Cabbage	0.61-0.91 m	0.23-0.46 m; season and grade dependent
Broccoli	About 0.91 m	0.30-0.46 m; standard transplanted layout
Cauliflower	0.91-1.22 m	0.46-0.61 m
Brussels sprouts	About 0.91 m	About 0.38 m

Check the plants before they leave the nursery

Inspect roots, growing points and leaves; reject suspect trays. Obtain seed-health information, including black-rot screening. Ask the supplier about any seed treatment rather than repeating treatment on already treated seed. Keep trays and handling equipment clean. [2, 5]

Measure establishment in the field

Water transplants into the root zone and check survival and irrigation coverage. Count plants in several representative row lengths. Record gaps, weak plants and wet patches separately, then investigate the cause before replanting.

Population example: 0.90 m rows x 0.45 m plant spacing gives about 24,690 positions/ha before roads, paths and headlands. This arithmetic is not a recommended stand. Confirm the actual bed layout and allow for establishment losses when ordering seedlings.

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03 / WATER & NUTRITION

Keep growth steady

Start with current soil and irrigation-water results. Set a crop-specific nutrient plan, then check delivery and crop response through the season.

Manage moisture through the active root zone

Use soil observations or sensors, rainfall and crop demand to schedule irrigation. Aim for consistent moisture without saturation. Check wetting depth and uniformity, especially after transplanting and during head development. A fixed weekly volume cannot suit every soil and season. [3]

Feed to the field, not an old recipe

Use soil-test interpretation and realistic yield to set nitrogen, phosphorus, potassium and other inputs. Credit manure and previous applications. Reassess before top-dressing; tissue analysis can help investigate suspected deficiency or toxicity. Record nutrient kilograms separately from fertiliser kilograms. [2]

Quality warning	What to investigate
Small premature heads	In broccoli or cauliflower, examine cultivar-season fit, cold exposure and interrupted early growth. Do not assume more fertiliser will reverse buttoning. [1]
Poor broccoli growth	Check root-zone moisture, drainage, soil condition and the nutrient plan together before adding inputs. Well-drained, moisture-retentive soil is preferred. [3]
Splitting cabbage	Check maturity and harvest delays. Once heads are firm and meet the grade, plan picking promptly rather than holding them for extra size. [7]
Loose cauliflower curds	Check harvest stage and cultivar suitability. Once curds lose compactness, later cooling will not restore the original grade. [9]

Micronutrients need precision: include boron, molybdenum and sulfur in the diagnostic discussion where indicated. Use soil/tissue results and a local adviser to calculate any correction; do not copy overseas application rates into a South African programme. [2]

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04 / CROP HEALTH

Prevent, scout, diagnose

Inspect representative plants and field edges regularly. Record pest stage, incidence, damage, beneficial insects and weather before deciding on control.

Priority	Practical response
Diamondback moth and other caterpillars	Identify larvae rather than treating every hole as the same pest. Inspect leaf undersides and developing heads. Use need-based intervention, conserve natural enemies and rotate effective modes of action across generations. A brand change alone is not a rotation. [1, 6]
Black rot	A bacterial disease: look for yellow V-shaped leaf-edge lesions and darkened veins. Use screened seed, clean seedlings and equipment; avoid working wet crops and reduce splash spread. Obtain a diagnosis where symptoms overlap. [5]
Clubroot	Swollen roots with wilting require investigation. This soilborne pathogen can persist for many years. Keep contaminated soil, runoff and equipment out of clean blocks; use clean transplants and improve drainage. [4]
Other leaf and root problems	Inspect for aphids, chewing pests, leaf spots and rots. Submit representative fresh samples with the field history when the cause is unclear. Keep a dated map of affected areas.

