



FRAGARIA × ANANASSA

Strawberry

SUBSTRATE GUIDE

Complete coco peat substrate specifications for commercial strawberry production — from propagation through full fruiting season.

WHAT'S INSIDE



- ✓ **Growth stage guide** with EC & pH targets per stage
- ✓ **Propagation methods:** runners, bare-root & plug starts
- ✓ **Recommended blend** ratios for each stage
- ✓ **Coco peat mixing** with perlite & other amendments
- ✓ **Quality control** metrics and troubleshooting
- ✓ **Tabletop, gutters & open top** bag system guidance
- ✓ **Irrigation & fertigation** schedule reference

► Discs

40mm (seed start)



► Grow Cubes

10×10 cm (runner propagation)



► Open Top Bags

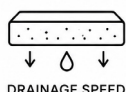
(10–15L, 50/50 blend)





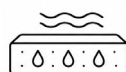
Why Coco Peat for Strawberry?

Strawberry roots are shallow, sensitive, and demand precise moisture with excellent drainage. Coco peat delivers the perfect balance — and Rise Substrates quality ensures disease-free starts.



DRAINAGE SPEED

Strawberry is highly susceptible to Phytophthora root rot. The 50/50 pith-chip blend drains excess water within seconds, eliminating the standing-water risk that causes



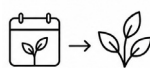
MOISTURE CONSISTENCY

Coco pith holds 60–70% moisture evenly throughout the bag. Strawberry berries crack when water stress alternates with overwatering — coco peat prevents this with buffer



SALT-FREE STARTER

EC < 0.5 mS/cm from Rise Substrates means young strawberry plugs and transplants face zero salt stress. Start feeding at exactly the EC you choose — no correction



LONG SEASON STRUCTURE

Open top bags maintain their pore structure for 2–3 full growing seasons without compaction. The chip fraction keeps air channels open even under the weight of a mature



ROOT TEMP CONTROL

White/black co-extruded UV bags reflect heat in summer and insulate in winter — keeping root zone temperature stable (ideal 12–18°C) for consistent fruit set and quality.



pH STABILITY

Coco peat pH 5.8–6.5 matches the strawberry sweet spot exactly. Low buffering capacity means your fertigation solution directly controls root zone pH — no hidden drift.

The Coco Peat Advantage for Strawberries

Coco peat boosts a strawberry plant's nitrogen uptake by 81% and overall nutrient efficiency by 6%. Its natural 30% aeration protects roots from waterlogging. For growers, compressed coco blocks require 80% less storage space, and the substrate can be safely reused for up to three seasons—lasting three times longer than rockwool.

**STRAWBERRIES
ABSORB**

81%
more nitrogen in
coco peat blends.

Propagation Methods

Three main propagation routes — each with specific coco peat product and substrate recommendations.



1

RUNNER / STOLON PROPAGATION

The most common commercial method. Mother plants produce runners (stolons) that develop daughter plants. These are rooted in substrate

- ▶ Place fresh runners into 10×10 cm Grow Cubes (100% washed fine coco pith)
- ▶ Maintain EC 0.5–0.8 mS/cm, pH 5.8–6.2 during rooting (3–4 weeks)
- ▶ Keep substrate moist but never waterlogged — AFP must stay above 18%
- ▶ Once 3–4 true leaves form and roots exit cube, transplant to production bag

3–4 weeks

EC RANGE

0.5–0.8 mS/cm

pH TARGET

5.8–6.2

RISE PRODUCTS

Rise Grow Cubes 10×10 cm
100% Fine Washed Coco Pith

2

BARE-ROOT TRANSPLANTS (FRIGO PLANTS)

Cold-stored bare-root plants (dug after dormancy, 0–2°C storage) transplanted directly into production bags in spring or autumn. Industry standard for year-round production planning.

