Artichoke

Plan the crop. Protect the bud. Deliver quality.



PRODUCTION GUIDANCE / SOUTH AFRICAN GROWER CONTEXT

A practical, independently sourced guide to globe artichoke establishment, crop care and postharvest handling.

01 Plan your crop

02 Establish & induce flowering

03 Water & nutrition

04 Crop health

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Edition 2.0 | Sources checked 17 September 2026 | Tap a section to begin

01 / CLIMATE, CULTIVAR & MARKET

Plan your crop

Choose the production system

Globe artichoke (*Cynara cardunculus* var. *scolymus*) is grown for its immature flower bud. It can be managed as an annual or a perennial, depending on climate and cultivar. First-year production requires a cultivar and chilling programme suited to the intended system. [1]

Work with your climate

Aim for a season that supports cool-weather bud development. Ontario guidance gives 18-24°C as an optimum growth range and warns that sustained heat, or periods above 30°C, can reduce productivity or inhibit bud development. Use this as overseas context, not a locally validated temperature rule. [2]

Decision	Before committing to a planting
Cultivar	Compare annual/perennial suitability, chilling requirement, bud size, colour, spines and local trial results.
Market	Ask buyers about large and small buds, weekly volumes, packaging and quality tolerances.
Site	Choose a well-drained field with reliable irrigation and access for repeated picking. Check the soil and irrigation water.
Season	Work backwards from the intended market window, allowing time for nursery growth and chilling.

TRIAL FIRST, THEN SCALE

A three-season Maine study published in 2024 found that cultivar, chilling and mulch affected performance; most buds were under 7.6 cm in diameter. Confirm that your buyer wants the sizes your own trial produces. [3]

AgriCart planning approach: record marketable buds per plant, size distribution, harvest dates and pack-out before expanding. Overseas results are not a South African yield forecast.

02 / NURSERY, CHILLING & SPACING

Establish for flowering

Give seedlings enough time

The New England guide uses an 8-12 week nursery period and germination at about 21-24°C. Plants then need chilling to trigger bud formation. The amount of cold exposure varies by cultivar; seedling age alone does not confirm readiness. [1]

CHILLING IS A PRODUCTION DECISION

The 2024 Maine study found higher yields across its tested cultivars with about **550 hours of seedling cold exposure**. This is research context, not a universal recipe. Agree the temperature, duration, plant stage and monitoring method with your nursery or adviser. [3]

Set a layout that fits your system

For annual crops, the New England guide specifies at least 0.61 m between plants in approximately 1.83 m rows. Mature canopy, cultivar and harvest access may require more space. Validate the final layout in your own field. [1]

Example layout only	Calculation per planted hectare
2.0 m rows × 0.9 m in-row	10,000 ÷ (2.0 × 0.9) = approximately 5,556 plants
2.0 m rows × 1.0 m in-row	10,000 ÷ (2.0 × 1.0) = 5,000 plants

Calculated densities exclude headlands, roads and unplanted areas. They are planning examples, not recommended target populations.

Before the plants leave the nursery

Confirm the cultivar and lot, inspect roots and growing points, and keep the chilling record with the batch. Record missing or damaged plants after establishment and investigate uneven patches early. These checks are AgriCart planning practices.

03 / MEASURE, ADJUST & RECORD

Water & nutrition

Keep the root zone supplied, not saturated

Moisture stress during bud formation can produce loose, poor-quality buds. Prolonged saturation increases root-rot risk. Use soil-moisture observations with weather-based scheduling rather than a fixed number of irrigation days. [4]

Check	Use the result to decide
Root-zone moisture	When to start or stop irrigation; check more than one representative position.
Weather and rainfall	Whether the planned application still matches demand.
Emitter flow and pressure	Whether uneven crop growth reflects uneven water delivery.
Water analysis	Whether salinity, nutrients or emitter-blocking constituents need management.

Build the nutrient plan from measurements

Use soil analysis and crop demand to set a nutrient budget. Account for available soil nitrogen and nutrients supplied by irrigation or amendments. Phosphorus and potassium decisions should follow test results; seasonal nitrogen needs change as the crop grows. [4]

KEEP NUTRIENT UNITS EXPLICIT

Record **kg nutrient/ha** separately from **kg fertiliser product/ha**.
Example: delivering 20 kg N/ha from a 20% N product requires 20 ÷ 0.20 = **100 kg product/ha**.
This demonstrates the calculation; it is not an artichoke application recommendation.

Mulch choice also needs local testing. The 2024 Maine study found that mulch performance varied with cultivar and environmental conditions; there was no single best treatment for every situation. [3]

04 / INTEGRATED CROP HEALTH

Scout before treating

Walk the crop regularly, inspect both leaf surfaces and developing buds, and record the extent of any damage. These overseas references help identify concerns; they do not establish which pests occur on your farm.