Use rotation with realistic expectations

For clubroot, long non-host rotations can reduce pressure but do not eradicate persistent inoculum. Select resistant cultivars only with locally relevant advice. Base any liming on soil tests; a blanket lime rate is not a disease-control plan. [4]

Before any spray: verify current South African registration for the exact crop and target. Follow the approved label, protective equipment, re-entry and preharvest intervals. Check buyer and destination residue requirements. Overseas product lists are not local approvals. [11]

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05 / HARVEST & POSTHARVEST

Protect the eating quality

Pick to the agreed grade, shade promptly and remove field heat. Keep damaged or diseased produce out of storage and maintain lot identification.

Crop / maturity cue	Cold-room reference
Cabbage: firm, compact heads; avoid splitting. [7]	0°C, above 95% relative humidity. Early cabbage may keep 3-6 weeks; specialist storage cultivars differ. [7]
Broccoli: tight green buds before flowers open. [8]	0°C, above 95% relative humidity. Cool immediately; warmer storage sharply shortens useful life. [8]
Cauliflower: compact curd before it becomes loose or ricey. [9]	0°C, 95-98% relative humidity. Quality storage is generally limited to about 3 weeks. [9]
Brussels sprouts: firm, compact buds without splitting. [10]	0°C, above 95% relative humidity. Potential storage is about 3-5 weeks under good conditions. [10]

Treat temperatures as managed targets

Measure product temperature as well as room air. Avoid freezing and temperature breaks. The ranges above assume sound produce and a controlled cold chain; they are not guaranteed shelf lives. Validate a shorter selling window with the actual cultivar, lot and buyer. [7-10]

Handle gently and keep the system clean

Avoid bruising heads or scuffing cauliflower curds. Use clean containers and sufficient ventilation. Keep ethylene-producing fruit away from sensitive brassicas. Where washing or hydrocooling is used, manage water hygiene to prevent cross-contamination. [7-10]

Dispatch record: block and lot / harvest time / accepted and rejected quantity / cooling start / product temperature / pack specification / vehicle temperature / destination. Review rejects with the growing team after each delivery.

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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 / brassica history

Crop / cultivar / seed or seedling lot

Transplant date / expected harvest window

Row spacing / plant spacing / planned area

Buyer / head or sprout grade / pack

Soil and water results / nutrient plan

Next action / responsible person / due date

Ready-to-plant checks

- [ ] Buyer grade confirmed
- [ ] Seedling health checked
- [ ] Rotation and crop health checked
- [ ] Soil and water reviewed
- [ ] Season and spacing confirmed
- [ ] 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. Overseas guidance supports principles; local seasons, labels and input rates need South African interpretation.

01. UMN Extension - Gearing up to Grow: Brassicas (updated 2026)
Season, cultivar response and crop scouting.

02. Mid-Atlantic Commercial Recommendations - Cole Crops (2026/27)
Spacing comparisons, seedling handling and nutrient-test principles.

03. UMN Extension - Growing broccoli
Soil, moisture and crop-care principles.

04. University of Maryland Extension - Club Root (2024)
Persistence, contaminated soil, drainage and rotation limits.

05. UMN Extension - Black rot of Brassica crops
Bacterial symptoms, seed health, hygiene and water management.

06. IRAC - Plutella xylostella resistance-management poster
Diamondback moth principles; does not establish South African registration.

07. UC Davis Postharvest - Cabbage
Harvest quality and cultivar-dependent storage.

08. UC Davis Postharvest - Broccoli
Bud maturity, rapid cooling and temperature sensitivity.

09. UC Davis Postharvest - Cauliflower
Curd quality, gentle handling and cold-room conditions.

10. UC Davis Postharvest - Brussels sprouts
Sprout maturity, humidity and storage conditions.

11. SA Department of Agriculture - Maximum Residue Limits
Approved crop uses and market residue requirements.

About this edition. Original AgriCart editorial synthesis for planning and education. Older postharvest references support established principles; review date does not imply every source was newly published. Obtain farm-specific advice before setting inputs. Cover is AI-generated illustration, not a documented farm or named cultivar. Source organisations do not endorse AgriCart.