- ▶ Pre-wet Open Top Bags (10–15L, 50/50 pith-chip) to EC 0.5 mS/cm, pH 6.0
- ▶ Plant bare root crowns at soil line level — crown must not be buried in substrate
- ▶ EC 0.6–1.0 mS/cm for first 2 weeks to minimize transplant stress
- ▶ Increase to standard programme EC after establishment (2–3 weeks)

2–3 wks establish

EC RANGE

0.3–1.2 mS/cm

pH TARGET

5.8–6.2

RISE PRODUCTS

Rise Open Top Bags 10–15L
50/50 Pith-Chip Blend

3

PLUG PLANTS / TISSUE CULTURE

High-health plug plants from tissue culture (F1 hybrids, certified disease-free). Started in small discs or plugs, transferred to production substrate at the plug stage.

- ▶ Start seeds or TC plugs in Rise Discs (30–40mm) — 100% fine washed coco pith
- ▶ Germination/rooting: EC 0.3–0.5 mS/cm, pH 5.8–6.2, temperature 18–22°C
- ▶ Transplant disc into Grow Cube once cotyledons are established (1–2 wks)
- ▶ Move Grow Cube to production Open Top Bag once rooted through (3–4 wks)

5–6 wks total

EC RANGE

0.5 – 1.0 mS/cm

pH TARGET

5.8–6.2

RISE PRODUCTS

Rise Discs 30–40mm + Rise Grow Cubes 10×10 cm
Rise Open Top Bags

Growth Stage Guide — 8 Stages

EC and pH targets, blend ratios, and irrigation frequency per growth stage for commercial day-neutral varieties.



STAGE-BY-STAGE EC, PH & SUBSTRATE TARGETS

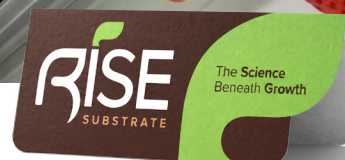
Stage	Weeks	EC (mS/cm)	pH	Blend	Rise Product
Propagation	Weeks 1–4	0.3–0.8	5.8–6.2	100% Fine Pith	Discs / Grow Cubes
Establishment	Weeks 4–8	0.8–1.2	5.8–6.2	50/50 Pith-Chip	Open Top Bags 10–15L
Vegetative	Weeks 8–14	1.2–1.8	5.8–6.2	50/50 Pith-Chip	Open Top Bags 10–15L
Flowering	Weeks 14–18	1.5–2.0	5.8–6.0	50/50 Pith-Chip	Open Top Bags 10–15L
Fruiting	Weeks 18–36+	1.8–2.5	5.8–6.2	50/50 Pith-Chip	Open Top Bags 10–15L
Post-Harvest Flush	Season end	< 0.5 (flush)	5.8–6.5	50/50 (flush water)	Existing bags (flush)

Key rule: Always increase EC gradually (0.2–0.3 mS/cm per week). Sudden jumps cause berry tip-burn and fruit cracking.

Reduce EC by 0.3–0.5 mS/cm during extreme heat (>28°C) to prevent salt stress and transpiration overload.

Blend Ratios & Mix Specifications

Rise Substrates blend options for strawberry — and how to adjust for your specific system and climate.



Standard Strawberry Blend Options

5–6 WKS TOTAL

50/50 PITH-CHIP (STANDARD)

AFP: 28–33% **WHC:** 58–63%

Best all-round blend for open top bags in tabletop and gutter systems. Excellent drainage with enough moisture retention for high-frequency fruiting demand. Recommended for most commercial strawberry programmes.

CLIMATE SPECIFIC

70/30 PITH-CHIP (MOISTURE-RICH)

AFP: 22–27% **WHC:** 63–68%

Higher moisture retention. Use in low-humidity environments or during winter/autumn production where evapotranspiration is lower. Risk of overwatering in warm glasshouse conditions — monitor drainage closely.

PROPAGATION ONLY

100% WASHED PITH (PROPAGATION)

AFP: 20–24% **WHC:** 65–70%

Used exclusively for propagation (discs, cubes, plug stages). Not for production bags — insufficient drainage for mature fruiting crowns. Transition to 50/50 bags after root establishment.