Observation	What to investigate	Next step
Aphids, sticky deposits or sooty mould	Aphid colonies can weaken growth and contaminate buds. [5]	Check leaf undersides and buds; record beneficial insects as well as pests.
Powdery growth with yellowing older leaves	Powdery mildew may be difficult to see among natural leaf hairs. [6]	Inspect carefully and confirm the diagnosis; track progression.
Brown bracts and grey mould	Botrytis commonly attacks damaged tissue; wet weather can increase risk. [7]	Separate affected buds and review insect injury, handling and cooling.
Chewing, mines, wilting or patchy decline	UC IPM lists several insect and disease groups on artichokes. [8]	Identify the cause locally before selecting a treatment.

SOUTH AFRICAN PRODUCT CHECK

Before using an agricultural remedy, confirm its current South African registration and the approved crop/pest use. Follow the product label, including application directions, protective measures, re-entry and preharvest intervals. No pesticide product or rate is prescribed here. [9]

Avoid unnecessary insecticide applications that harm aphid predators and parasitoids. [5] Foreign treatment tables and thresholds should not be adopted as local spray programmes.

05 / QUALITY, PACKING & DISPATCH

Harvest & keep it cool

Pick at the right stage

Select compact, well-formed buds with the expected cultivar colour and no decay or significant damage. Overdeveloped buds spread open and become fibrous. Make a clean cut and agree stem length and acceptable sizes with the buyer. [10]

0°C
OPTIMUM STORAGE

>95%
RELATIVE HUMIDITY

<21 days
STORAGE POTENTIAL

UC Davis reference values [10]. Storage potential is generally under 21 days, not a guaranteed shelf life. Avoid freezing; the fact sheet reports injury beginning around -1.2°C.

Stage	AgriCart handling checklist
Pick	Handle gently. Keep harvest lots identifiable and separate decayed or badly damaged buds.
Cool	Remove field heat promptly. Use a suitable cooling method and check actual product temperature.
Pack	Use clean, food-suitable packs that support the buds. Match ventilation to the cooling system and avoid crushing.
Dispatch	Maintain the cold chain and record harvest date, lot, cooling and dispatch temperatures.

Agree the commercial specification

Confirm diameter bands, appearance tolerances, stem trim, pack weight and destination requirements before harvest. Inspect condition through storage and dispatch the oldest suitable lots first. A good cold room cannot restore quality already lost.

Sources [7, 10] support decay prevention and cooling. Packing and dispatch checks are editorial operating guidance. Special films or sealed packs need validation for the intended product and route.

06 / FILL IN, SAVE & REUSE

Your crop planner

Complete this page in a PDF reader that supports forms, then save a copy for each crop block. The fields work offline and do not submit information.

Farm / block

Cultivar / lot

Transplant date

Chilling record reference

Row × plant spacing (m)

Buyer / intended market

Pre-plant and harvest readiness

- [ ] Market size, quality and delivery specification confirmed.
- [ ] Soil and water results reviewed; feeding plan recorded.
- [ ] Cultivar, nursery quality and chilling plan confirmed.
- [ ] Irrigation tested; drainage and access checked.
- [ ] Scouting records and any treatment intervals checked.
- [ ] Packaging, cooling capacity and transport arranged.

Next action / responsible person / review date

Suggested records to keep with this page: chilling log, irrigation and fertiliser applications, scouting notes, harvest weights, rejected buds and cooling temperatures.

07 / INDEPENDENT REFERENCES

Sources & further reading

Links checked on 17 September 2026. This is a refreshed synthesis of currently available guidance, including 2024 research. Older technical references retain their original dates; they are not presented as new research.

[1] New England Vegetable Management Guide / UMass Amherst · Open source
Globe Artichoke. Online guide; nursery, cultivar and establishment guidance.

[2] Ontario Ministry of Agriculture · Open source
Specialty Cropportunities: Globe Artichoke. Updated 2012; climate context.

[3] Ginakes, Hutton & Handley / University of Maine · Open source
Globe Artichoke Production Potential in Northern New England. HortTechnology, December 2024; DOI: 10.21273/HORTTECH05523-24.

[4] University of California Agriculture and Natural Resources · Open source
Artichoke Production in California. Publication 7221, 2008; irrigation and nutrition principles.

[5] UC Integrated Pest Management · Open source
Artichoke Aphid. Text updated January 2007; scouting and natural enemies.

[6] UC Integrated Pest Management · Open source
Powdery Mildew. Text 2007; treatment table 2020. Used for symptoms only.

[7] UC Integrated Pest Management · Open source
Gray Mold (Botrytis Rot). Text 2007; treatment table 2020. Used for disease and handling context.

[8] UC Integrated Pest Management · Open source
Artichoke: Agriculture Pest Management Guidelines. Online index.

[9] South African Department of Agriculture · Open source
Amended Regulations Relating to Agricultural Remedies, October 2024. Official notices and registration guidance.

[10] UC Davis Postharvest Research and Extension Center · Open source
Artichoke (Globe). Fact sheet dated November 1997; storage benchmarks.

Scope: General guidance for South African growers; a locally validated cultivar calendar, fertiliser programme, pesticide list and yield forecast are not established by these sources. Confirm field-specific decisions with a qualified local adviser.

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