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Green beans

Production guide



PLAN WELL. GROW CONSISTENTLY. PROTECT QUALITY.

Practical guidance for fresh-market and processing green beans in South Africa. Independent references, a clear production workflow and a fillable crop planner.

01 Plan the crop →

02 Establish the stand →

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01 / CROP PLANNING

Start with the market

Scope: green or snap beans (*Phaseolus vulgaris*), harvested for tender edible pods. This guide does not cover dry-bean grain production.

Choose the right crop type

Bush beans suit a compact crop and concentrated picking period; pole beans need a strong support system and can provide a longer picking window. Confirm the species: scarlet runner bean is a different crop. [1, 2]

Before ordering seed	Agree and record
Buyer and product	Fresh market or processor; pod colour, shape, length and diameter; pack size; delivery dates and rejection criteria.
Cultivar and seed lot	Growth habit, local trial performance, disease-resistance claims, germination result, test date, seed treatment and traceable lot number.
Harvest system	Hand picking or mechanical harvest. Match row geometry and maturity uniformity to the equipment and buyer programme.
Operational capacity	Available labour, irrigation reliability, cooling capacity, transport and an outlet for each planned planting.

Use local conditions to set the season

Avoid frost and cold, wet seedbeds. Hot weather at flowering can reduce pod set. Use farm temperature records and the cultivar's expected duration to work back from the delivery window. A frost-free district is not automatically suitable for winter production. [3, 4]

Planning benchmark: many bush snap beans begin harvest around 50–60 days after sowing under suitable conditions; cool weather delays development. Treat this as an estimate, then use field observations and supplier information. Trial a small block before scaling a new cultivar. [2]

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02 / ESTABLISHMENT

Build a uniform stand

Prepare the field around drainage, seed quality and harvest access. A uniform stand makes irrigation, picking and grading easier.

Prepare the root zone

Choose well-drained soil and avoid compaction, surface crusting and saline conditions. Obtain a soil test before liming or fertilising. A pH result must state the laboratory method: water-pH and KCl-pH targets are not interchangeable. Local KZN guidance gives a pH(KCl) range of 5.5–6.0. [3]

Field setting	Practical starting point
Bush-bean spacing	A South African extension example uses 60 cm between rows and 5 cm within rows. Adjust to cultivar, disease pressure, irrigation and harvest equipment. [5]
Sowing depth	The same extension example uses 2–4 cm. Place seed evenly into suitable moisture; adapt depth to soil texture and the seed supplier’s directions. [5]
Soil temperature	Commercial guidance uses about 16°C as a minimum for planting, with faster germination near 24–27°C. Measure the seed zone; avoid cold, saturated soil. [4]
Pole-bean support	Install an adequately anchored trellis at planting. Allow safe access for repeated picking and protect the structure against wind. [1]

Check actual emergence

Calibrate the planter and handle seed gently. Record emergence counts at representative points, marking wet or compacted patches separately. Investigate poor stands before replanting: seed condition, planting depth, crusting, moisture, pests and root disease can produce similar gaps.

Worked spacing example: 0.60 m × 0.05 m gives about 333,333 planting positions per hectare before headlands. This is a calculation, not a universal target. Seed requirement must allow for tested germination, expected field establishment and seed size.

03 / WATER & NUTRITION

Manage the root zone

Use field measurements to adjust inputs through the crop. A fixed weekly recipe cannot account for soil texture, rainfall or changing demand.

Irrigate to measured need

Maintain adequate seed-zone moisture for emergence without saturation. Track rainfall, irrigation and soil moisture in representative areas at more than one depth. Demand rises during pod development; avoid stress around flowering and pod filling. Visible wilting alone is an unreliable scheduling signal. [2, 4]

Keep the system accountable

Check distribution uniformity, blocked emitters, leaks and the wetting depth after irrigation. Recheck wet patches for drainage problems. Where sprinklers are used, avoid unnecessarily extending leaf wetness. Include water quality and the risk of contamination in the farm's fresh-produce plan. [4, 6]

Budget nutrients from evidence

Set nitrogen, phosphorus and potassium inputs from soil analysis, previous crop and organic-input credits, realistic yield and an adviser's recommendation. Beans can fix nitrogen, but that does not make their nitrogen supply automatic. Excess nitrogen can delay flowering; do not repeat top-dressings solely because a calendar says so. [2, 7]

Use inoculants deliberately

If inoculating, choose a product specifically suitable for common beans and confirm compatibility with any seed treatment. Compare treated and untreated strips where practical. Check roots and nodulation before assuming fixation is effective; a crop-specific inoculant still depends on suitable soil conditions. [7]

Diagnose before adding micronutrients

Check soil and, where appropriate, tissue analysis before correcting suspected deficiencies. Yellow leaves can also reflect waterlogging, root damage or disease. Beans are sensitive to excess boron and salinity, so avoid routine boron or foliar-product schedules without evidence. [3]

Field record: date • block • rainfall/irrigation (mm) • moisture reading • fertiliser and nutrient rate • reason for application • crop response. Record elemental nutrient quantities separately from fertiliser-product quantities.

Scout before you treat

Use clean seed, appropriate resistance, good drainage and field hygiene as the foundation. Confirm the cause of a problem before choosing an intervention.