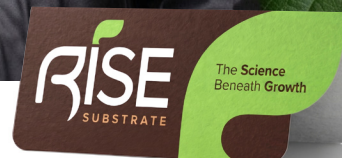
Mixing with Perlite & Other Amendments

Rise Substrates coco peat blends are designed to be used as-is for most commercial strawberry systems. However, certain production conditions benefit from additional amendments mixed into the coco peat at bag-filling or on-site blending:

AMENDMENT	RECIPE	EFFECT & WHEN TO USE
Perlite (10–15%)	50/50 Pith-Chip + 10–15% coarse perlite (3–6mm)	Increases AFP to 38–45%. Best for: high-humidity glasshouses where evapotranspiration is low and root rot pressure is high. Also improves drainage speed in bag bases to prevent standing water. Note: perlite is inert — ensure your fertigation EC accounts for dilution effect in first waterings.
Vermiculite (5–10%)	70/30 Pith-Chip + 5–10% fine vermiculite	Slightly increases CEC and moisture retention. Use in dry climates or when irrigation frequency is limited. Vermiculite can raise pH slightly — monitor and adjust fertigation pH accordingly.
Coco Husk Chips Only (10–20%)	Increase chip fraction to 30–40%	Extra drainage and structure for summer production or large crown varieties with high water demand. Chips from Rise Substrates are washed to the same EC standard as pith — safe to increase without salt risk.

Quality Control Metrics

What to measure, when to measure it, and target ranges for commercial strawberry substrate management.



SUBSTRATE QUALITY PARAMETERS — RISE SUBSTRATES STANDARD

Parameter	Propagation (Stage 1)	Establishment (Stage 2)	Vegetative (Stage 3)	Flowering (Stage 4)	Fruiting (Stage 5)
EC (mS/cm)	0.3–0.8	0.8–1.2	1.2–1.8	1.5–2.0	1.8–2.5
pH	5.8–6.2	5.8–6.2	5.8–6.2	5.8–6.0	5.8–6.2
Drainage EC (runoff)	N/A	0.8–1.4	1.3–2.0	1.8–2.5	2.0–3.0
Irrigation freq.	2–3×/day	3–4×/day	4–6×/day	5–8×/day	6–10×/day
% Drainage (runoff target)	10–15%	15–20%	20–25%	20–25%	20–30%
Substrate temperature	18–22°C	12–18°C	12–18°C	12–16°C	12–18°C

PHYSICAL QUALITY PARAMETERS (SUBSTRATE CHECK — BATCH / NEW BAGS)

Parameter	Target value	Method	Frequency
EC (substrate, paste method)	< 0.5 mS/cm	1:1.5 water extract (saturated paste)	On delivery, batch check
pH	5.5–6.5	1:1.5 water extract	On delivery, batch check
Moisture content (packed)	< 18%	Gravimetric (105°C, 2h)	Batch check
AFP (Air-Filled Porosity)	25–35% (50/50 blend)	CANNA / RHP method	RHP certification check
WHC (Water-Holding Capacity)	55–65% (50/50 blend)	CANNA / RHP method	RHP certification check
Wettability	Full rewet < 30 sec	Submersion test	On delivery
Sand / inorganic content	< 1% dry weight	Ash method / sieve	Certification / COA

Quick troubleshooting

Runoff EC too high (>3.5): Increase flush volume — add 1 plain-water irrigation per day until runoff EC drops.

pH drift up (>6.8): Lower feed pH to 5.5 until substrate pH normalises. Check for high bicarbonate in source water.

Wilting despite wet substrate: Check for root rot (Phytophthora). Increase drainage — switch to coarser chip blend.

Production Systems & Irrigation Guide

Tabletop, gutter, and vertical systems — and how irrigation timing drives fruit quality in coco peat.



Recommended Production System Setups

(MOST COMMON)

TABLETOP SYSTEM

Raised tables at 80–100cm height. Open Top Bags laid on white LDPE-lined channels. 1 bag per plant (10–15L) or 2 plants per 15–20L bag.