What to look for	What to do next
Seedling losses or root decay	Check emergence, roots and wet areas. Review seed quality, drainage and planting conditions; submit unexplained losses for diagnosis. [8]
Leaf spots or water-soaked pods	Blights can be seed-associated and spread in wet conditions. Reduce unnecessary leaf wetting and avoid moving through wet crops; obtain a diagnosis. [6]
White growth on stems or pods	Investigate possible white mould. Review canopy density, airflow, moisture and field history; it can persist in soil and infect several crops. [7]
Rust, mosaic or distorted growth	Record symptom distribution and cultivar. Use verified resistance where available; consider infectious and environmental causes. [8]
Chewing, sucking pests or mites	Inspect young growth, leaf undersides and pods. Identify the pest and beneficial organisms; record damage and population trends before treatment. [8]

Plan rotation around the diagnosis

Avoid repeated beans on the same land. Choose non-host crops for the confirmed pathogen; a single rotation interval does not control every disease. Persistent root pathogens and white mould need a field-specific strategy. Clean soil and crop debris from equipment between blocks. [7, 9]

Before any crop-protection application: confirm a currently registered South African product for the exact crop and target; follow its approved label, rate, protective equipment, re-entry and preharvest intervals. Check destination-market residue requirements. Foreign chemical recommendations are not South African registrations. Keep application and harvest records. [10, 11]

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05 / HARVEST & POSTHARVEST

Protect every picked pod

Agree the harvest specification with the buyer before the first pick, and have cooling and transport ready.

Harvest for eating quality

Pick tender pods before the seeds become prominently swollen. Match pod size to the buyer's specification; the largest crop weight is not necessarily the best saleable grade. Pick regularly and handle plants gently. Separate damaged, diseased and over-mature pods at grading. [1, 12]

Cold-chain checkpoint	Operating guidance
Rapid removal of field heat	Move harvested beans into shade and cool promptly. Use clean, suitable containers and avoid compression, broken pods and rough handling. [12]
Storage temperature	UC Davis recommends 5–7.5°C for snap beans. Measure product temperature as well as room temperature. [12]
Humidity and airflow	Target 95–100% relative humidity while preventing free water and condensation on pods. Preserve airflow through the load. [12]
Chilling and storage duration	Chilling can occur below 5°C and after prolonged storage even at 5°C. The stated 8–12-day potential at 5–7.5°C depends on quality and handling; it is not a guaranteed shelf life. [12]
Mixed loads	Avoid exposure to ethylene-producing produce; ethylene accelerates loss of green colour and browning. [12]

Release a traceable load

Record field and seed lot, pick date, spray clearance, grade, packed mass, cooling checks and delivery details. Inspect for decay, shrivelling and chilling damage before dispatch. Use buyer-agreed hygiene and water-quality procedures if washing or hydrocooling.

Measure the result: track harvested kg, rejected kg and sold kg separately. Calculate marketable yield from accepted product, then review labour, water, inputs, packaging and transport against the actual net return.

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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; keep the completed record with the block's production documents.

Farm / block

Cultivar / bush or pole / seed lot

Planting date / expected first harvest

Row spacing / in-row spacing / planned area

Buyer / grade / pack / delivery window

Soil and water results / adviser / input plan

Next action / responsible person / due date

Ready-to-plant checks

- [ ] Buyer specification agreed
- [ ] Seed lot and treatment checked
- [ ] Crop-health plan prepared
- [ ] Soil and water reviewed
- [ ] Irrigation and labour ready
- [ ] 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 extension publications support established principles; their pesticide lists and historic market figures are not adopted here.

01. University of Minnesota Extension — Growing beans
Growth habits, supports and harvest stage.

02. University of Maryland Extension — Growing Beans (20 Jan 2026)
Crop duration, nitrogen and crop care; adapt US seasonal timing locally.

03. KZN Department of Agriculture — Green Beans (legacy bulletin)
South African climate, soils and pH(KCl).

04. University of Georgia Extension — Commercial Snap Bean Production
Commercial establishment and irrigation principles; overseas context.

05. KZN Department of Agriculture — Green bean production, Look-n-Do
Local example of bush spacing and sowing depth.

06. UC IPM — Bacterial Brown Spot (text updated 2018)
Shared bean-disease prevention principles; dry-bean context.

07. University of Minnesota — Mind your Peas and Beans (16 Apr 2026)
Updated 2026: crop-specific inoculation, nutrition and white mould.

08. UC IPM — Beans
Pest and disorder identification; resistance and cultural practices.

09. UC IPM — Crop Rotation, Dry Beans
Pathogen-specific rotation principles; no blanket control guarantee.

10. South African Department of Agriculture — Maximum Residue Limits
Crop-specific registration, approved use and destination-market checks.

11. South African Government Gazette — Agricultural Remedies (11 Oct 2024)
Amended labelling regulations; follow current approved product labels.

12. UC Davis Postharvest Research and Extension Center — Snap Beans
Harvest quality, temperature, humidity, chilling and ethylene.

About this edition. Original AgriCart editorial synthesis for planning and education, not a farm-specific agronomic prescription or yield promise. Confirm local recommendations with a qualified adviser. Cover image is AI-generated crop illustration, not a named cultivar or documented farm. Sources do not imply endorsement of AgriCart.