- ▶ Open Top Bags: 10L (1 plant) or 15–20L (2 plants)
- ▶ Bag spacing: 25–30cm centre-to-centre
- ▶ Drip emitters: 1–2 per plant (1–2L/hr)
- ▶ Drainage holes: 6–8 holes punched in bag base at installation

(HIGH DENSITY)

GUTTER SYSTEM

V-shaped or flat gutters suspended at shoulder height. Bags or loose substrate in gutters. Very high plant density (80,000–120,000 plants/ha).

- ▶ Open Top Bags or gutter-filled 50/50 blend
- ▶ EC management critical — no room for error at high density
- ▶ Drainage collected and recirculated (test runoff EC daily)
- ▶ Drip emitters: 2 per plant for even saturation

PROPAGATION ONLY

VERTICAL TOWER

Vertical columns with substrate pockets. Best for cherry/day-neutral varieties. Less popular for large-fruit varieties due to uneven water distribution.

- ▶ 100% washed pith preferred — better capillary wicking
- ▶ Top drip or internal irrigation tube
- ▶ EC: 1.5–2.2 mS/cm (lower due to reduced evapotranspiration)
- ▶ Monitor bottom pockets — higher salt accumulation

SUBSTRATE QUALITY PARAMETERS — RISE SUBSTRATES STANDARD

Season / Stage	Trigger	Shots/day	Volume/shot	First shot	Last shot
Propagation (Plugs/Cubes)	Visual / timed	2–3×	50–80 mL	60 min after sunrise	3 hrs before sunset
Establishment (Transplant)	Timed	3–4×	80–120 mL	30 min after sunrise	2 hrs before sunset
Vegetative Growth	Radiation sum (J/cm ²)	4–6×	100–150 mL	30 min after sunrise	1.5 hrs before sunset
Flowering	Radiation sum	5–8×	100–150 mL	20 min after sunrise	1.5 hrs before sunset
Peak Fruiting	Radiation sum	6–12×	80–120 mL	15 min after sunrise	1 hr before sunset
Season End (Flush)	Manual	2–3× (water)	Full flush dose	—	—

Radiation sum trigger: Start next irrigation when radiation sum reaches 50–100 J/cm². Lower in propagation, higher in peak fruiting season.

Variety Guidance & Substrate Adjustments

Different strawberry types behave differently in coco peat — knowing your variety helps you tune EC and blend.

Day-Neutral (Everbearing)



Albion



Portola



Aromas



San Andreas

Blend 50/50 Pith-Chip

EC 1.6–2.2 mS/cm

pH 5.8–6.1



Most responsive to coco peat. High continuous fruiting demand — 6–10 irrigations/day at peak. Monitor runoff EC closely — builds up quickly under high yield pressure.

June-Bearing (Short-Day)



Elsanta



Honeoye



Chantenay



Camarosa

Blend 50/50 Pith-Chip

EC 1.4–2.0 mS/cm

pH 5.8–6.2



Single large flush — less irrigation than day-neutral. Manage generative/vegetative balance carefully. Coco peat moisture buffer is especially valuable during the critical fruit-set window.

Everbearing (Long-Day)



Seascape



Evie



Flamenco

SLAB 50/50 or 70/30

EC 1.4–1.9 mS/cm

pH 5.8–6.2



Two main flushes per season. Often grown at lower density. Use 70/30 blend in autumn production or low-light periods. Match EC programme to the variety's flush timing rather than calendar.



READY TO GROW?

Let's Build Your Strawberry Programme

Share your production system details — varieties, plant density, climate zone, and water quality — and our agronomic team will configure the exact blend ratio, EC programme, and irrigation schedule for your specific strawberry operation.

Also Available — Crop-Specific Brochures

→ Tomato

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→ Blueberry

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Also: Greenhouse Grower Guide | Propagation Nursery Guide | Distributor & Formulator Guide
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E-mail: tharani@risesubstrates.com

11, Chakrapani St, opp. Scan Point, Venkatas Colony,
Pollachi, Tamil Nadu 642001

OMRI Listed | ISO 9001 | Coir Board Approved

Whats App: +91 72002 43337 | +91 72002 63337

